To Confirm certain RUMORS

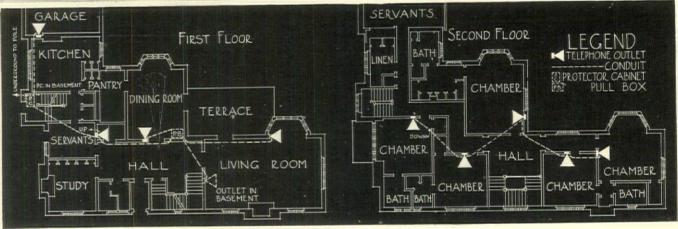
IT IS TRUE that General Electric will present during July a revolutionary new type of oil heating, startlingly different and modern in principle.

The result of five years' engineering research and one year's actual service in many homes, this new type of heating will offer entirely automatic operation . . . quick heat, accurately controlled...higher efficiency and lower operating cost . . . quiet operation . . . no soot, fumes, or odor . . . economical hot water supply the year round . . . handsome, compact design . . . and the overall guarantee of one responsible manufacturer — General Electric.

Advance information and data in bulletin form can be obtained by addressing Air Conditioning Dept., General Electric Company, 120 Broadway, New York, N.Y. Ask for Bulletin OF-101.







In the residence of Mr. T. H. Hinchman, 92 Vendome Road, Village of Grosse Pointe Farms, Detroit, Michigan, telephone convenience is provided for by built-in conduit connecting ten telephone outlets, including one in the basement game room. Smith, Hinchman & Grylls, Architects, Detroit.

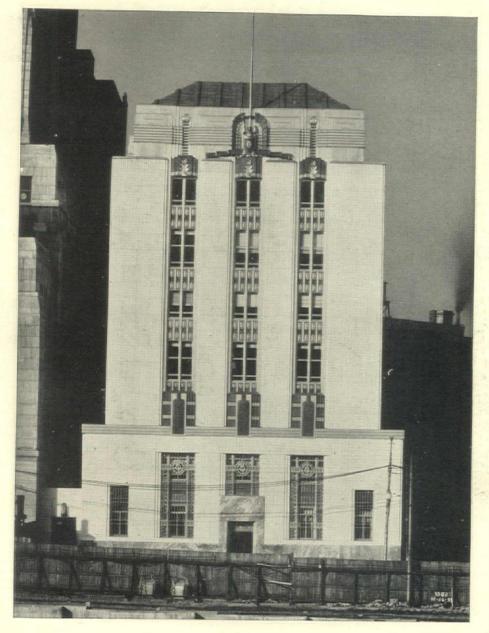
Comfort and efficiency are two prime requisites of up-to-date homes. Telephone convenience contributes generously to both. Telephones at strategic points in important rooms save steps and minutes, simplify household management.

Architects who want to assure adequate telephone arrangements, plan carefully in advance, specify conduit for telephone wires in walls and floors. Then outlets

can be located exactly where they're wanted, to meet individual needs. All wiring is concealed and there is greater freedom from service interruptions.

Trained representatives of the local telephone company will gladly help you choose the type of telephone equipment and installation best adapted to your projects. There is no charge. Call the Business Office and ask for "Architects" and Builders' Service."

Whether in the traditional classic or the designs of today, the beauty of a monumental building is enhanced by the use of GEORGIA MARBLE





Federal Reserve Branch Bank, Pittsburgh, Penna.; Walker and Weeks, Architects; Mellon Stuart, General Contractor.

MARBLE, through which the architecture and sculpture of the ages have been given to the world, becomes the medium for the expression of the new design of today.

The New York Trust Company Building, 57th Street and 5th Avenue, the Folger Library in Washington, and the Pittsburgh Federal Reserve Branch Bank are just a few of the recently erected modern buildings to be built of Georgia Marble.

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A STATEMENT OF AMERICAN BLOWER POLICY

in the Sale of

Air Conditioning Equipment

THE AMERICAN BLOWER CORPORATION is not in the contracting business; neither does it offer architectural or professional engineering service. We are fundamentally a manufacturing organization. Our policy for the sale of air conditioning equipment remains as heretofore; namely, distribution through the established channels of the contracting trade, collaborating with the architect and consulting engineer in its design and application. The activities of our sales, advertising, engineering, research and manufacturing departments will be directed toward that end.

AMERICAN BLOWER CORPORATION, DETROIT, MICHIGAN CANADIAN SIROCCO CO., LIMITED, WINDSOR, ONTARIO BRANCH OFFICES IN ALL PRINCIPAL CITIES





Sirocco Conditioner Series "R"
for Homes



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A plate from Durer's "Elementa Geometrica," 1532. From "The History of Taste"

THE HISTORY OF TASTE

By Frank P. Chambers. Published by Columbia University Press, New York. Illustrated; indexed; 342 pages; size $61/2 \times 91/2$; price, \$4.25

THIS book contains the substance of a course of lectures on the history of taste in Europe in the arts of painting, sculpture and architecture. It is arranged to show the origin and opposition of "classicism" and "romanticism" in art. The author states, "My purpose is to describe the major revolutions of taste and criticism in the history of European art. I begin with a chapter on taste in the Middle Ages. I consult mediaeval writers themselves for their views and opinions on the architecture, sculpture and painting executed in their own time. Chapters then follow on the Renaissance in Italy, France, England, on the rise and fall of the Academies, on the Romantic Movement and on the Revivals of the last century. In every case I have tried to rid my mind of modern standards of taste and allowed the critics of the past to speak for themselves. Finally a short Appendix follows in which I apply the same treatment to classical antiquity."

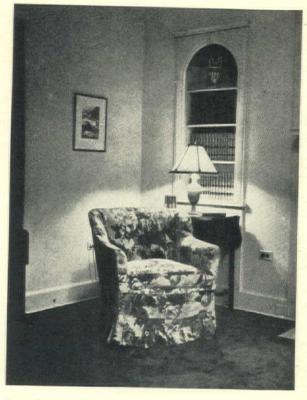
HOME FINANCE AND TAXATION

Edited by John M. Gries and James Ford. Published by the President's Conference on Home Building and Home Ownership. New Commerce Building, Washington, D. C. Indexed: 278 pages, size 6 x 9; price \$1.15

AYS in which to correct the defects in home financing and to lighten the burden of taxes on real estate are given in this book, which contains the results of many months of study by the members of two committees appointed by President Hoover and the Secretary of Commerce. The methods of making appraisals, legislation and other factors that profesence home ownership are discussed.

7015

The book covers financing home ownership with a summary of data from various types of lending agencies, text of President Hoover's statement on the proposed establishment of home loan discount banks, taxation and housing, the shifting and incidence of real estate taxes, and similar data.



The truly hospitable reading chair has, besides a small table for needed accessories, its own lamp. From "Artificial Light and Its Application in the Home"

ARTIFICIAL LIGHT AND ITS APPLICATION IN THE HOME

Prepared by the Committee on Residence Lighting, Illuminating Engineering Society. Published by the McGraw-Hill Book Company, New York. Illustrated; indexed; 145 pages; size 6 x 91/4; price \$1.50

THE aim of this book is to present a practical, concise and reliable treatment of artificial lighting and its application in the home. It has been prepared by specialists who have devoted either all or a large part of their time and efforts to the development of the art of home lighting and the compilation accordingly includes the underlying fundamentals and practices gained from their researches, observations and experiences.

The book covers the fundamentals of lighting, characteristics of incandescent lamps, light and color, wiring for the home, lighting equipment, how to light various rooms, etc. There is a chart in color giving the reflection factors of colored surfaces.

The book is well written and gives the fundamentals of residential lighting in an interesting way.



Garden outlook for house groups at Radburn, N. J. From "Slums, Large-Scale Housing and Decentralization"

SLUMS, LARGE-SCALE HOUSING AND DECENTRALIZATION

Edited by John M. Gries and James Ford. Published by the President's Conference on Home Building and Home Ownership, Commerce Building, Washington, D. C. Illustrated; indexed; 245 pages; size 6 x 9; price \$1.15

THIS book is another of the publications growing out of the President's Conference on Home Building and Home Ownership, held last fall. It contains the reports of the committees on blighted areas and slums, large-scale operations, business and housing, and industrial decentralization and housing.

The book is well edited and gives a clear idea of our slum conditions, what they are costing their communities, and what must be done to rid cities of this incubus.



Sketch from "The Frozen Fountain"

THE FROZEN FOUNTAIN

By Claude Bragden, F.A.I.A. Published by Alfred A. Knopf, New York. Illustrated; 125 pages; size $71/2 \times 101/2$; price \$3.75

SSAYS on architecture and the art of design in space, written by the designer of many important buildings and also of the scenery, costumes and lighting of all of Walter Hampden's productions including Cyrano de Bergerac.

Mr. Bragden in his introduction says that, "This book is addressed to everyone interested in the fine arts, to designers in all fields, and particularly to architects, architectural students and draughtsmen. It constitutes the final distillation of many years of thought and experimentation along unusual lines."

The book is interesting in its philosophy. Its illustrations, too, are interesting. Many of them are of the

whimsical nature of that reproduced in connection with this review; others are more serious and give abstract designs, analyses of compositions, various types of ornament, etc.

The titles of the essays are "Foundation Stones," "The Frozen Fountain," "Retrospect," "The Skyscraper," "Regulating Lines," "Isometric Perspective," "Ornament," and "Color."



A roof at Broadway, England. From "Planning for Sunshine and Fresh Air"

PLANNING FOR SUNSHINE AND FRESH AIR

By Alfred Hopkins, architect. Published by the Architectural Book Publishing Company, New York. Illustrated; 236 pages; size $61/2 \times 91/2$; price \$5.

N his foreword, Mr. Hopkins describes this book as "being sundry discourses and excursions in the pleasant art of building homes, set forth in a manner and upon a theory quite new and quite different from those usually employed: containing many valuable and original hints upon the essentials of design; of construction; of furnishing, and of planting; and how best to effect their proper economies. Illustrated with many plans and photographs never before shown or published; and written for those who are interested in creating their own homes, entire or in part."

The book is written in an interesting style and illustrated by photographs and plans which serve to visualize the points made in the text. It covers site and exposures, planning for sunshine and fresh air, types, the Cotswold type and a practical example, the inspiration of precedent, the Spanish phase, the Colonial manner, materials, roofs and roof lines, variety in rooms with a hint at their purpose, furnishing and planting. Many of the author's personal experiences with clients are given, and the book succeeds in giving an excellent picture of Mr. Hopkins' theories of plan and design.



N a hill remote from the din and stress of the city, bathed by the sun and soft airs of a favored region, admirable for design, great in size and facilities, complete in every modern resource, the Los Angeles County General Hospital takes high rank among the marvelous institutions of its kind built in this country in recent years. Their like never was before in the world. For never had science and the arts reached a development to make them possible.

Only the best in design, construction and equipment could be thought fit to go into such a building for any use.

It is a matter of pride for the manufacturers of NATIONAL Pipe that in the Los Angeles County General Hospital, as in other noteworthy hospitals lately completed, the major tonnage of pipe was NATIONAL—

America's Standard Wrought Pipe

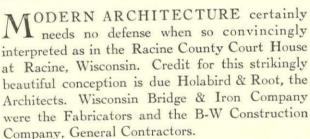
NATIONAL TUBE COMPANY, PITTSBURGH, PA.

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NATIONAL PIPE



Photo courtesy The Architectural Forum



Here again, C B Sections were selected for the structural framework. Architects and engineers find in these modern sections complete adequacy to their requirements.

CARNEGIE STEEL COMPANY . PITTSBURGH

Subsidiary of United States Steel Corporation

186

CBSECTIONS



This month's cover is a water color by E. Sewell Smith. It depicts a lateen-rigged sailboat at anchor on the Nile. Mr. Smith made the painting last year while on a trip through a number of foreign coun-

tries including, in addition to North Africa, Greece, Italy, Belgium and the British Isles. He is a graduate of Cornell University and his water colors have been exhibited in Niagara Falls, Buffalo, Ithaca and New York.

AMERICAN ARCHITECT

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VOLUME CXLII

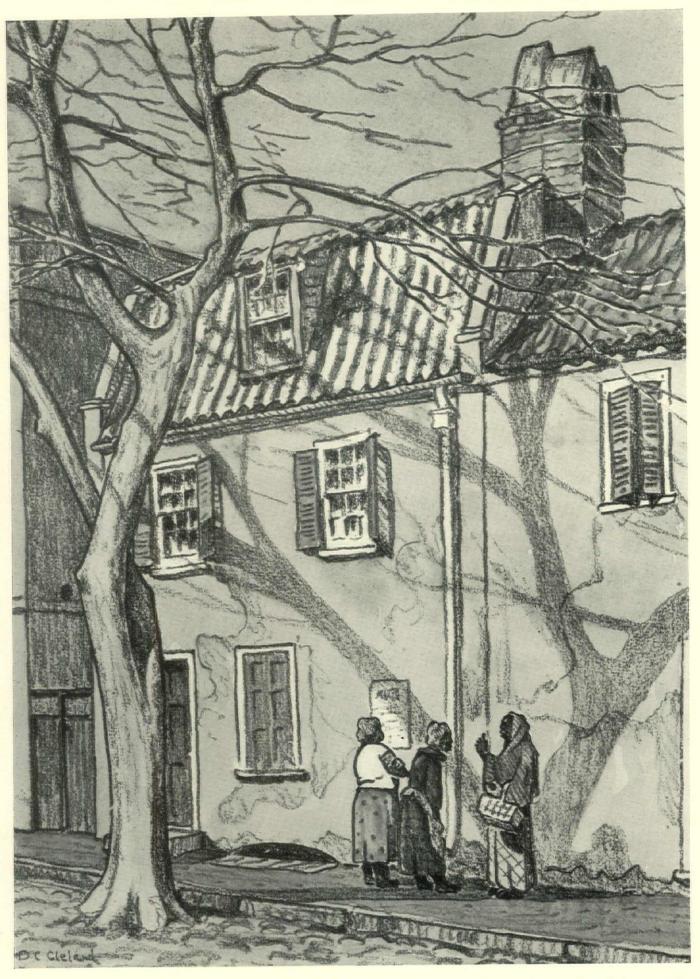
NUMBER 2609

BENJAMIN FRANKLIN BETTS, A.I.A., Editor; ERNEST EBERHARD, Managing Editor; Walter E. Dexter, Advertising Manager; RAY W. SHERMAN, Editorial Director; R. F. GARDNER, Business Manager; C. Stanley Taylor, Merchandising Consultant

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OLD TAVERN • CHARLESTON • BY D. C. CLELAND

An Exhibition That Would Mean More Business For Architects

BY BENJAMIN F. BETTS, A.I.A.

ANY architectural exhibitions are held each year. These are based almost exclusively upon new buildings of various kinds. At the present time, an unusual opportunity exists for a new kind of architectural exhibition of wide appeal. This exhibition would be confined to reconditioned buildings of all types.

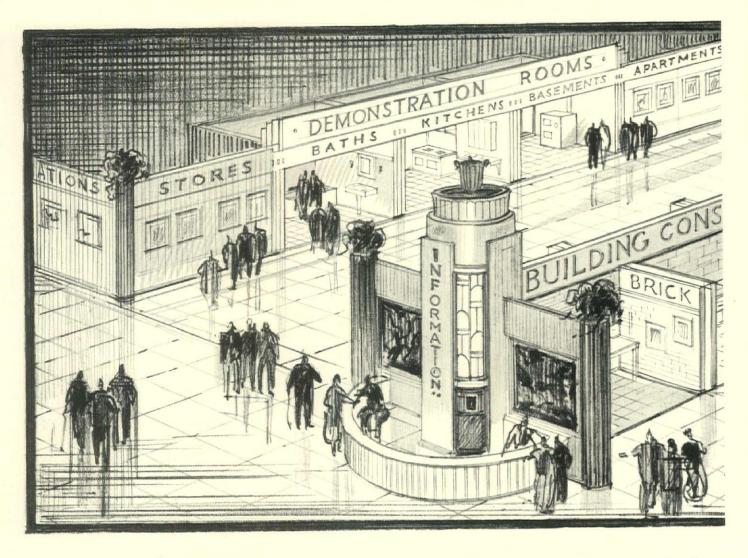
A modernization exhibition should not be difficult to organize in communities large and small and could be as modest or elaborate as conditions warranted. It would have widespread public appeal right now. Building material manufacturers and dealers, contractors and civic organizations would doubtless give such exhibitions their cooperation and support.

It should not be difficult to obtain many examples of buildings that have been profitably reconditioned. It should not be difficult to assemble figures as to the cost of improvements and the increased value and revenue derived by owners of these buildings. Well presented, these figures should be a convincing argument for a larger volume of modernizing work. Examples of reconditioning possibilities inherent in most obsolete buildings would stimulate the imagination of owners. It would afford an opportunity to study and bring to the public's attention needed public improvements that would benefit every community.

PROPERLY organized, located and displayed, an exhibition of this nature would stimulate building activity. By stimulating building it would help relieve unemployment and put money into circulation. Organized and directed by architects, it would bring the profession into closer contact with the public. Well publicized, it should mean more business for architects.

For the next few years the reconditioning of existing buildings will be the building industry's major activity. Architects and engineers have a definite place in modernization work. Their function in this field of operation must be made clear to the building public. Modernization exhibitions would help to do that. Details of a plan will be found on the next two pages.

FOR JULY 1932



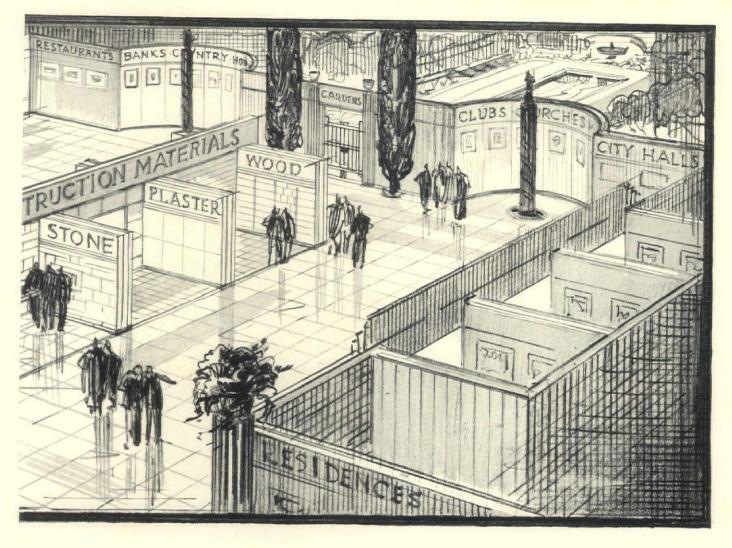
Modernization Shows Would

HEN it became apparent that the volume of new building construction was greatly reduced and that economic factors would probably prolong that situation, the building industry promptly turned to the neglected field of modernization of obsolete buildings. The modernization movement has been well supported by the industry, backed by magazines reaching both the lay public and technical groups, and publicized by the newspapers. Now is an opportune time for architects to actively contribute to the furthering of the modernization movement by organizing local exhibitions that would forcefully bring the idea before and stimulate the imagination of the public.

Properly organized, promoted and displayed, a modernization or reconditioned-building exhibition would attract widespread attention. It would interest the layman and would doubtlessly be enthusiastically endorsed by civic organizations. As a tangible business enterprise, it would probably be adequately supported by building material producers and dealers, contractors and builders.

For architects it would open a new avenue of civic activity, emphasize professional leadership, assist in the stabilization of the building industry and relief of unemployment and afford the development of what to many would be a new outlet for professional service. Alteration work has always been recognized as a service commanding a larger fee than does new work and clients have paid the fee asked. Volume of work and an organization equipped to handle reconditioning work is all that is needed to make this field profitable. But first, modernization and the architect's importance in this work must be established. A good way to accomplish this is through the medium of a good architectural modernization exhibition.

The fundamental principles of an exhibition of this kind should be the demonstration of what can be done to make obsolete buildings usable and again profitable; how buildings of poor architectural character can be altered to improve their appearance and that of their locality; kinds of building improvements that can be accomplished for specific amounts of money; and the value and importance of the architect's impartial, unbiased guidance in modernization to accomplish the most good for the least financial expenditure. The exhibition should be planned with these principles in mind. Its presentation should attract public attention and be so simply and convincingly displayed that the layman will readily grasp the facts. It should be held in a location that is easily reached by the public and in a place where the public



Stimulate Business

BY BENJAMIN F. BETTS, A.I.A.

naturally goes daily in greatest numbers. It should be so promoted and publicized that it will attract all classes of building owners.

To organize a reconditioning exhibition, a well qualified director should be selected by a local chapter of the American Institute of Architects, architectural society, or other group of architects. The director should be selected on the basis of executive and public speaking ability, energy, enthusiasm, and ability to enlist the support of other organizations. The director should be aided by committees designated to secure architectural exhibits, material exhibits, planning and display, publicity and any other activities that local groups may deem it advisable to carry on.

The architectural exhibit can consist of "before and after" photographs and drawings of various types of buildings that have been modernized. Examples of work both local and otherwise should be shown. These exhibits should be accompanied by easily read charts giving the cost of improvements, year improvements were made, cost if made on the basis of today's prices, and the resulting increased value or increased revenue derived by the owner.

To stimulate the layman's imagination, a few modernization suggestions (Continued on page 82)

CAN YOU HELP?

After you have read this plan, please tell the editors of American Architect what you think of the idea and whether you believe it possible to conduct such an exhibition in your community.

If you have altered or modernized buildings, please send the following information:

- I. Year built and year altered.
- 2. Cost of alterations.
- 3. Increased value or revenue derived by the owner as a result of reconditioning.

This information will be placed at the disposal of groups desiring to assemble photographs, drawings and data for exhibition purposes.

What Architects Can Do

A Practical Discussion of the Law as it Applies

N agreement between architect and owner that the ownership of plans shall remain in the architect is valid and enforcible. Assuming that it has been agreed between the architect and his client that the architect is to remain the owner of the plans, what is the effect of such an agreement, and what is the situation presented where the owner, after paying for the plans in the first instance and having erected a building in accordance with them, proposes to erect another building similar to the first? How far will it be possible for him legally to use the plans in the erection of the second building or to copy the design of the first building, if the original plans are not available? Going a step farther, what right would a person other than the owner, who was not a party to the original agreement between the architect and the owner, have to copy the building and erect another one similar to it?

These questions present, broadly speaking, two different classes of cases, namely, cases where the issue lies between the architect and the client, and cases where it concerns the rights of third parties who have had no contractual dealings with either the owner or the

architect.

If the architect has secured an agreement by the owner that the title to and property in the plans shall remain in the architect, the owner probably would not be able to use the particular plans prepared by the architect and covered by the agreement in the erection of another building. I am using "plans" in this connection in the sense of the actual drawings as distinguished from the design and layout itself. By agreeing that the ownership of the plans shall remain in the architect, the owner waives any right which he might have to demand that the architect furnish him with the same plans again for use on another building, without adequate compensation.

This does not, however, dispose of the problem presented where the owner, instead of demanding that the architect give him the actual drawings, has new plans prepared by another architect or by a draftsman, based on measurements of the building itself as erected. These plans, of course, would coincide, if the work is done correctly, with the original plans, but they would stand on a different basis. They would not be plans which were prepared by some one else on the basis of the building which resulted from the architect's plans.

I doubt if the ordinary agreement that the ownership of the plans shall remain in the architect would be sufficient to give the architect a claim against the owner, where the owner has new plans prepared in this way and a new building erected from them. As between these parties, however, I see no reason why the architect and the owner may not, if they wish, in the first instance, legally agree that the owner will not use the plans or design in connection with other buildings, without the consent of the architect or without giving

the architect a specified remuneration for such use. The courts have, in fact, recognized such an agreement to be proper and legal as between the architect and the client.

In the ordinary case, the architect has little to fear probably with respect to a subsequent use of the plans. In any case, where there is reason to apprehend that they may again be used, there is no reason why, in setting up the agreement between the architect and the client covering the work, the provision with respect to plan ownership should not be broadened along the foregoing lines, so as to provide specifically that neither the plans nor the design nor other plans based on the original plans or the design of the building as erected shall be used or made, without the consent of the architect or the payment to him of a reasonable or specified compensation therefor.

WHEN PERSONS NOT PARTY TO CONTRACT USE PLANS

When we come to consider the second phase of the matter, however, and the rights of third parties between whom and the architect no privity of contract exists, we are met with a different situation. Obviously, an agreement between the architect and his client can not be binding on someone else who was not a party to it and who probably had no knowledge of it. If such third party, taking a fancy to the house which the architect has built for Mr. Smith, sees fit to have his own architect copy the design and prepare other plans based on that design and use this material in building a second house for himself, the architect is in no position to claim that, because he had an agreement covering the ownership of the original plans, he can prevent the subsequent copying of his ideas or collect compensation therefor from Mr. Smith. It has long been held that the filing of plans with the Building Department amounts to a general publication of the plans and a making public of the ideas embodied in them. No amount of contracts between the architect and the client can prevent a third party, who has public access to the filed plans, taking a copy thereof and then using it for his own purposes. The only possible protection against this sort of thing lies along the lines of patent or copyright.

If the filed plans have been copyrighted or patented, the architect's relations with third parties rest on a different basis. Under these conditions, it seems logical that the ordinary laws of patents and copyright should apply and that the architect should be protected against the public generally as well as against the client with whom his agreement was made. Just how far the courts would go in granting protection along this line is somewhat problematical. It is safe to say, however, that, as a matter of general policy, they would be loath to extend the architect's rights in the plans to a point where

to Protect Their Designs

to the Use of Plans in Duplicating a Building

BY CLINTON H. BLAKE

Blake & Voorhees, Counsellors-at-Law, New York



it would prevent any future use of them whatever and that they certainly would not grant the architect any such protection, in the absence of a clear showing by patent or copyright that he is entitled to it.

TO PREVENT OWNER FROM LENDING PLANS

As a practical matter, the practicing architect will seldom find it necessary or advisable to apply for copyright protection, and it is only in extreme cases that patent protection probably will or can be sought. It will be an extreme case, also, in the practice of the ordinary architect where third parties will attempt to copy his designs. The danger that his client will make or facilitate the making by others of an additional and future use of the plans is more real. This is a danger which he can more readily discount and provide for by including appropriate provisions where necessary in the contract between the client and himself. For example, in such a case this contract might include, with respect to the ownership of plans, a provision in substance as follows:

"Any and all studies and sketches, plans, designs, drawings and specifications are and shall at all times remain the exclusive property of the architect and the owner will not hereafter make, or knowingly make it possible for others to make, any use thereof whatsoever on work other than that covered by this contract, provided that the owner may make such additional use thereof hereafter for his own purposes, upon securing the written consent of the architect therefor or upon

WHO OWNS THE PLANS AND SPECIFICATIONS . . . ARCHITECT OR CLIENT?

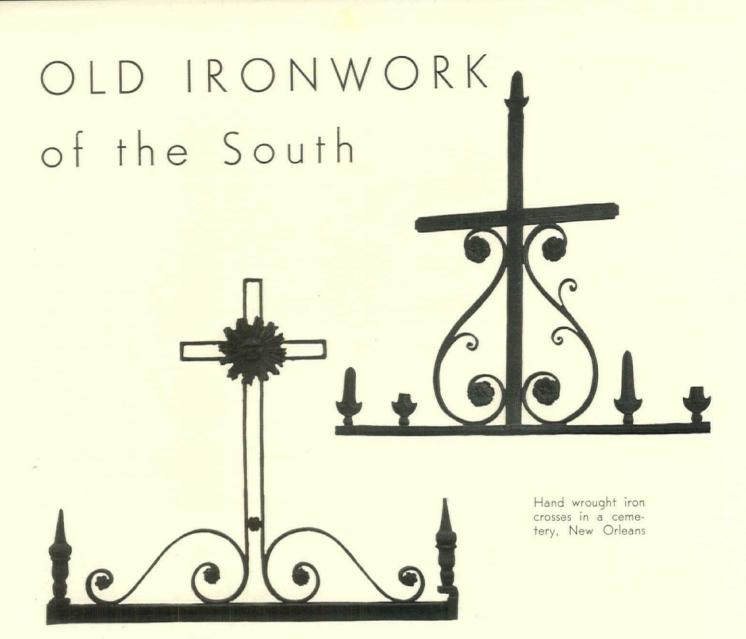
THAT is a question answered by Mr. Blake in the February issue of American Architect. His article on the two pages in this issue explains what the architect may do to protect ownership. Since a proper understanding of this article is somewhat predicated on facts presented in Mr. Blake's previous article, we quote enough from it to sum up the main points then made.

"A very considerable majority of architects are still of the opinion that the plans and specifications are and remain at all times the property of the architect, irrespective of whether or not there is any agreement to this effect between the architect and the client. This is not and never has been the fact. On the contrary, the courts, since the earliest decisions on the subject, held and still hold that, in the absence of a specific agreement between the architect and the client providing otherwise, the ownership of the plans and specifications vests in the client who orders and pays for them; that the architect, by accepting the order and delivering the plans and accepting payment for them, relinquishes any claim to ownership with respect to them and transfers this ownership to the client."

paying to the architect an additional fee of per cent of the cost of the additional work done in accordance therewith or based thereon, in the event that the architect is not called upon for any supervisory services and a fee of per cent of such cost, in the event that the architect is requested to and does supervise the work."

The exact wording of such a provision can, of course, be varied to meet the case. Generally speaking, the architect and the client can, as between them, make any provisions along these lines by contract which they may think proper. Such an agreement will be subject only to the general rule that it must not contain any provisions calling for action which is illegal and the rule that third parties who are not parties to it or who do not in some way recognize it as binding upon them can not and will not be bound by any of its terms.

I have recently been shown a clipping reporting the case of an architect who designed a school building which was destroyed by fire and again reconstructed, as he claims, in accordance with his original plans. Assuming that it could be shown that the same plan and design were followed—and this, of course, should not be difficult to demonstrate—the architect in such a case would be protected and entitled to his additional compensation on the subsequent use of the plans, if his original contract with the school authorities had included a provision substantially along the lines suggested. While the cases in which such a provision would apply or be called into effect are probably rare, the benefit of the provision to the architect in the cases where it is effective may well be proportionately important.

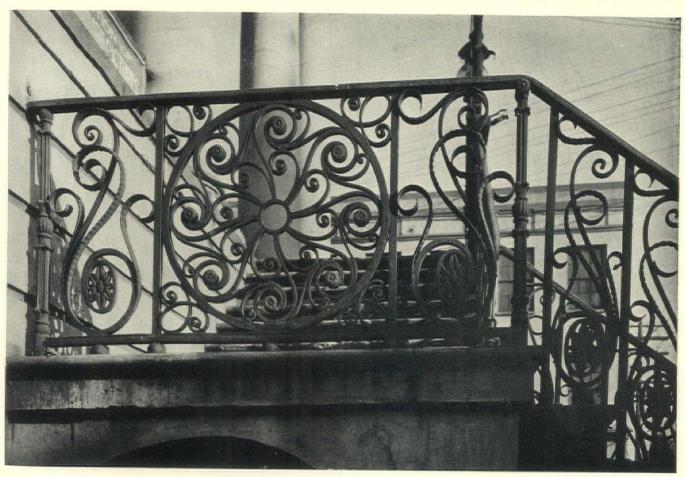




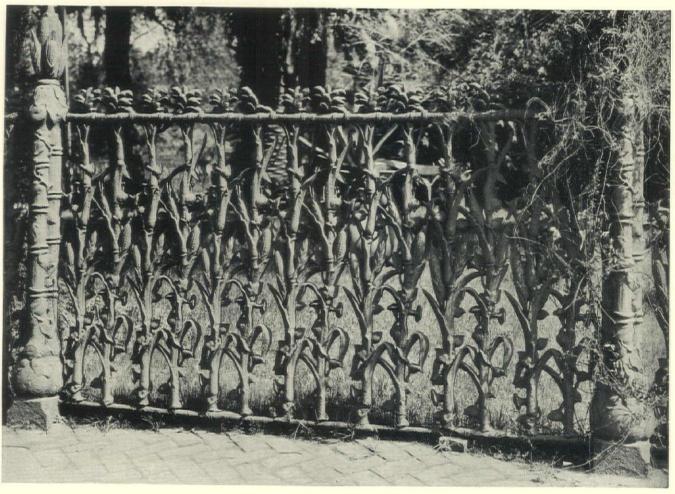
Foot scraper, New Orleans



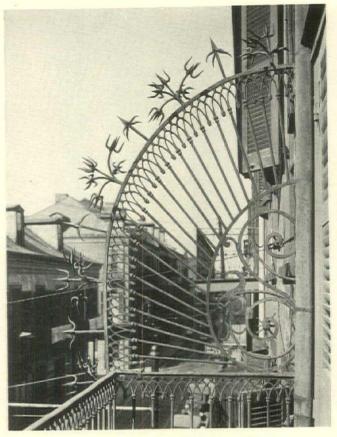
Foot scraper at "Rosedown" plantation, St. Francisville, La.



Stair rail, Market Hall, Charleston



"Cornstalk" fence, New Orleans



Balcony guard, Royal Street, New Orleans



Detail of "gate of the swords," Charleston

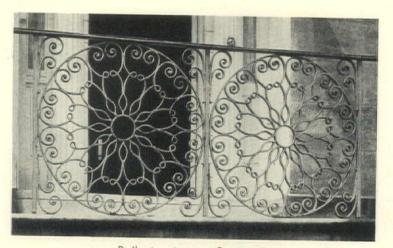


Awning support in the old section of Mobile



Gate in a cemetery, New Orleans

Rail at entrance, Savannah

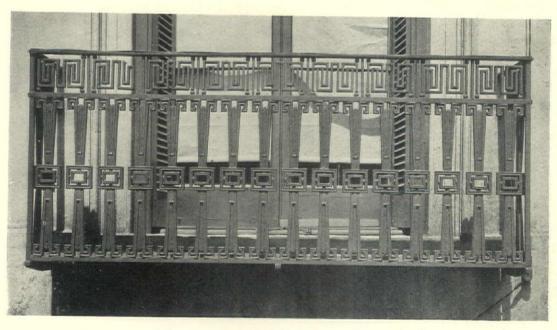


Rail at entrance, Savannah

OLD IRONWORK OF THE SOUTH

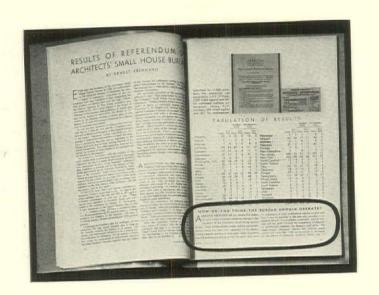


Iron cross and gate in a cemetery, New Orleans



Balcony on the Teffafaire Museum, Savannah

A Plan to Reorganize



This plan seeks to remedy eight major defects of the Bureau: . . . I: Insufficient concentration on the low-cost house as distinguished from the small house. . . 2: Failure to achieve substantial reductions in cost. . . 3: Lack of adequate organization and financial power. . . 4: Lack of a financing plan (recently provided). . . 5: Absence of coordination of Bureau, architects and building industry. . . 6: The unhappy selection of a name. . . 7: Unwise method of distribution. . . 8: Excessive conflict with individual practice

BY C. JULIAN OBERWARTH, A.I.A.

Secretary and Treasurer State Board of Examiners and Registration of Architects, Frankfort, Kentucky

UR arguments anent the Architects' Small House Service Bureau approach the unreasoning violence of those on prohibition. The prosvigorously resist every move of the antis; the antis accept the efforts of the proslike angry bulls receive the tantrums of egotistical toreadors; and the in-betweens sit grinning in ring-side seats, enjoying a fight the true gravity of which they fail to grasp.

If there were not some deserving arguments for and against the Bureau the heat of battle could never have become so intense. Yet, instead of digging in and correcting the bad features and building up to achieve a worthy objective, we have toyed with a problem so great, so urgent, so thrilling as to command world-wide attention, and done nothing more than to argue, bitterly, whether the movement shall be led by the leaders—The American Institute of Architects!

That the Institute has, in convention assembled, reverted to a policy of arbitrated study, reflects the sound judgment of its delegates. To have continued to endorse the Bureau under a barrage of justifiable criticism would have been irrational. To have scrapped the Bureau, with its years of accumulated knowledge and experience, would have been as shamefully childish as destroying a valuable watch because its main-spring was weak.

Now that we are in a position to remould this organization into a constructive piece of machinery, let us do it in a manner becoming master planners—as carefully as if it were a hundred million dollar commission, for that is exactly what it is.

The small house is the heart of our national, political and economic structure. The building of one home creates a demand for all of the world's products and services. It creates American Citizens. It is the source of demand for schools, factories, churches, commercial buildings-a fact which, in our mad rush for favor and fortune, we had forgotten. I am told that an appreciation of these principles underlies Sears, Roebuck's decision to build houses. That appreciation is not general may be seen from the fact that President Hoover's recent conference on housing exposed a condition so astounding, so ghastly, so utterly neglected, that we dared not recognize our own responsibility in the matter. At the same time it laid bare a field of opportunity that is literally crying for honest exploitation. The depression, itself, has so turned the tide of life toward normal things that not since pioneer days has the desire to own a home so filled the hearts of men.

An article in "Fortune," commenting on the situation, says, "... the industry (building) has failed to reach a market which, exclusive of families living on farms, amounts to 14,500,000 to 15,000,000 families; ... if the industry could build a *good* house to sell at \$4,800 it would add 60 per cent to its small house sales in its *present* market. ... If the industry could build a *good* house to sell at \$3,600 it would double its post-war output, which in 'normal' years has amounted to \$3,000,000,000 and invade the *new* market."

As staggering as that truth is, it does not go into detail of source which, if we investigated it, would show that even the market which the industry has reached has

the Small House Bureau

been exploited with poor planning, materials and construction through lack of architectural service.

Who now, but architects, have the position and training to solve this problem? I tell you here is a duty and a challenge that we can not, must not, fail to heed. Well-conceived action is essential, architectural leadership paramount. There must be no failing, no stalling, no shirking; else disaster will ensue, attended by tremendous loss of prestige.

We know that builders of low-cost homes want a simple, sure and direct method of handling their programs as unit-price transactions, and that their wants will be supplied regardless of whether we, or those less qualified, supply them. We know, in our hearts, that it can not be done through individual practice; and if we are to find a practical solution we must base our actions upon the same clear conception of the conditions and requirements and resort to the same analysis, logic and perseverance that evolves any successful plan.

Our problem is: To give potential builders of low-cost homes the advantage of good plans, specifications and supervision at prices within their reach; to foster and perpetuate universal appreciation of good architecure and architectural service; to make the cost and value received so attractive and superior as to eliminate others in the field; to guide all planning through the hands of competent architects; and, finally, to direct our organized efforts toward those who can not afford the independent services of an architect, in such a way as to cause the least possible conflict with private practice.

THE Bureau is our preliminary study and, as such, needs certain changes and development. Here are its major defects: 1. Insufficient concentration on the low-cost house as distinguished from the small house. 2. Failure to achieve substantial reductions in cost. 3. Lack of adequate organization and financial power. 4. Lack of a financing plan (recently provided). 5. Absence of coordination of Bureau, architects and building industry. 6. The unhappy selection of a name. 7. Unwise method of distribution. 8. Excessive conflict with individual practice.

Number seven is the unfortunate cause of number eight. There were reasons, of course, for its adoption; but of this I am certain, unless, and until, we concede the necessity of distribution strictly through the hands of architects, there is not a ghost of a chance for ultimate, far-reaching success. Antagonism and resentment within our own ranks will grow and expand until they blow up the whole works—and I would be willing to light the fuse.

Two years ago I told a prospective client who insisted on the economy of stock plans that I would get him a good set, made by the Bureau, if he would let me supervise the work. He laughed at me. "Why," said he, "I can get the same plans for nothing down here at the Blank Lumber Company and they'll save me the cost of supervision."

What mockery to find that we are competing against ourselves! What priceless irony that we should do it, even partly, through the hands of building material dealers and contractors (highly unethical under our own standards) and let the American Institute of Architects, the endorser, take the blame for whatever results! It is hard enough to get men to follow plans under constant supervision. Lord only knows what they do when let alone.

NDER the direct leadership of the Institute, with the active assistance of every branch of the building industry, let's take the Bureau and build it up into a strong, efficient organization more suited to our needs.

Let its first consideration be given to the study of materials, methods of assembly and construction. Select the best, from the standpoint of low cost, efficiency, quality, adaptability and appearance and reduce and standardize them, consistent with reasonable latitude in design, to assure large-scale mass production. Agree upon their use at a fair price, eliminating the cost of salesmen, sales literature and middle men, handling distribution directly through local firms. Let the data compiled by the Hoover Conference be made available and its work perpetuated.

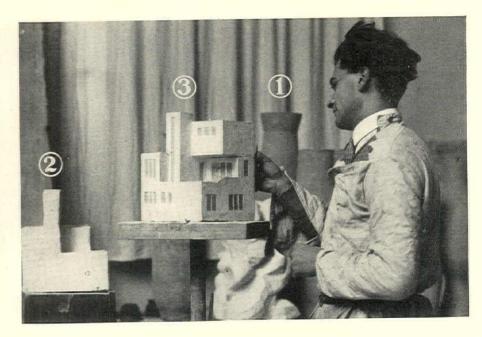
Thus armed, we will be ready to plan good houses at costs so reasonable that we can reach and monopolize any market. But let's go further. Let's enact and reenact state laws to exclude house plans made by other than qualified architects. Certainly, by now, we have learned the folly of timidity. It should be our *duty* to use every honest legal means to blot out unqualified service. What, do you think, would be our standard of health if the medical profession, itself, had not closed the doors to those unqualified to practice medicine?

Let plans be created in every style and design, beautifully presented and seductively illustrated. Include suggestions for furnishings and equipment, treatments of yards and gardens-everything to make them complete and highly desirable. Provide a division of this service devoted to farm buildings and invade this long-neglected, fertile field. Let plans be submitted by private architects and the appropriate ones re-worked to the organization's requirements. Let all finished plans be copyrighted, published and distributed only through arcmitects. would all changes be under proper direction and supervision, competitive bids and reliable contractors assured. Thus, too, would all work, whether individual or collective, be directed through the proper channels, to the advantage and profit of architects as well as the general public. The plans of the organization, being limited to stock materials, would appeal principally to those who could not afford wider variety. Those who can afford it will, and usually have, sought the individual services of an architect.

The final act of distribution should be so arranged as to allow architects to offer the complete job, plans, services, house and all, for (Continued on page 98)



Dr. Steinhof teaches the student to: (1) Build clay vases as he would a building. (2) Harmonize volumes. (3) Translate these fundamentals into a building model



A New Way To Teach Architecture

BY DR. EUGENE G. STEINHOF

Architect: Director, National School of Decorative Art of Vienna, Austria

URING the past eight years, I have developed an entirely new approach to the teaching of architecture in my own courses, for at the National School of Decorative Art of Vienna each professor develops his own system of teaching and selects the subjects to be taught. My teaching method embraces the study of the fundamentals of architecture as an art, the teaching of modern building design as the uniting of art with life. Art of the past is taught from the viewpoint of its creative value and construction is interpreted as the natural fusion of the idea with the material. The method introduces architecture to the student through the study of architecture by building rather than by drawing.

The curriculum is based upon:

1. Instruction in the art mediums of architecture, that is, architectural space, surface and color.

2. Analysis of use of building.

3. Teaching of construction through study of actual projects, as well as historical monuments as creative structures.

Instruction in the art mediums of architecture is designed to develop in the student an understanding of architectural space through:

a. Observation of nature in her spatial manifestations: crystals, etc.

b. Discussion and observation of the proportions of rooms of existing buildings. Room dimensions are noted for future reference and the student thus becomes accustomed to associating dimensions with space.

c. Transparent models are made to permit the study of space as to its inner appearance. The student is taught to observe in his transparent model the connection which exists between the inside and the outside of the structure. By this new method the student acquires in a short time a clear conception of enclosed space.

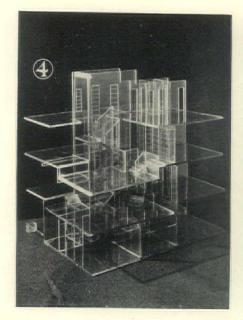
The subject of enclosing walls or architectural surfaces is taught in the following manner:

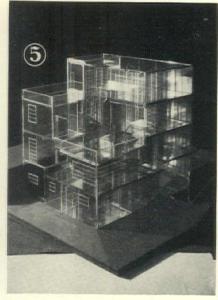
The architect must have the ability to produce wall planes which correspond to his creative intention. Therefore the student must acquire skill in differentiating between subtle tones. To give him this skill, the surface of the vase is studied. For this purpose the vase is not viewed as a decorative object but as the unfolding of a plastic surface in light. Vases are built from below upwards as a wall of clay—like the wall of a building. After three or four vases have been executed, the student has obtained more experience in plastics than he ever would have acquired in copying plaster casts.

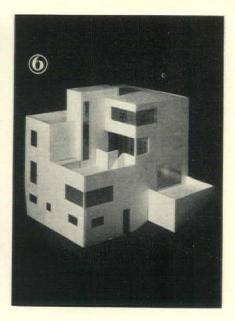
The modeling of a building surface is then taught by building up opaque plastic cubes. The student quickly learns to design masses in an artistic combination.

To forestall a possible recrudescence of copied ornamentation, the student learns the movement and rhythm which control and produce ornamentation and he sketches ornamentation in relation to the materials to be employed. Color, in the case of the architect, must be taught with regard to its connection with the enclosure of space.

Since the purpose of a building is no longer based







After writing out the problem as a narrative, the student studies the inner space arrangement by making (4) a transparent model of celluloid. When the plan is established, the space model is enclosed with transparent walls as shown at (5), and the outer shell and masses developed with opaque walls as shown at (6)

upon living conditions of a past age, the student must study how people live today. Therefore, before the student makes a plan for his project, he studies the daily life of those who will use the building. He is required to describe this in minute detail. In doing so, he enters deeply into the purpose of the building. Out of these synthetic studies, the student attains a clear conception of his problem and the building idea becomes architecture. At this point the architectural student drops the pencil and begins to build. Without previous plan making he expresses his conception by constructing models.

The method can best be demonstrated by describing the work of a typical student. The project shown in the accompanying illustrations is the first architectural work undertaken by the student after he has been trained to model vases and harmonize volumes.

Closest to the life of the student is the home of his own family. This consequently forms the basis of his first project. In the case illustrated, the family consists of the student's parents, three children and one or two maids. The father, a playwright, wants to live and work on the top floor. The children live in the middle floor. The first floor contains the social rooms.

N the illustration at the top of this page, the student is shown at work surrounded by the results of his studies in harmonizing volumes and modeling vases. After the volume studies, he wrote, as a narrative, the requirements of the life to be embodied in his first building study-a house for his family. After completing this preliminary study, he made a plaster model containing the general building requirements but without structural requirements. The plan of the building is marked on the base of the model. The natural human urge to bring an idea into concrete form creates active interest in the student to construct his house and develops in him the desire to learn how it is built. Having satisfied this desire, he makes a third model (4 and 5) with transparent walls in which he studies the inner space proportions and the inner arrangement of the building. When satisfied with the result, he covers his space with its outward shell. Creating the surface of his building by enclosing the model with opaque walls he develops the cubic volumes of the building masses as shown at 6. This procedure has given the student a clear and architectonic conception of his building; it was born by enclosing space and not by studying it as a paper project. He completes his project in about three weeks.

A FTER having produced several projects, the young student develops surprising skill in the practical and artistic analysis of a building. From the beginning, poor planning is avoided because every mistake is immediately seen, and the artistic side of the enclosure of space is revealed.

The project shown in the illustrations was conceived according to living conditions and building practice in Vienna.

Construction is taught as a constructive fact by practical demonstrations. Consequently, without the usual detours, the beginner is enabled to start at once with the problem as a whole: to organize a real building and understand its construction.

In most schools, instruction in the history of art is seldom more than an attempt to give esthetic appreciation. A teaching method, the aim of which is creation, must teach the past not from the viewpoint of knowing but of actual doing. This theory, in teaching architectural history, is new and extremely broad in scope in that it views the history of art as an interrelation of art form and world events; as a connection between an age and its people; as an interpretation of artistic individuality modified by the age and as a connection between art form and creative tool.

We are building today a future generation of artists. We must stop inculcating esthetics instead of art; we must not substitute an historic conception of art for living art. We must go back to the fundamentals of the architectural structure, back to the awakening of the artist's soul and back to the life which we live. We shall then have a true concept of modern architecture.

Presenting
''SPACE''

to

prospective

tenants

BY

ARNE ARNTZEN President, Interior Layout Corporation, Chicago

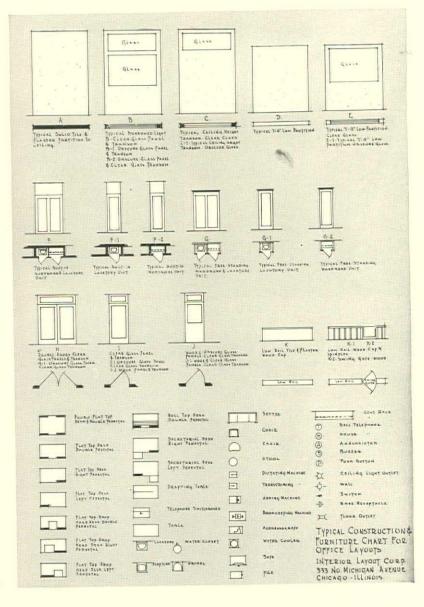
Indication of Details Developed for Office Layouts

HE most satisfactory subdivision of tenant space is a problem that has grown increasingly important in the development of office buildings. This has brought about the organization of groups of "Office Layout Specialists," a service intended to bridge the gap between architect and building manager.

Perhaps the necessity for organizations of this nature can be attributed to the demand on the part of prospective tenants for more efficiently arranged offices, better grouping of departments, more study given to the "flow of work" from one department to another, and how these considerations would necessarily affect the layout. The architect is usually too busy with activities directly related to the building to be in a position to spend any considerable amount of time studying the exact requirements of each individual tenant.

This detail work is often taken care of by a layout organization, which should for all practical purposes limit itself entirely to the study of the tenant's requirements and visualization to the tenant. When the tenant has indicated approval, the information should be turned over to the architect as a basis for working drawings.

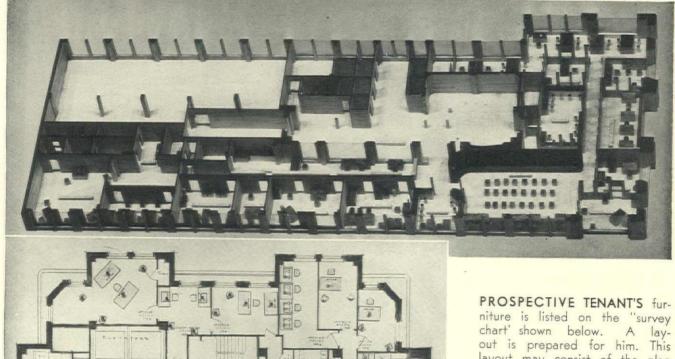
Inasmuch as selling of space starts before ground is broken, adequate presentation of space demands considerable ingenuity in developing satisfactory solutions.



In most instances visualization of the space in question cannot be conveyed or adequately portrayed to the average tenant through blue prints, even though the entire furniture set-up is indicated. This fact has lead to the development of other forms of presentation.

In order to prepare a suitable study of the space, it is essential that a layout organization get the exact picture of the tenant's requirements. A complete survey of the tenant's present quarters is made. If the tenant has a plan of his present space, it is well to utilize this as far as possible. Inquiry should be made as to whether or not any changes have been made subsequent to the issuance of this plan. In many instances the tenant may have taken over additional space and failed to make a note of it on the prints. A conference should be held with the office manager or other executive in charge of the problem of adjusting requirements to new space and every detail, no matter how insignificant, should be discussed with him, noting carefully his comments and suggestions.

This done, the furniture should be checked and noted. A standard chart can readily be prepared to facilitate listing the furnishings in the various offices. After securing the necessary data, taking into consideration the need for additions and future expansion, studies are made of the



layout for the new location. After a satisfactory solution is found, a suitable presentation is made for the client.

Besides the pencil studies of space, another method in vogue is the "template" form. A typical un-subdivided floor plan showing only the utilities, columns, etc., and usually made at quarter inch scale, is mounted upon a base made up of cork or other material into which one can pin without difficulty.

The essential characteristics that make up a layout are the partition walls, borrowed lights, lavatory and wardrobe

units, low partitions, railing, swing gates, etc. Since in most cases these are of standard sizes, they can be printed in advance on cardboard or heavy paper. This is likewise true of the furniture, different colored cardboard being used for various types of desks, tables, etc.

These items are cut out from the printed standard forms and pinned down to the cork base, using small round headed pins. The color of the heads of the pins should preferably correspond to the color of the cardboard or paper. Light outlets are also indicated by this method. The names of various departmental heads, etc.,

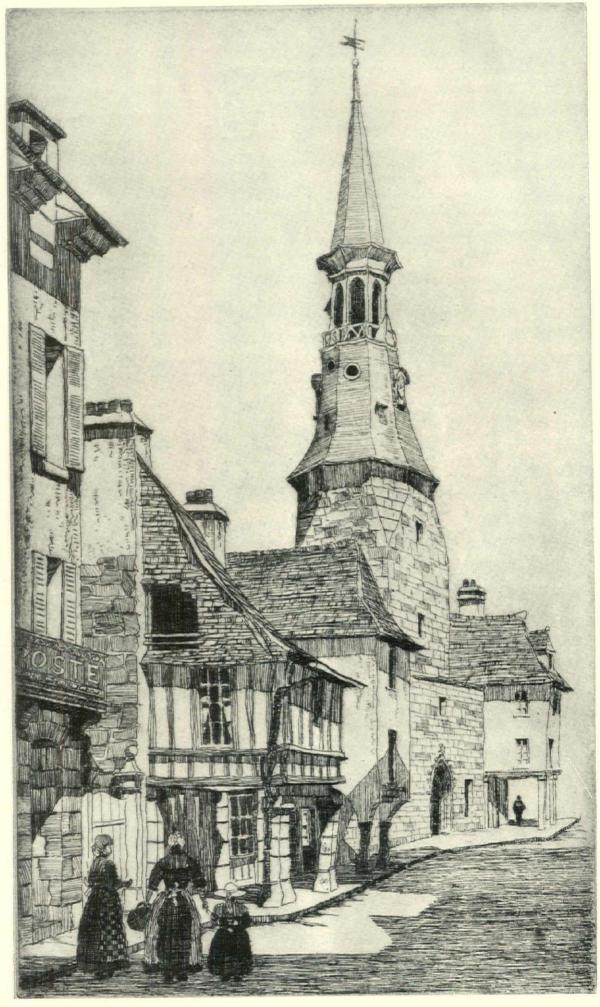
PROSPECTIVE TENANT'S furniture is listed on the "survey chart' shown below. A layout is prepared for him. This layout may consist of the plan with colored pieces of paper to represent furniture as shown at left. Or it may be a model as shown above. With either method the prospective tenant may try other arrangements if desired

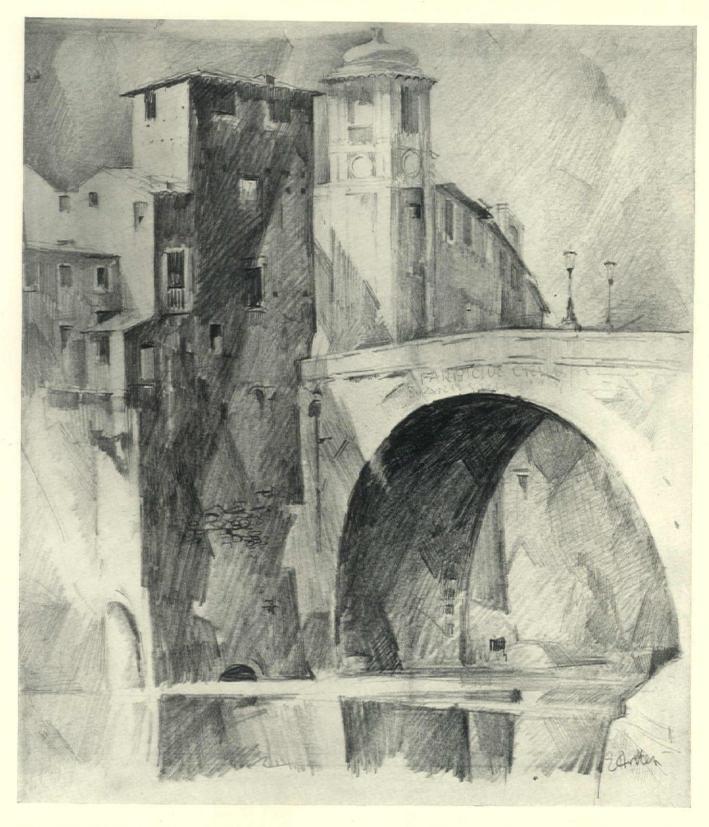
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SUDVEY CHADT

are typed on a separate sheet of paper and pinned down to their designated position. Necessary notations are typewritten and secured to one side of the layout.

The principal advantage of this method of presentation over a drawing is that it is a nearer approach to the tenant's conception of what a layout should be like than is a blue print or a pencil sketch. It is also considerably more flexible, since if the prospective tenant does not like the particular location of his desk in his office, he merely loosens the pin and up comes his desk, and he can maneuver it around to his heart's (Continued on page 94)



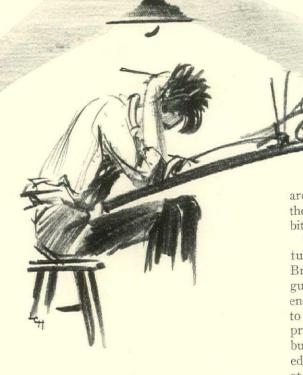


PONTE FABRICIO, ROME, BUILT 64 B.C.
A DRAWING BY EARL HORTER

LA RUE DE L'HORLOGE, DINAN, FRANCE AN ETCHING BY WOODRUFF K. AYKROYD FOR JULY 1932

How to

"We are inadequately trained in the business of architecture"



OW to make a living out of architecture? Interesting theme that! Small wonder the conversation grew heated around the luncheon table at the Pepper Pot Coffee Shop. It is there that the Architectural Iconoclasts meet with an easy informality to air their opinions, grievances, or what have you—and they usually have plenty! If one enjoys a pithy verbal tilt and is blessed or cursed with a reform complex, he can generally find satisfaction at one of these noon seances convening at the Pepper Pot. The other day I happened in for lunch and the usual talkfest was on, with "sound effects," as they say in the movies.

This particular round seemed to be for the purpose of settling the question of how our exalted and dignified profession of architecture could be made to support its harassed and scrambling devotees. And friends, the writer respectfully takes his hat off to the lads who could settle, over a luncheon table, such a question.

Jackson Lee was holding the attention of the assembled Iconoclasts. His dark, expressive face was twisted into a wry smile as he whimsically spoke.

"How can we all make a decent living out of architecture? It has me stopped. To date it is the lost chord with me. I can't seem to even hum the tune. Y'know, fellows, the thing that riles me is the way in which we architects are chucked out into the deep swirling waters of professional practice from the architectural schools, with little or no business preparation-sans the knowhow to swim. It's tough on the victim and hard for his competing fellow swimmers who clutter up the ocean. How little practical knowledge there is, in available form, to help us cope intelligently with the business problems of architecture—architectural economics, you might say. The average architectural course in our universities gives us little or no information about it. though I will admit there are a very few who claim to be notable exceptions. We can turn to few architectural associations for this helpful information. Young

architects simply have to blunder forth into business on their own and pay the ruinously high tuition of the bitter school of experience."

"You're laying in a sad picture, Jack, with a mourn-tully purple brush," laughed the plump and witty George Bradley. "It may be that the intelligentsia—the old guard, you know, thinks that because we are bright enough to learn the theory of architecture, we ought to acquire by the try, blunder and bust method enough practical knowledge to save our scalps in the battle of business. However, the lack of business training in our education has rather gotten under my skin too, and so at the last meeting of the Chapter, when I found myself sitting next to Dean Keppering of the State University School of Architecture, I fired these questions at him:

"'Dean Keppering, why doesn't your school have a course which will give your boys some idea of practical office methods—give them information on how much it costs to start in business—how much to run an office—how to compute overhead—some knowledge of the cost of making sketches—of producing plans, etc.? Such a course could be condensed—made short and snappy, and it might save the boys years of mistakes and the discouragement which comes from floundering around trying to find themselves. An intelligent instructor, backed by reliable data, could save them much painful experience. How to build up their practice would cer-



"When I studied in Paris . . . "

Make a Living Out of Architecture

BY CHARLES KYSON

Hollywood, California

Drawings by LANSING C. HOLDEN, Jr., A.I.A.

tainly be interesting to the boys and of course of value to them, whether they were in business for themselves or working for another architect."

"And what did the Dean say, George?" demanded an interested listener.

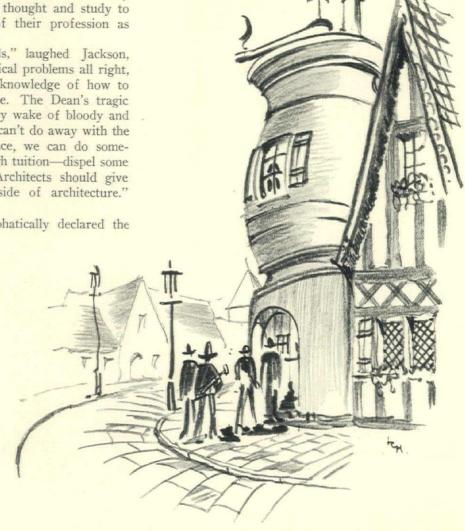
"Well, here's his answer as I remember it:

"'Yes, there is something in what you say, Mr. Bradley. We of the faculty have talked it over, but we have decided that it is inadvisable. We believe that our function is to inculcate high architectural and artistic ideals in the minds of our students. We believe in letting them study architectural design untrammeled by limiting, practical considerations; thus our student body will better absorb the theory, the ideals of architecture. Later they will have plenty of time to give thought and study to the practical, mundane phases of their profession as they need them."

"And his students, poor devils," laughed Jackson, "they will meet up with the practical problems all right, but solving them, without some knowledge of how to do so—well, that's something else. The Dean's tragic method leaves such an unnecessary wake of bloody and bowed heads. While I admit we can't do away with the much-vaunted school of experience, we can do something to cut down its ruinously high tuition—dispel some of this high-priced ignorance. Architects should give more thought to the business side of architecture."

"D USINESS, that's it!" emphatically declared the D gray-haired Juan Munroe, an architect with a record of accomplishment. "As our profession is practiced today it is only partly an art. It can scarcely be described, properly, as a profession. It's really a business -though I don't exactly like that description of it either. And yet my actual experience has been that eightyfive to ninety per cent of my time in it is spent as a business executive-either getting business, administering it through the office, preparing financial set-ups of buildings, estimating costs, writing specifications -well, just business routime. Why, if I am able to devote ten per cent of my time to the artistic phases of architecture, I'm lucky. So, it looks to me, too, as though our problem in architecture is that of putting art on a business basis."

"That's my problem, too, Julian," eagerly contributed James Cameron. "When I went to college and studied in Paris, design was my specialty. I learned to make flashy sketches and grand plans. Since I have been practising I have pretty nearly forgotten how to make a presentable sketch. The thing (Continued on page 97)



"Where the Architectural Iconoclasts meet to air their grievances"



LIFSHEY STUDIO

A fire resisting filing room, office of Schultze and Weaver, architects, New York

An Economical Solution of the Fireproof Filing Room

BY GEORGE H. ALLEN

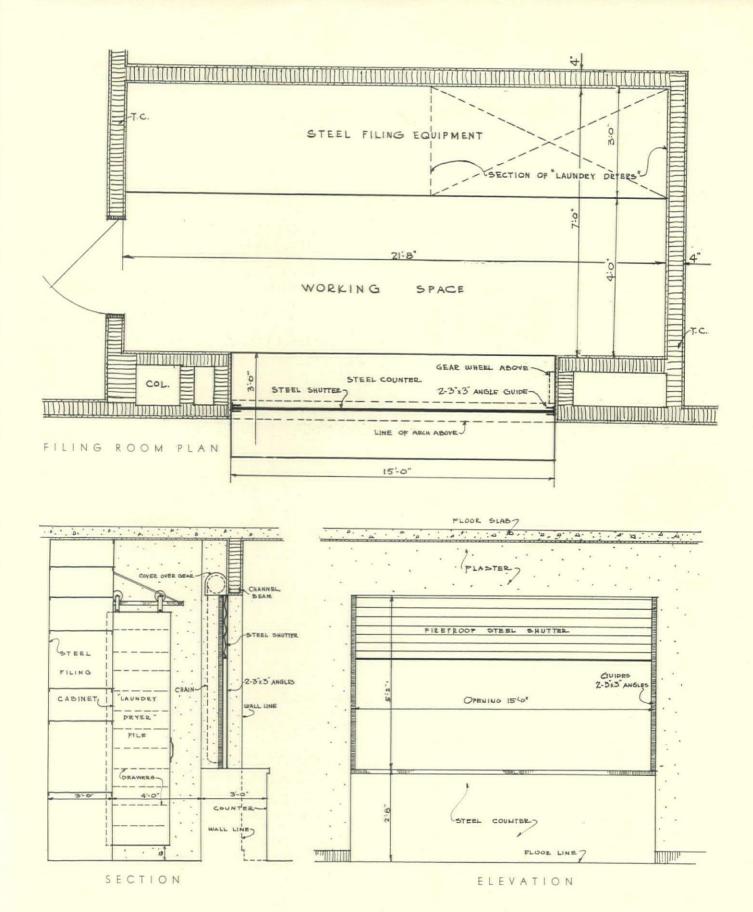
IRE risk is an ever present danger, yet most architectural offices take but few precautions against it to safeguard valuable drawings. The general practice has been to file all drawings in semi-fire-proof cabinets or drawers. But this does not afford sufficient protection. The logical solution is to have a fire resisting room but the cost of this is usually considered prohibitive. Schultze and Weaver, Architects, New York, have found an economical solution to the problem.

This office has a large number of drawings including working drawings, details and full-sized sheets. It was desired to have all files in a compact space, immediately accessible to the draftsmen and protected from fire. The main drafting room is rectangular in shape, 60 feet long and 25 feet wide. It is bordered on three sides by windows and on the inner side by a 4" tile partition which divides it from the other offices. An opening was cut into the wall 15' long and 8'6" high, approximately in the center of the drafting room. The lintel is supported by a steel channel beam which is imbedded in the wall at the jambs.

A steel counter 15' long and 3' deep was assembled in sections and fastened directly to the finished cement floor with screw anchors. The counter is flush with the wall at the inside of the filing room and projects on the outside—due to the width of the columns at the jambs—about 18". The counter is of typical construction with steel sides and drawers and a green linoleum top which is glued and fastened down with a brass edging strip. The generous working space of the counter allows a number of men to be there at the same time without their getting in each other's way.

The channel beam at the lintel of the opening has a 1/2" steel plate bolted to it on the inside. This in turn serves as a firm support for a rolling steel shutter, similar to the roll doors used in factories. At each side of the jambs a 3''x3'' angle has been fastened to the masonry with anchor bolts, which serves both as a guide for the shutter and as a fire-stop. At one end of this shutter is a cog wheel operated by a chain.

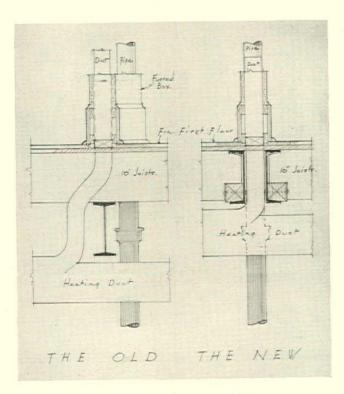
The wall at the back of the filing room has been built out with various types of steel filing equipment, housing every drawing ever made by the firm and with the necessary provision in taking care of future expansion. In the lower left side of the wall are steel filing drawers which take the usual $8\frac{1}{2}$ "x11" sheet. In these are filed



all full-sized detail sheets. Directly above these drawers are steel shelves upon which are kept the record books and various miscellany. To the right of the drawers are about 25 vertical files which were originally "laundry dryers." The steel cases were constructed to fit a drying cabinet, which consists of projecting overhead tracks, upon which ride a series of wheels. These steel cabinets pull out easily and each contains 10 horizontal half-round

shelves. All of the working drawings are rolled and kept in these files. Directly above the "laundry dryers" are steel pigeon-holes, approximately 6"x8" which are used to house round steel cases 4" wide and 44" long. These are used to store all drawings of inactive jobs. To reach these cases a narrow iron grating cat-walk has been constructed above the projecting arms of the "dryer" files; this is reached at one end by a removable steel ladder.

.. Things You Didn't



MORE HEADROOM IN CELLARS

By G. Frank Cordner, A.I.A. Detroit, Michigan

A METHOD for solving the duct and pipe problem increasing headroom in the basements of frame houses is shown in the accompanying drawing. The usual I-beam or wood girder placed below the joists causes the heating ducts to be run below it and cuts down the available headroom by that much. Also plumbing stacks have to be run to one side of the girder.

In place of the I-beam use two channels, back to back, but separated. The distance between the channels depends on the pipe or duct size; 4" will accommodate a 3" cast iron soil stack 5" a 4" stack, etc. Separators consist of a small section of steel channel bolted to each channel every two feet. Should one of them come in the way of a duct or pipe, it can be removed without affecting the strength of the girder. The cost is no greater than building the basement walls 8" or 10" higher and is, in fact, probably less.

MASTER LIGHT SWITCH IN GARAGE

By Edwin F. Simpson, A.I.A. Dayton, Ohio

TO enable the occupant of a residence to light his way from the garage to the main part of the house, install a master-switch in the garage to control lights in the garage, kitchen, serving pantry, dining room and main hall or whatever course one might take going to and from the garage. Another master-switch should be installed in the main hall or living room.

These master-switches operate to turn on all of the

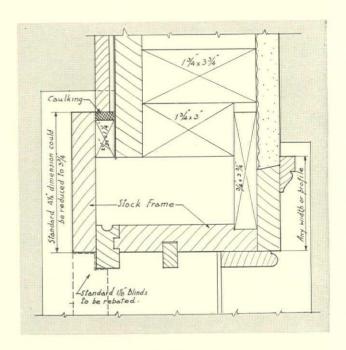
designated lights at one time independent of their local switches and must be turned off again by one of the master-switches before the local switches are operative.

This method eliminates the turning on and off of lights in going from the main part of the house to the garage or vice versa.

CLOTHES LINE AT ANY POINT IN LAUNDRY

By Edwin F. Simpson, A.I.A. Dayton, Ohio

To facilitate the application of clothes line hangers in laundries of houses, insert in the concrete a bevelled board 1" x 4", seven feet above the floor—running continuously around the room. This eliminates the drilling of holes and permits the occupant to fasten the clothes line at any point in the room.



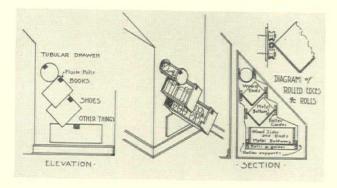
NARROW TRIM FOR DOUBLE HUNG WINDOWS

By Alfred Mausloff, architect New Canaan, Conn.

THE accompanying detail for narrow trim on double hung windows is felt to be an improvement on that published in the March 1932 issue of American Architect. The detail provides for a rigid construction which will secure the window frame to the studding and at the same time provide good nailing for interior trim. It utilizes standard window frames and is adaptable to almost any size or profile of trim. The inside casing can be used as a plaster ground or, if preferred, a temporary ground can be applied.

In order not to have the exterior casing project too far, note that the blinds are to be rabbetted. This can be done either at the mill or at the job.

Learn in School



INGENIOUS UTILIZATION OF ODD SPACES

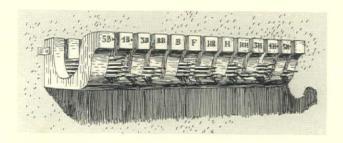
By Ernest O. Brostrom, architect Kansas City, Mo.

N planning a modernization job we found the client a most ingenious deviser of space utilization. One of these odd space contrivances is illustrated in the accompanying drawing.

The client had employed the areas under the roofs, where there was not sufficient head room for ordinary closet doors, by arranging very interesting combinations of drawers.

In her bedroom, the top drawer was made out of a conductor pipe opened up, with wood ends, and with soldered-in partitions. This made a convenient place for buttons and pins. Not having adequate book shelves she designed a triangular drawer for books. Below was a shoe drawer equipped with heel cleats. Below this was an oblong drawer of more commonplace form.

These drawers were made up with galvanized iron bottoms bent into the proper form. The edges were rolled and arranged to slide between pairs of rollers which made the operation easy and kept the drawer level when fully drawn. This had been contrived by a tinner under the lady's instructions.



A HANDY PLACE TO KEEP PENCILS

By Fred M. Guilford, architect Hartford, Connecticut

A SECTION of 6-inch stock gutter with slots cut to the bottom of the trough provides an excellent place for keeping pencils of various grades. The vertical face at the top of the profile makes a convenient place for marking the grade of the pencils, and the overhang affords some protection to the points. Racks like this

placed at intervals on the walls around the drafting room help keep the boards free from an accumulation of pencils.

GASOLINE AS AN ERASER

By Charles F. Dean, architect Sacramento, Calif.

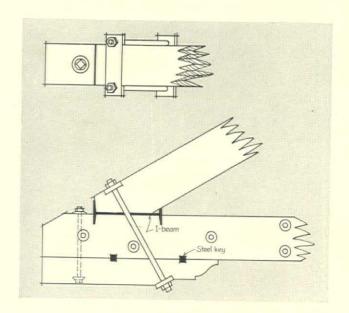
RDINARY gasoline may be used to erase marks made by a china marking (grease) pencil. A bottle of about 16 oz. capacity and a stiff, No. 10 red sable brush is all you need besides the gasoline—aviation gasoline preferred.

When Mr. and Mrs. Client appear, they look over the neatly prepared sketches. "These are just wonderful. But..."

"Why that's all right," says Mr. Architect, as he reaches for the bottle of gasoline and with the tip of the brush the lines are easily removed.

The psychological effect is gratifying to all—first, seeing how quickly it is done, and second, the client feels that he had a part in planning the building.

Another important advantage—the architect, when developing sketches, can make changes much more rapidly than by the old erasing method or by working sketch over sketch.



KNEE-JOINT FOR A WOOD TRUSS

By Stanley T. Shaw, architect Tacoma, Washington

OING away with the necessity for a special casting or forging to transfer stresses from top to bottom cord of a wood truss, the design shown in the accompanying sketch has been successfully used in this office. An I-beam of proper section is selected, cut to the width of the truss members, and the flanges clipped to the depth required for bearing as shown. Placing the tiebolts on each side avoids cutting away any wood.

A New Small House Clinic

Designs at Cost for the Man Who Wants a House of Not More than 1300 Square Feet

BY GEORGE D. RIDDLE

Architect, Long Beach, California

HE Architectural Club of Long Beach recently organized "The Small Home Service Bureau" to (1) educate the public to an appreciation of good architecture, (2) establish good will toward the profession, (3) improve architectural standards in Long Beach, and (4) provide work for unemployed draftsmen. A committee was appointed to work out the details for rendering a complete architectural service for small houses of a limited area.

We faced four major problems:

- (1) Organization for management with minimum time required for architects.
- (2) Arrangement of nominal fees without price "kick-back."
- (3) Obtaining public response to the service.
- (4) Obtaining support for the movement.

It was decided that best results could be obtained with least demand on our time, by appointment of a managing board of six directors selected by the president, all members of the board to serve without compensation, and the board to be divided into committees to work out details of office procedure, specifications, drafting standards, and so forth. Each member will serve consecutive terms of two months as Chairman of the Board and Managing Architect. During his term as manager the architect devotes only two hours daily to the business of the bureau. It was believed that this method of organization while requiring little of the architect's time, would foster the spirit of competition between them, each striving to do his best, and insure good architecture as a result of their efforts.

The number of architects in a community is usually governed by the size of the city and building activity. Small residential construction is usually proportionate with general building activity. Considering this fact, the demand of the bureau probably will never exceed the proportionate time demands for which we are organized. If demand on the manager's time should become too great, we can increase the board membership in multiples of six; and by additional members serving as assistant managers which will provide a flexible means of supplying "service" according to demand.

To avoid incurring financial obligations through operation of the bureau, it was deemed advisable to handle all drafting in our own offices, which could be done without increase of overhead. This helped solve the

problem of keeping the fees low but it raised the question of a central office for consultation, and an address to be used in advertising. Many people regard an architect as a luxury to be enjoyed by the person erecting a large house or commercial enterprise and are therefore wary of him. For this reason we decided to find a "neutral" office that no one need fear and the Chamber of Commerce was asked to donate desk space, which they have done.

All drafting is to be done by unemployed draftsmen residing in the City of Long Beach. This will not only help alleviate unemployment, but also will provide an avenue to secure publicity and support for the bureau.

ANY draftsmen, under stress of recent conditions, have been forced to design small house work under the direction of contractors, as a means of livelihood. This condition leads to formation of partly-trained organizations in competition with architectural offices. If we can keep the draftsmen employed, we have solved one problem and if we can control the quality of their work, we have solved another.

The human factor—variation in efficiency—made it impossible to employ draftsmen on an hourly basis, so a fixed sum according to the area of the job was adopted. It was reasonable to assume that a four-room house of eight hundred square feet area would require less drafting time, proportionate to area, than a six-room house of thirteen hundred square feet, while the cost of supplies, blueprints, and typing of specifications would remain approximately the same for both jobs.

The cost of blueprints, specifications and supplies was estimated at ten dollars for the average job to which was added the sum of ten dollars for an "educational fund" to be used in furthering the aims of the bureau. To the total of twenty dollars we added a sum determined by estimating the drafting cost, for hypothetical houses of varying areas, at the rate of one dollar per hour. By dividing the totals by the building area, we found an average of four cents per square foot which, together with an arbitrary figure of two cents per square foot for porches, garages, and so forth was adopted as the basis of fee for three sets of blueprints and specifications. Additional "instruments of service" will be provided at cost. This means that any person desiring to build a house of one thousand square feet area will receive free consultation on his individual problem and can obtain the required "instruments of service" for a house, especially designed for his lot, for the sum of



forty dollars. We had a talking point but how could we advertise it without a "price kickback" in our private practice? This we handled by stating that the service was available to any person desiring to build a house of less than thirteen hundred square feet floor area "at approximate cost," stressing the fact that the architect received no compensation.

More "sales" are necessary to establish nation-wide good will toward the profession. Personal contact is absolutely necessary to close a sale of professional services. The "Bureau" is only a "leader" in an extensive sales campaign; a means of creating personal contact with a large number of prospective builders. When a client comes to the bureau to buy plans, the architect is given an opportunity to explain his services. He stresses the im-

portance of complete service and discusses all the pitfalls that await the owner who builds without professional guidance. The fact that the nominal fee the client pays compensates in no way for the services rendered by the clinic, is firmly impressed upon him as well as the fact that in addition to devoting his time in consultation, the architect is absorbing in his private business such expenses as drafting-room rent, heat, light and telephone.

In accepting the service of the Bureau, the client is not obligated for supervision of construction, but he is told about the relation of supervision to the security of his investment. Supervision is provided by the architect at a minimum fee of two per cent of the cost of the work. When the house is completed, the client will not feel that "plans" were bought cheap, but that he obtained an involuable "service." These clients will go far to build up good will, without which no business or profession can long exist.

HOW THE PLAN WORKS:

- 1. Individual service is offered the client instead of "stock plans"
- 2.. Office located in Chamber of Commerce Building
- 3.. Architects give their services free
- 4.. Plans for each house are drawn by unemployed draftsmen
- 5.. Drafting is handled in architects' offices to eliminate overhead
- 6.. Owner pays the "clinic" a nominal fee based on area of house
- 7.. Supervision charge, two per cent
- 8.. Part of fees go to "public education" fund, balance to draftsmen

Unemployment is a problem of grave importance throughout the country. Newspapers and civic organizations are eager to support any movement to relieve this condition. The Bureau has had front-page news items on several occasions, twice being featured in the building development section. The publicity the Bureau has already received could not be purchased for a thousand dollars. The Chamber of Commerce and the Realty Board were asked for support on the grounds of public welfare, civic beautification and stabilization of realty values; the Building and Loan asociations on stabilization of residential loan values and increasing the security of investment; and the Builders Exchange on the general improvement of conditions in the building industry. Inasmuch as moral support is all we asked, the movement has been heartily

endorsed by every organization. We must prove the success of our theory before asking any financial assistance.

The educational fund will be used for furtherance of public school competitions in matters pertaining to good architecture and to finance the publication of literature on the "service of the Bureau," "value of an architect's services," "value of good architecture to the community," "good architecture defined" and kindred subjects which it is planned to distribute through members of the Realty Board, Chamber of Commerce and Building and Loan Associations. These pamphlets published by the Bureau and endorsed by local financial institutions and civic organizations will carry weight.

At times like the present many architects probably feel that no house is too small for their office. However, when times are good and boards full, what happens? Many architects do the profession immeasurable damage by refusing to handle (Continued on page 88)

STARRETT BROTHERS AND EKEN

BUILDERS
IDI PARK AVENUE
NEW YORK

PROGRESS SCHEDULE METROPOLITAN NEW HOME OFFICE BLDG

LOCATION ATH AVE.

.... MARCH 16, 1931

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SCHEDULE visualizes when the trades are to start and finish their work. Frequent conferences between architects and builders are held to work out construction problems which might affect and delay the schedule

How the Architect Can Help Build Buildings Faster

BY GEORGE WHEAT

ARGE PROJECTS completed in late 1930 and early 1931 were done in about twenty per cent shorter construction periods than would have been required had these been done four or five years earlier. This shortening of time and the urge back of it is of interest to all architects and their work does play a very definite part in this mexorable advance.

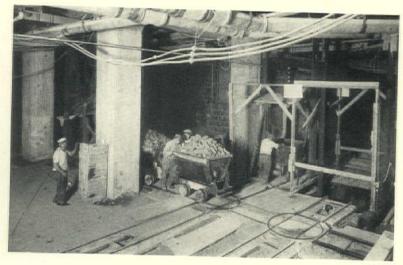
Raymond Hood recently said: "Today, in this machine age, the architect in designing a building is more like a Henry Ford than he is like a Michelangelo." These words carry a clear thought and message. But it need not be a disturbing one. Michelangelo had a busy time of it and if historians and biographers are correct, even Michelangelo had a heavy responsibility placed on him in "seeing that the job got done." Recently it was stated by one enthusiast that Michelangelo one day climbed down from his artist's scaffold and invented the wheel barrow. Whether this be true or not it is representative of the responsibilities placed upon him and his efforts to secure completion of the works placed in his charge.

The profession of architecture has advanced under the leadership and the inspiration of those who could and did organize and drive. It so advances today. The architect may safely be compared with the commanderin-chief of an army. Comparable with General Pershing's "Big Job," the architect and his staff alone have the master grasp of the entire project, for they have created and therefore know the objective and its details. Their profession and economic interests just as definitely carry forward through all the phases of objective, plan, strategy, service of supply, and finally the execution of plan and attainment of objective as do that of the commander-in-chief of an army.

The first big job is to visualize the objective and then to translate to the human factors their own particular part of the job. The drafting room is the center for visualization and the specification room is the center for information on materials of supply.

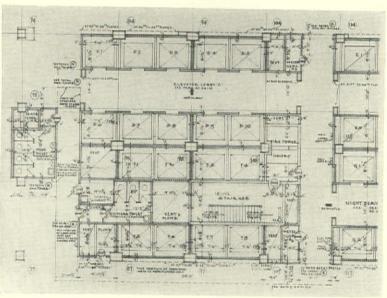
For visualizing to others we must have absolutely clear and unmistakably intelligible blue prints. These *must* be good, for they are the principal contact medium. Are they always thus? It must be admitted that often these blue prints are printed from tracing paper with faint pencil lines; false economy even goes so far at times as to permit use of poor blue print paper that fades. Now that there is so much use of pencil drawings for negatives, we must and can have vigorous, clear work with pencils of the right grade in the hands of draftsmen who have the knack of making drawings that blue print well.





MOLLOY

FACTORS IN FASTER BUILDING





BROWNING

Top left: Model made of blueprints pasted on cardboard helped mechanics to better understand their work on the Goelet Building, New York. Top right: New ways to handle materials were developed on the Empire State Building. Left bottom: Easy-to-read drawings help to eliminate mistakes. Elevator plan, Empire State Building. Bottom right: Spandrels were so detailed on the Empire State Building as to cut many days from schedule

The scales used are of prime interest. Scales too small to allow full and complete information, thus forcing the use of small and often careless lettering, should not be used at all for working drawings. When drawings have reached the estimating stage of the job they should be above criticism.

The use of unusual scales is objectionable. A three-eights or a one-half-inch scale may easily lead to later misunderstandings. Misunderstandings are always costly in time and money.

Our large buildings demand free development of the master or "assembly" drawing with additional drawings increased in scale and again increased in scale in successive stages until the last user of the blueprints can have his own part of the job presented clearly and intelligibly. Contractors' organizations tell me that there is a great difference in the amount of work that they must do in their own drafting rooms as between the plans of one architect and another.

Sureness and speed in visualizing the project to others can be aided by the use of working models. It may well be borne in mind that, even among the men who direct the construction industry and among those holding responsible positions, scarcely (Continued on page 90)

As It Looks

A Needed Activity N page 10 of this issue, there is presented a plan for modernizing exhibitions

that can be held advantageously in any community. This plan is one that might well be developed, duplicated as many times as necessary, and sent out as a traveling exhibition under the direction of the American Institute of Architects. It is an idea that could well have been undertaken, among others, by the Committee on Special Activities, proposed at the 65th Convention of the American Institute of Architects in Washington on April 28, 1932. Unfortunately, this committee will not be appointed, although it is apparently one that is sorely needed to handle activities that are not now being carried on by the Committee on Public Information.

The Irony of Fate

THE Cunard pier at Thirteenth Street, New York, was recently destroyed by fire.

Lieutenant Colonel Ralph A. Kluge, architect and engineer, was a much interested observer who watched the fire wrecking the structure he had designed about thirty years ago. A fire hose broke loose from a hydrant, its metal coupling striking Colonel Kluge on the back of the head. He was removed to a hospital where he died later of a fractured skull. He was associated with the firm of Cross & Cross, architects.

Architects' Hobbies A N exhibition of architects' hobbies was recently held in New York for the benefit

of the fund for Unemployed Architects and Draftsmen. It was interesting to learn what architects do with their space time. Some fence; others go in for archery; wood carving; collecting pigs made of metal, glass, wood and clay, and butterflys and moths; duck decoys and live pigeons. Architects' hobbies not included in this exhibition might be mentioned such as fishing, raising fine cattle, designing stage scenery, raising fighting cocks, juggling and gymnastics. One architect admits he likes his bed.

It is a good thing to have a hobby that takes the mind away from the work at which one makes a living. As a class, architects tend to live too close to their jobs. Relaxation, doing something else, is good for the mind, body and spirit.

Honored Dead T is quite fitting that those whose names have won a place in the history of architecture

in the history of architecture should be honored after their death by those who have benefited from their works. And so the formation of a new committee by the Philadelphia Chapter, A. I. A., is worthy of more than passing note. This committee has as its purpose the honoring of the memory of distinguished architects through the placing of a token of respect on their graves each Memorial Day. This year, under the chairmanship of D. Knickerbacker Boyd,

George I. Lovatt, John H. Rankin and John P. B. Sinkler visited the graves of five architects whose careers had meant much not only to the profession but also to the profession nationally: Theophilus P. Chandler, Frank Miles Day, Milton Bennett Medary, Edgar V. Seeler and James H. Windrim. This remembrance of noted architects originated with the Washington, D. C., Chapter and is one to be commended to every architectural society.

Why False Chimneys?

A SUBSCRIBER calls attention to the large number of false chimneys illustrated in

the plate section of the June issue of AMERICAN ARCHITECT. This was a curious coincidence, for an unintentional accumulation of examples of false chimneys would probably not occur more than once in twenty years. But does the fact that four buildings having a total of five false chimneys, all published in one issue of a magazine, indicate that architects are falling by the wayside in furthering fake construction for the sake of effect? It costs something to build even a false chimney and as the subscriber asks, is it good architecture?

Well "Oiled"
Conventions

ONVENTIONS of the American Institute of Architects are sometimes referred

to as being well "oiled"—meaning that they are possibly run too smoothly. Expressed with an implication of adverse criticism, it is as a matter of fact something of a compliment. It must be remembered that the Board of Directors have discussed the many problems confronting the Institute and made possible the making of a prompt decision by the convention delegates; and that a large volume of work must be accomplished in a comparatively short time. The fact that the Institute conventions are well "oiled" is a complimentary tribute to the Board of Directors and the executive ability of the Institute's executive-secretary, Edward C. Kemper. Perhaps those who object to a well "oiled" convention should attend one that is not so well planned in advance.

Warning to Architects

A NEW way to get money from architects has been inaugurated. The idea is that

the "buying corporation" acts as "buying advisor" to a large number of stores and that it will recommend certain architects to these stores so that those thinking of buying or remodeling will get in touch with the recommended architects. The recommendation is to be in the form of advertising copy approved by the architects and sent by the "buying corporation" to the stores. The catch is that several hundred other "approved recommendations" of various equipment and services are sent in the same envelope. It would probably be nigh to impossible for any recipient to find time to read even a fraction of the "recommendations."

Editors

Have You Tried This Plan?

N the June issue of AMERI-CAN ARCHITECT was published an article called, "A

Plan to Create New Business for the Architect." This plan is intended to make the public regard the architect as the one man with whom to confer on any matters relative to building, be it a new roof, a new bathroom, or a new house. The editors of American Architect would like to hear from any architect who has tried out this plan or any similar plan of getting such business on a fee basis.

More Votes in Referendum

NE hundred and ninety votes in the referendum on the Architects' Small House

Service Bureau were received too late to be included in the tabulation published on page 19 of the June issue of American Architect. Of these 190 votes, 40 A.I.A. members were against continued endorsement by the Institute (making a total of 699 A. I. A. members against) and 16 for continued endorsement (making a total of 283 A. I. A. members for). Of those not members of the Institute, 109 of the 190 new votes were against continued endorsement (making a total of 1,455 non-Institute members against) and 25 for continued endorsement (making a total of 265 non-Institute members for). The final complete total of all architects voting against continued endorsement of the Bureau by the Institute was 2,154 compared with 548 voting for continued endorsement.

No Sugar In Some Mortars A N editorial in the May issue of American Architect commented upon a state-

ment made by the Mellon Institute of Industrial Research to the effect that the strength of mortar is increased by the addition of sugar in the gauging water. The Portland Cement Association has called attention to the fact that newspaper reports made it apparent that sugar would increase the strength of any mortar, whereas the report was based upon tests of lime mortar briquettes, and states that the addition of sugar to Portland Cement mortar is harmful and should therefore not be attempted. The authors of the report concur in this opinion.

Good Work. Mr. Greenleaf

RITICISM was made in the January 1932 issue of AMERICAN ARCHITECT of a

leaflet prepared by Walter J. Greenleaf on "Architecture as a Career" and issued by the United States Department of the Interior. The leaflet, written as an aid to guide young men and women in the selection of their life work, presented an erroneous and unfortunate perspective of the practice of architecture. Since the criticism was made, the leaflet has been entirely rewritten and the revised edition is now available for distribution.

The paragraphs which were adversely criticized have been eliminated and the new edition is an excellent and well condensed presentation of the essentials of architectural practice. Mr. Greenleaf's eminent fairness, spirit of cooperation and desire to make the leaflet of utmost value to its readers deserves the commendation of architects. Mr. Greenleaf is to be congratulated upon a job well done.

Tomorrow's Hospitals

HAT will the decoration of the hospital of the future be like? That

is a question which may perchance be answered by an operating room at Barnes Hospital, St. Louis. room has been walled with fantastic scenes to distract the attention of patients undergoing operations performed with local anesthetics-rabbits, gnomes, pine trees, cupids, penguins, the Fairyland characters and denizens of the forest. The ceiling is covered with mermaids and deep sea creatures swimming in painted waves. Miss Gisella Loeffler spent six months in painting the room. Dr. Burlingham, superintendent of the hospital, states that the therapeutic value of art in this operating room has already been demonstrated.

On Taste

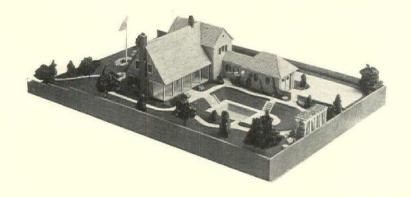
Sad Commentary N the May issue of "Woman's On Taste Home Companion" Bruce Bar-

ton quotes the president of a large insurance company as saying: "... we seldom take a loan on architects' homes because our experience has been that, although they are beautiful, each one is built to suit the architect's own tastes and so is not suited to another family." The natural interpretation of this statement is that it refers to houses that architects build for themselves. No house of this kind can be recalled that is so individualistic that it would not meet the requirements of a family of similar size and condition in life, culture and refinement. The attitude of this president or those responsible for passing upon the loans made by his company is a serious reflectionnot upon architects-but upon the taste and ideas of what constitutes good livable houses for a large number of American citizens. It is good evidence of the need of public education in the appreciation of architecture, which includes good planning as well as beauty.

The statement if read hastily may easily be interpreted by the layman as referring to houses designed by architects. And if so interpreted, it might influence a few people to avoid architects. It is a sad commentary on present day methods of financing buildings. Do financiers really prefer to loan other people's money on construction of unknown quality and plans made by amateur designers? Few buildings are built-whether or not designed by architects-that do not require some financial assistance. If loans were refused on buildings designed by architects, the profession would soon cease to exist. And then what would America look like?

One shudders to think.

WHAT ARCHITECTS



Awards for Modernized Houses

Jersey Architects Help Blind

Federal Building Investigated

A MODEL FOR THE BLIND
The New Jersey Chapter,
A. I. A., having offered to cooperate with schools for the
blind, was recently asked to
provide a model for study.
Realizing that the average
model is too fragile to stand
handling, Charles H. Bauer,
chairman of the Chapter's
Educational Committee, prepared a design from which
Jacob Knecht made a model,
illustrated above, that would
stand handling by the blind



Charcoal rendering of prize winning design for armory, West Haven, Conn. Fletcher-Thompson, Inc., architects and engineers

WARDS to owners for houses modernized during 1932 will be made in April next year by the Philadelphia Committee, Better Homes in America. Two medals and certificates will be given for houses modernized in accordance with the program developed by the committee. These awards will be in addition to the awards made for the two best houses costing less than \$6,000 including land, and a certificate for the two best examples of landscaping of homes costing not more than \$10,000. The chairman of the committee is D. Knickerbacker Boyd, c/o Philadelphia Housing Association, 1600 Walnut Street, Philadelphia.

THE Huddleston plan to stop shopping of bids has been adopted by the Boston Building Congress. The main features of the plan, developed by Professor Eric T. Huddleston of the University of New Hampshire, are that each bid shall include all the work specified; be subdivided to show the amount covering the work of the general contractor, including all overhead and profit and the total of all sub-bids as listed; and that each bidder shall file a copy of his bid simultaneously with the architect.

FAILURE of the Federal construction program to relieve unemployment is being investigated by the American Engineering Council. Committees of the Council have been organized to cooperate with the public works section of the President's Organization on Unemployment Relief in the making of a survey of 1932 public works projects. The American Institute of Architects and the Associated General Contractors of America are also participating. The Council is convinced that public works never can be made as effective a factor as they might be in relieving unemployment until there is established an administration of public works or its equivalent.

City, has appointed Edward Trumbull as color director for the art program. This appointment was considered necessary because of the size of the job. Forty murals, fifty sets of sculpture and displays of other forms of decoration will enter the finished buildings.

A SURVEY of zoning laws and ordinances adopted during 1931 has been compiled by Norman L. Knauss, Division of Building and Housing, U. S. Bureau of Standards, Washington, D. C.

MINISTERS should be interested in city planning according to Thomas Adams, consultant to the Regional Plan Association, New York. He says that "one definite purpose of the Church should be to develop a reverence for the city as a physical expression

ARE TALKING ABOUT

Radio City Has Color Director

Boston Plans To Stop Bid Shopping

What Makes a Building Rentable?

of social order; to promote the natural love of the citizen for beautiful things that will engender love for the city. With love of the city will come desire to improve it, to devote oneself to its needs, to be less selfish and more altruistic. Through its spiritual power and ethical leadership the Church can help to mould a better city by means of a physical plan."

SEARS, ROEBUCK give their major cause for rejection of mortgage loans as undesirability of site.

SYDNEY WAGNER, a member of the firm of Bottomley, Wagner & White, New York, died recently. He had been a student at the Ecole des Beaux Arts, Paris, and was a winner of the Paris Prize. Among the buildings which he designed are the Hotel Roosevelt, New York, and Statler hotels in Boston. Buffalo, St. Louis, Detroit and Cleveland.

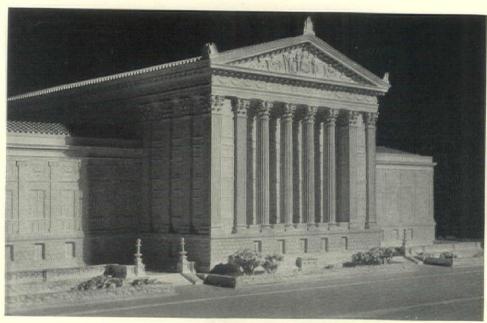
A N International Exhibit of Architectural Drawings is planned by the City of Asbury Park, New Jersey, which wishes to hear from architects as regards their



WINNING DESIGN for the new building of the Royal Institute of British Architects. Grey Wornum, architect

contributing drawings in this permanent exhibition. The exhibition will be placed in the new Hall of Nations, a section of which will serve as a museum and art gallery of peace.

WIGHT JAMES BAUM is made the subject of an article in the New York Herald-Tribune Magazine Section for May 22. The subtitle reads, "Out of a job, Dwight James Baum Went Up to Riverdale and Built Himself a House. That Was Back in 1914; Now Half the Homes in That Beauty (Continued on page 92)



MODEL FOR NEW SUPREME COURT BUILDING

Detail of marble Corinthian columns and pediment of the United States Supreme Court building now under construction at Washington, D. C. It will face the United States Capitol building on the east. To be built of white marble. Cost, \$8,000,000. Cass Gilbert, architect. Photograph courtesy George A. Fuller Company

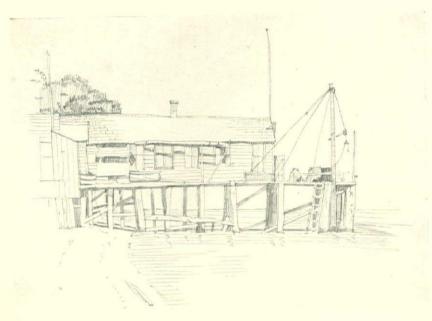
DREYER

PROVINCETOWN,

every now and then, juts itself out into the sea



The church steeple could be seen for miles by Provincetown fisher folk



Seaports of Old

By BURTON
Sketches by



Swishing tides were lullabys to those who hugged the shore line of Cape Cod's tip

NE afternoon in June, 1787, the "Grand Turk," Capt. Ebenezer West, Master, with her holds piled high with the rich spoil of the Orient, dropped anchor in Salem harbor. For the first time an American trader had rounded Cape Horn with a cargo from the Far East; a glamorous chapter in American history was opened. The infant nation was taking to the water.

This seafaring tradition in New England began long before the Revolution. Along the coast, sheltered harbors abounded, good oak timber was standing on the shores. Soon the mouth of every creek was ringing to

the sound of the shipbuilder's mallet. It took only a few generations to evolve iron men to sail wooden ships into far waters.

The early shipping was largely coastal or with England. But with the close of the Revolution shipowners, emboldened by their naval victories, sought wider fields; East Indian and China trades boomed. The apogee was reached in the early years of the nineteenth century, when Yankee skippers became as familiar with the landfalls of Zanzibar and Valparaiso as with their own New England; when canny merchants sent out mixed cargoes of Medford rum and pine boards which Canton gladly exchanged for tea and satins; and when American topsails were sighted on the seven seas.

All this had an important effect on architecture. Wealth flowed into the seaport towns, and a new race of merchant princes—a moneyed aristocracy—arose. Shipping brought them wealth and leisure; their discrimination was enhanced by intimate contact with the older civilizations of Europe and the Orient. It may be said, therefore, that it is to the sea that we owe the architectural glories of Pleasant Street in Portsmouth, and Washington Square in Salem.

Strangely enough, the decline of these New England ports began during the richest period of American shipping—the clipper era. A need for speedier passages doomed the broad-beamed Indiaman; her place was taken by the skysail clipper, the fastest and most beautiful ship ever driven by the winds. And the deeper water, the more ample dock and railroad facilities of Boston and New York gradually drew the shipping from the

MONUMENTS MONUMENTS MONUMENTS MARKET STATES MAR

like other fishing villages, had need for tombstones

PORTSMOUTH,



Why not leave a passageway, when Portsmouth neighbors were so friendly?

New England

A. BUGBEE

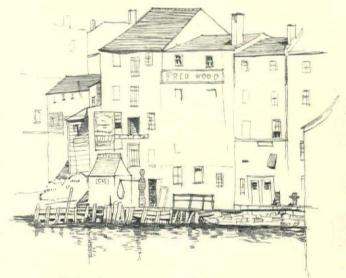
smaller ports. The Civil War and the age of steam completed their downfall.

Let me recommend these old ports to the architect. The old houses of New England, the towns themselves, of course, are preeminent treasure-houses of colonial antiques, and the wharves as delightful recuperating bases. After soaking up architecture to completion, one can always seek out the nearest waterfront and there spend a lazy afternoon, marveling at the line and texture of the old shacks, talking with lobstermen, and watching the gulls. There is an air of gentle decay over these scenes of a once lively commerce, and always the fresh, tangy smell of the sea.

My pilgrimage up the coast began at Provincetown, that unique settlement at the tip of Cape Cod—a melange of the New England village tinged with a lusty flavor of fish. Two miles long, perhaps two hundred yards wide, the town is a delightful jumble of fishing shacks, wharves and one-story shingle cottages elbowing each other along the narrow lane that is Commercial Street.

Provincetown has a history, too, for here on November 11, 1620, the Pilgrim Fathers first set foot on American soil. Here, they drew up the famous Mayflower Compact before sailing on to Plymouth Rock. Provincetown is proud of these things, and has recorded her pride in a lofty and very ugly memorial—a sort of attenuated Palazzo Vecchio tower.

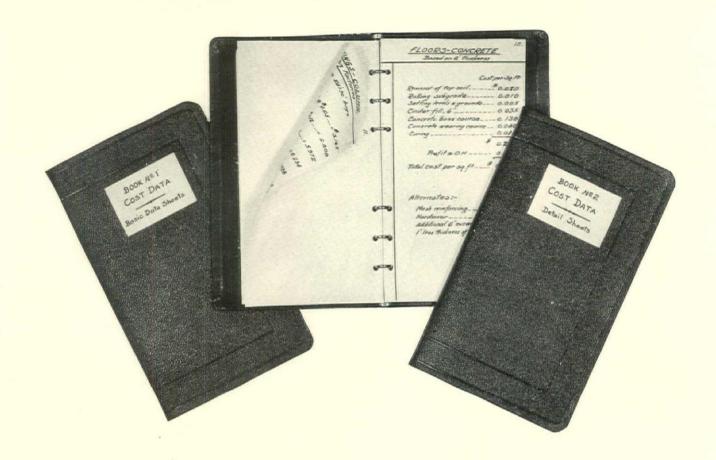
Provincetown has yielded herself completely to exploitation, takes it as a matter of course, and is tolerant of the frenzied artist who wears his soul unbuttoned and leaves smears of spectrum yellow over the wharves.



Pretentious structures which seemed like towering skyscrapers to Portsmouth men

In spite of the hokum and quaintness about town, the Portygee fishermen still bring in catches of real cod and mackerel; and one can always escape from the barkers and scarlet pajamas of Commercial Street to the far end of a rickety pier and there breathe in the authentic, satisfying aroma of fish and salt water.

Provincetown never was an important seaport like her neighbors north of Boston. Her isolated location on the far end of the Cape in an unfruitful countryside saw to that. So she has resigned herself to the two complementary businesses of fishing and tourists. The fish business, with its resulting (Continued on page 80)



Controlling Costs

A Simple Method of Making Rapid Preliminary Quantity Estimates

BY TIRRELL J. FERRENZ, A.I.A.

Frank A. Chase and Company, Inc., Architects and Engineers, Chicago

NE of the effective tools in the equipment of an architect is the ability to judge quickly and accurately the cost of proposed structures. Clients invariably demand some preliminary information as to cost, and it is rarely possible to sidestep a commitment. When faced with this emergency, cubic foot and similar unit costs are valuable, but they are also highly dangerous unless backed by good judgment and a collection of classified data.

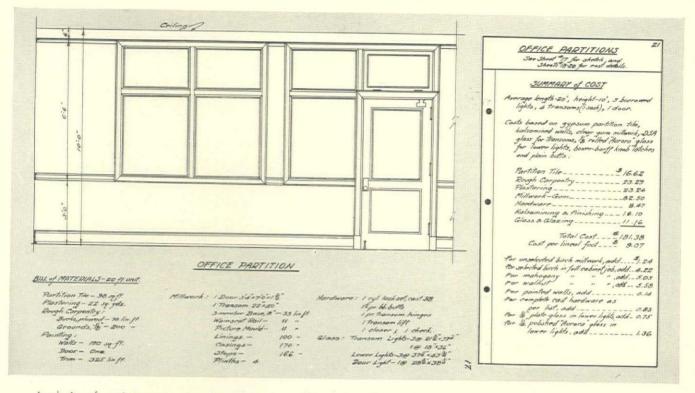
Success in estimating is within the reach of any architect who is willing to devote a little time to the collection of such data. In the February, 1931, issue of American Architect, the author pointed out how cost data can be collected, classified and utilized to advantage in the development of quick judgment units.

These units are not only effective in answering preliminary demands for cost information before drawings have been prepared, but they are also useful in establishing limits of probable expenditure. They are in no sense intended to replace more accurate estimates which are obtainable by proper pricing of quantities just as soon as preliminary drawings have become available.

Some artistic souls cannot approach the making and pricing of detailed computations of quantities without a shudder of horror, while others make no pretenses but call upon friendly contractors to donate their services in this emergency. The result is frequently misleading as the contractor assumes no responsibility and is chiefly concerned with the opportunity of pleasing the architect and impressing him with his ability to build with unusual economy.

Below is described a simple scheme which permits every architect to rely with unfailing confidence on his own efforts. It eliminates all drudgery and provides a method whereby preliminary quantity estimates may be made with extreme rapidity and reasonable accuracy by anyone possessing fair judgment. Briefly, the plan is this:

The major components of typical structures such as floors, walls, roofs, partitions, and similar items, are analyzed for various conditions and priced accordingly. The unit prices are based on experience tables developed



Analysis of major cost units for finished partitions in office buildings, together with sheet giving cost data

from special studies or with cost data accumulated from previous operations. In making an estimate, it is only necessary to list the quantities of these major elements and apply the proper price unit.

To illustrate the method, we will outline its application to a simple type of building,—say a one-story factory building 100' x 200' in size with common brick walls, pivoted steel windows, steel columns and girders, wood roof deck, concrete floor, clay tile partitions for offices and toilet facilities, and a clear ceiling height of fourteen feet.

The walls are considered as a complete major element and as such are composed of sixteen items from bottom to top, viz: excavation for trenches, formwork, concrete foundations, stripping forms, backfilling of foundation walls, removal of excess earth, dampproofing foundation tops, brickwork, window sills, steel windows, grouting windows, glass and glazing, steel lintels and sash angles, sheet metal gutters and downspouts, and painting of all metal work. The cost of such walls, taken from the experience tables, complete from bottom to top is \$12.73 per lineal foot. The cost of the enclosing walls of our building therefore will amount to \$12.73 times the perimeter of the building.

If one or more walls are laid up with \$35 face brick with simple reveals and have a 2 foot high parapet backed with pavers, topped with 8 " thick stone coping and flashed at the roof with No. 22 gauge galvanized counterflashing, the unit cost for such walls, again taken from the experience tables, will be \$18.65 per lineal foot.

N a like manner the floors may be said to consist of removal of top soil, rolling sub-grade, setting grounds and levels, cinder fill, concrete base course, wearing course and curing, and will cost complete 27 cents per square foot. If reinforcing mesh is required in the

floor slab, we know from our cost data book that $1\frac{1}{2}$ cents must be added. If surface treatment is desired, add $\frac{3}{4}$ cent.

The roofing unit is made up of the supporting steelwork, wood joists, wood sheathing and composition covering. It will cost \$0.45 per square foot. If the deck is of slow-burning construction, that is, 3" sheathing on heavy joists, the cost will be \$0.49 per square foot. A one-inch thick layer of fibre insulation will add 734 cents per square foot. Painting the underside of the deck with two coats of mill-white will add 6 cents, and where a suspended metal lath and plaster ceiling is required in the offices, 20 cents per square foot additional should be allowed.

Thus with three simple computations the building is completely enclosed.

These illustrations are sufficiently comprehensive to illustrate the method of attack. The cost of the remaining major elements, including the mechanical work, is carried out in a like manner, making allowance for all special features.

The same method is applicable to a more elaborate or finished type of structure, in which case the number of items will be increased somewhat, although the principle remains the same.

In starting a cost data book it is not necessary that all the basic combined units applicable to a particular type of building be worked out at any given time. The simplest procedure is to select those for early development which can be most frequently used. Then as time goes on and necessity arises, additional combined units can be developed to meet special cases, thus greatly enriching the volume of data available. Each office must work out these units to fit its own particular type of practice. Some will find the cost of a completely equipped bathroom or diet kitchen of value, others an analysis

SOURCES OF INFORMATION

- A. GENERAL: 1. Table of wage rates for 118 principal cities in United States and Canada published each year by the Builders Association of Chicago.
 - 2. Constructographs, published by the "Constructor," monthly magazine of the Associated General
 Contractors, particularly those graphs showing
 for each year since 1914 and each month of
 the current year a. Cost of construction
 b. Volume of construction
 c. Wages and material prices
 - 3. Business indicators, published weekly by the
 U.S. Department of Commerce, commodity price
 index, electric power output, corporate bond
 issues, etc.
- B. SPECIFIC: 4. Bids on our own work. As nearly all our jobs are let on a separated basis, each project produces a large volume of information.

 Similar information is obtained from other architects about their current work and also from contractors regarding work on which they have figured.
 - 5. Salesmen and solicitors. We make it a policy to see as many callers as possible. Instead of this being a drag or a dead loss, we try to turn it to our advantage by obtaining some item of worthwhile cost information. Most of these men are well posted and are desirous of being helpful.
 - Other sources such as technical magazines, trade publications, appraisers, mortgage bankers, realtors, etc.
 - 7. Whenever we visit another city in reference to some project, we call upon one or more prominent contractors, or material dealers and obtain specific data on current prices and local conditions. Out-of-town contractors who visit the office are also helpful.

8. Once or more each year we make a definite detail check of prices of fundamental building materials in our locality. These include cement, sand and gravel, common brick, framing lumber, shingles, composition roofing, metal lath, plaster, insulating board, metal windows, glass and flooring. This gives fresh authentic information on conditions and trends.

METHODS OF RECORDING DATA

C. DATA FROM ACTUAL BIDS & CONTRACTS:

BOOK #1. Basic data sheets, recording the cost of each project broken down into its component parts as completely as possible. The sheets are made up at the completion of each job or whenever data is obtained from outside sources. Summary sheets, showing the unit costs by square foot and cubic foot for all buildings of the same type, such as mantenes, banks, churches, etc. Entries are made whenever the basic data sheets are available.

BOOK #2. Detail sheets, giving a summary of all bids or contracts for separate items, such as structural steel, heating, marble, smokestacks, etc. These sheets are made up from data taken from the basic sheets and are posted whenever spare time is available.

D. DATA FROM MISCELLAMEOUS SOURCES:

Data sheets, (filed with Book #2) embracing all miscellaneous items of labor and material costs obtained under headings B-5, 6, 7 and 8 above, entered in chronological order under appropriate alphabetical headings. These wheets are so kept that the information at hand is always up to date. Entries are made from time to time as the information is acquired, old sheets are saved for reference in appraisal or valuation work.

E. SPECIAL STUDIES:

BOOK #3. Data sheets, covering the cost of the major components of buildings as described in the accompanying text. These sheets are either made up to suit particular cases or when spare time is available.

Summary of sources of information and methods of recording data

of bank counters, stone walls, store fronts, and so on. The illustration at the top of the second page of this article illustrates the detailed composition of major cost units for finished partitions such as are customary in office buildings. An inspection will indicate that there are twenty-six separate items of material in the typical partition. These items, together with the necessary labor, are priced to fit the various types of trim, finish, glass and hardware desired and are then all rolled up neatly into one composite figure, varying from \$9.07 to

\$16.98 per running foot.

All such sketches and the accompanying data sheets are filed in a note book in numerical order with an index sheet in front. We prefer a small book but find that it is often inconvenient to compress some sketches and data sheets to the size desired, consequently a second or letter-sized book is necessary. The information on these larger sheets is summarized, however, for insertion in the smaller book so that a complete record is kept under one cover.

The passage of time casts a blight on cost records like everything else but during normal times it should not be necessary to make complete revisions at more frequent intervals than two or three years. As a matter of fact, it is practically always necessary to make some alteration in the units to take care of special conditions at the site,

some peculiarities of construction, or smaller or larger quantities than what might be considered a fair average. These factors, together with current market conditions, are appraised almost automatically after a little practice and the units increased or decreased by such percentage as judgment dictates.

The enormous saving in time and labor by the use of a unit estimating basis is obvious. When applied with some ingenuity and proper judgment of governing conditions, the results are bound to be accurate within reasonable limits.

It is not claimed for this method, however, that it gives anything more than fair approximations, nor that it is in any sense a substitute for the more definite results which are obtainable by detailed quantity surveys. Such surveys are expensive and time-consuming, and are only possible after drawings have been completed. Absolute precision is neither required nor desirable when the drawings themselves have progressed but little beyond the preliminary stage. At such times the method outlined can perform a valuable service in keeping the architect free from the agony of cost entanglements. If this one thing is accomplished, it will go a long way toward leading his faltering footsteps into that elusive paradise where satisfied clients walk hand in hand with fair profits.

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PEFORE and after" photographs and plans of reconditioned buildings—houses, hotels, apartment houses, commercial buildings, churches, banks, etc.—are desired by the editors of American Architect. The photographs should be accompanied by the following data: Year altered, cost of alterations, increased value to owner, analysis made to determine expenditure justified, age of building, and any other factors of specific interest. Illustrations of reconditioned buildings of value to other practitioners will be published from time to time in the Plate Section, together with explanatory data. All material, whether or not accepted for publication, will be returned.



ENTRANCE AND GATE LODGE



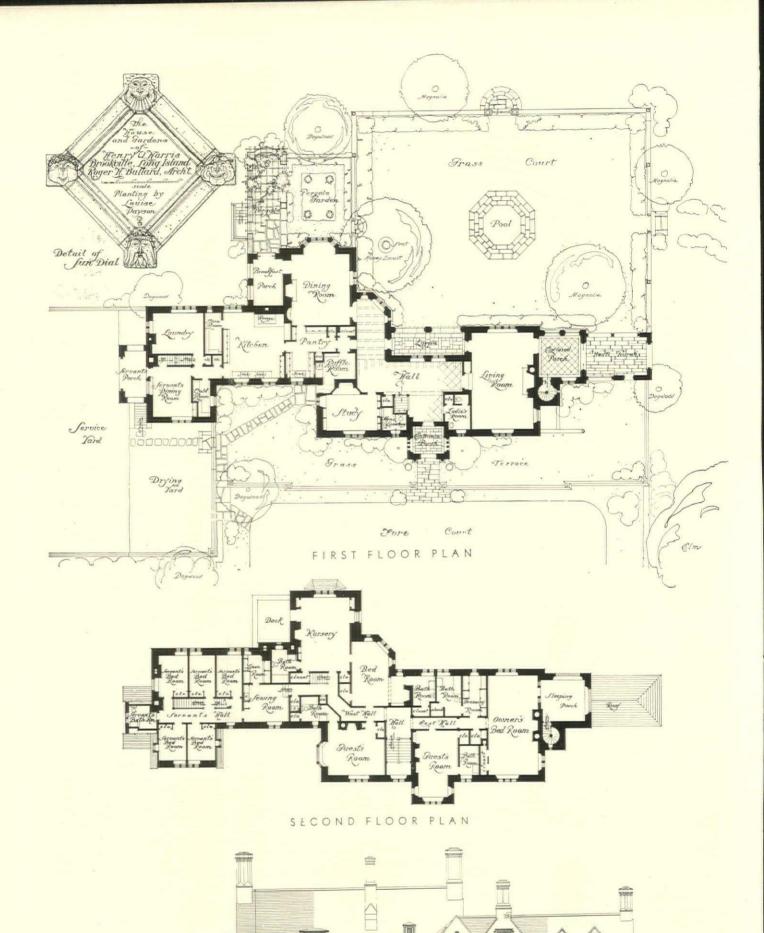


MAIN AND GARDEN ELEVATIONS

HOUSE OF HENRY UPHAM HARRIS BROOKVILLE, LONG ISLAND

ROGER H. BULLARD, ARCHITECT, LOUISE PAYSON, LANDSCAPE ARCHITECT, PHOTOGRAPHS BY SIGURD FISCHER

FOR JULY 1932



GARDEN FRONT ELEVATION

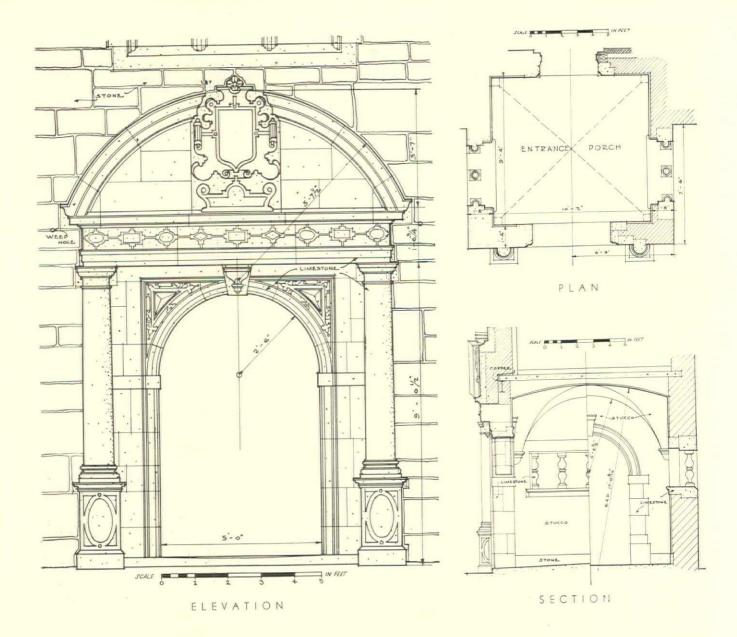
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MAIN ENTRANCE

HOUSE OF HENRY UPHAM HARRIS, BROOKVILLE, LONG ISLAND, ROGER H. BULLARD, ARCHITECT FOR JULY 1932



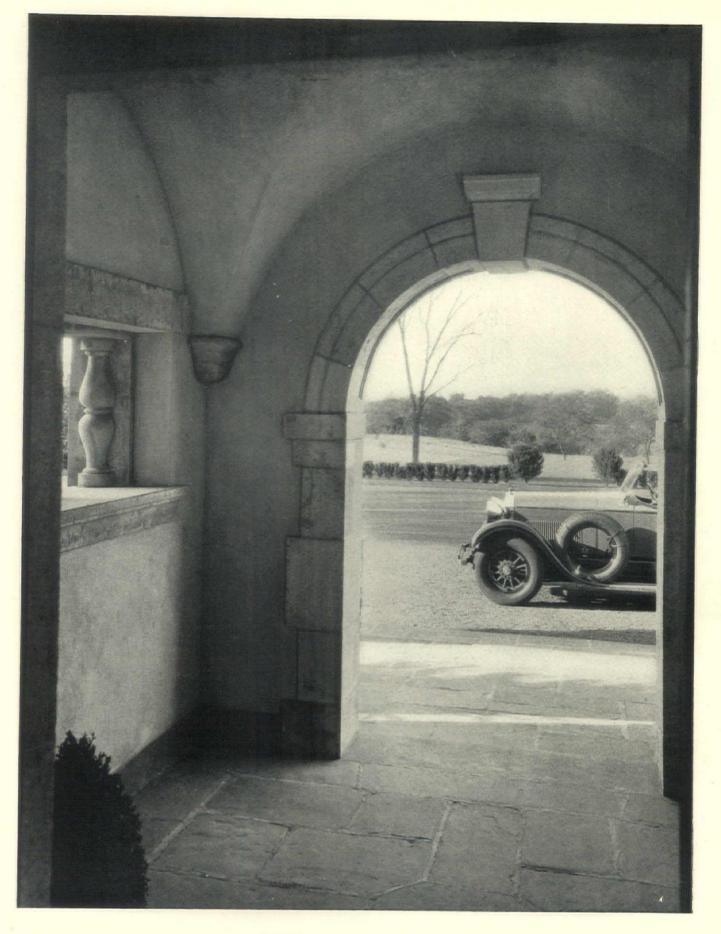
MAIN ENTRANCE DOOR

MAIN ENTRANCE DETAILS

EXTERIOR MATERIALS

Walls, local building stone. Trim, coarse grain rustic buff limestone. Roof, Vermont slate of dark grays and russet laid in narrow weatherings and graduated to ridge. Fireproof construction except wood rafters. Main house, 208,777 cubic feet; gatehouse and garage, 39,071 cubic feet. Built in 1929.

INTERIOR MATERIALS: Walls of main rooms of first floor, sand finish plaster in natural color in a slightly uneven, wavy surface. Ceiling beams, hand hewn oak. Paneling and trim, oak. Main floors, veneered oak plank, random widths



ENTRANCE PORCH

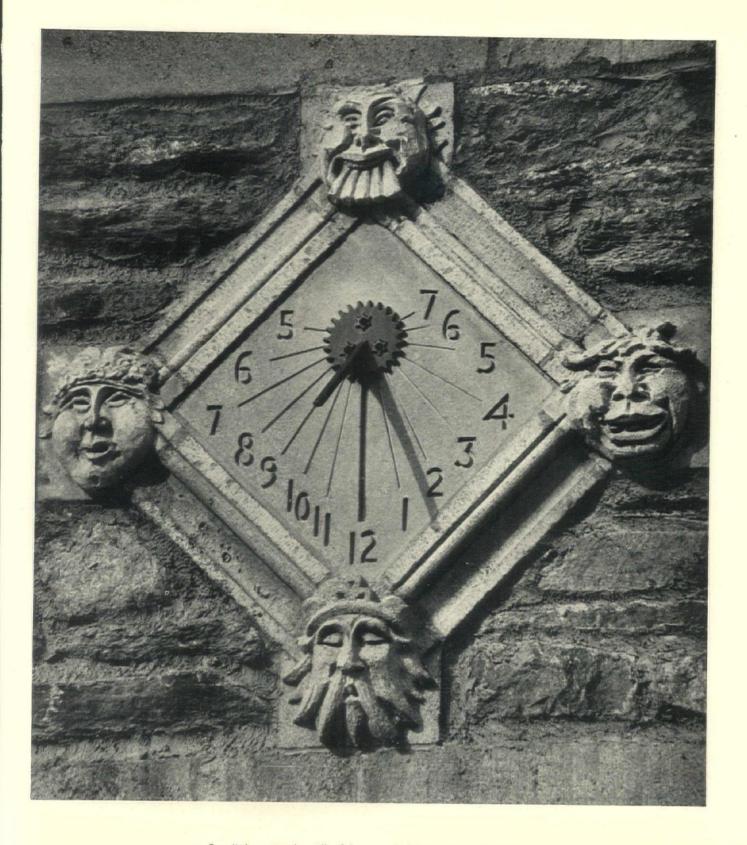
HOUSE OF HENRY UPHAM HARRIS, BROOKVILLE, LONG ISLAND, ROGER H. BULLARD, ARCHITECT FOR JULY 1932



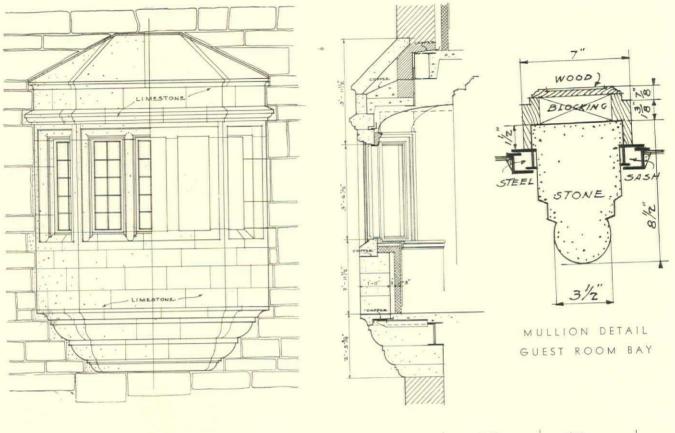
VIEW TOWARD GARDEN ELEVATION

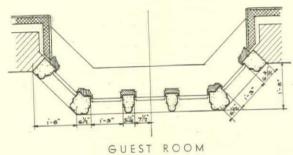
HOUSE OF HENRY UPHAM HARRIS, BROOKVILLE, LONG ISLAND, ROGER H. BULLARD, ARCHITECT

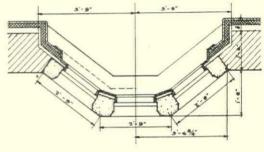
AMERICAN ARCHITECT



Sundial on south wall of house. Field and figures representing the four seasons are of coarse grain buff Indiana limestone. Gnomon of bronze. Designed by G. A. Mang



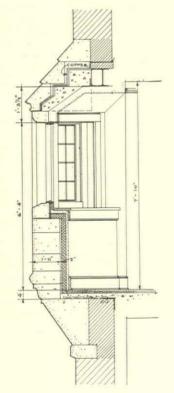


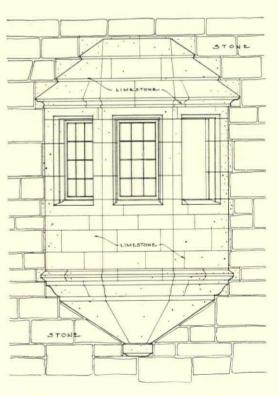


DETAILS OF BAY WINDOWS

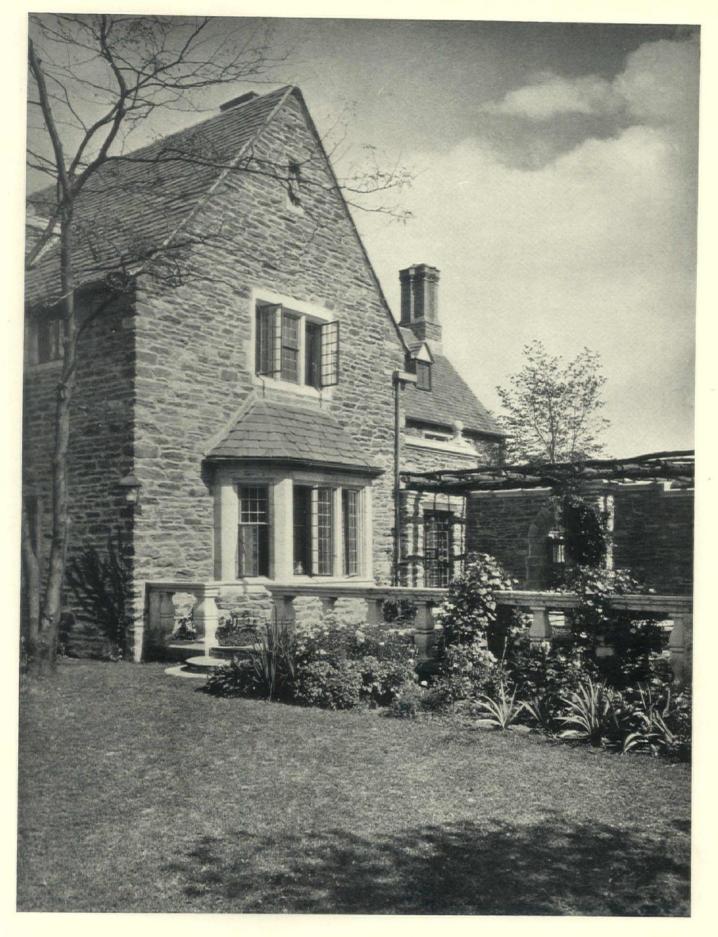
HOUSE OF HENRY UPHAM HARRIS BROOKVILLE, L. I.

ROGER H. BULLARD ARCHITECI





GATE LODGE



DINING ROOM BAY AND GARDEN

HOUSE OF HENRY UPHAM HARRIS, BROOKVILLE, LONG ISLAND, ROGER H. BULLARD, ARCHITECT FOR JULY 1932



MAIN HALL

HOUSE OF HENRY UPHAM HARRIS, BROOKVILLE, LONG ISLAND, ROGER H. BULLARD, ARCHITECT

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AMERICAN ARCHITECT



ENTRANCE HALL

HOUSE OF HENRY UPHAM HARRIS, BROOKVILLE, LONG ISLAND, ROGER H. BULLARD, ARCHITECT FOR JULY 1932



MAIN STAIRWAY

HOUSE OF HENRY UPHAM HARRIS, BROOKVILLE, LONG ISLAND, ROGER H. BULLARD, ARCHITECT

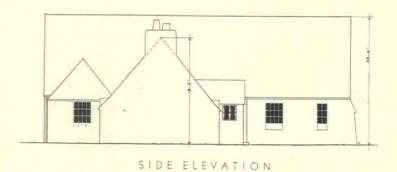
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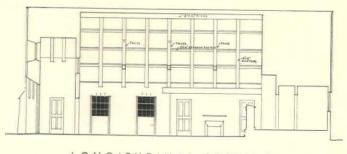
AMERICAN ARCHITECT



GEO. D. HAIGHT

FIRST CHURCH OF CHRIST, SCIENTIST FILLMORE, CALIFORNIA H. ROY KELLEY, ARCHITECT

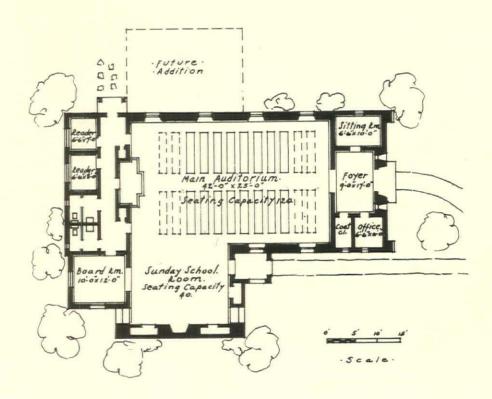




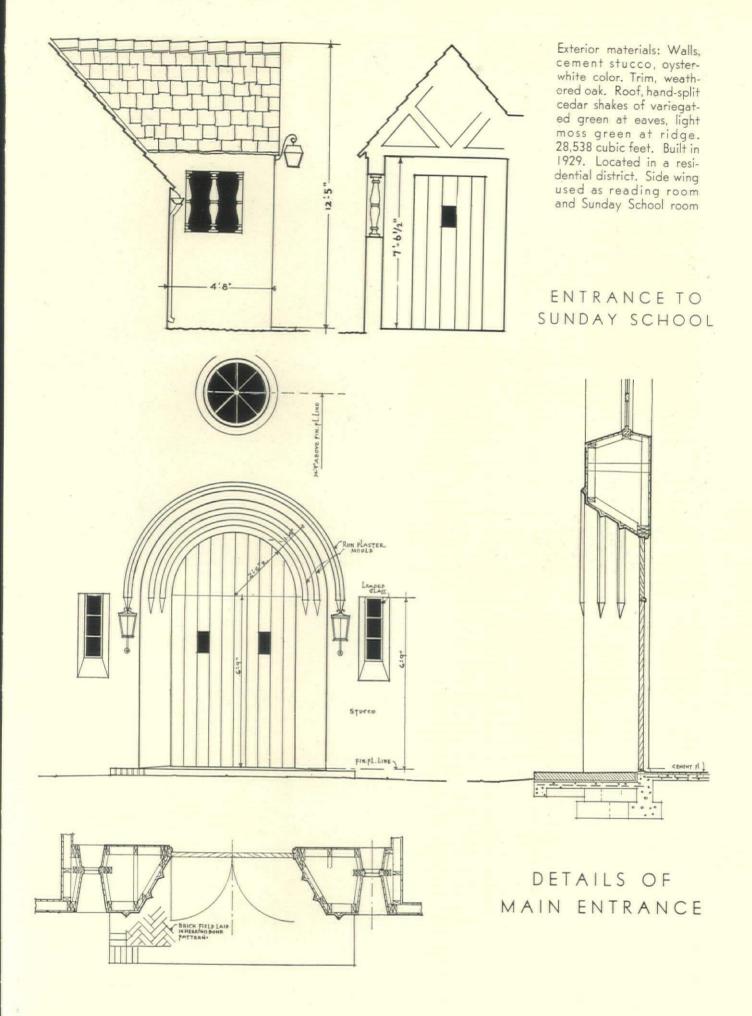
LONGITUDINAL SECTION



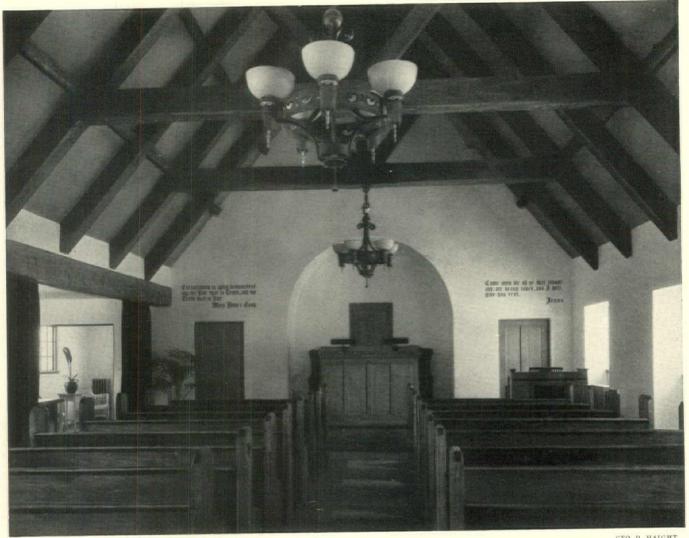
GEO. D. HAIGHT



FIRST CHURCH OF CHRIST, SCIENTIST, FILLMORE, CALIFORNIA. H. ROY KELLEY, ARCHITECT AMERICAN ARCHITECT 62



FIRST CHURCH OF CHRIST, SCIENTIST, FILLMORE, CALIFORNIA, H. ROY KELLEY, ARCHITECT



GEO. D. HAIGHT

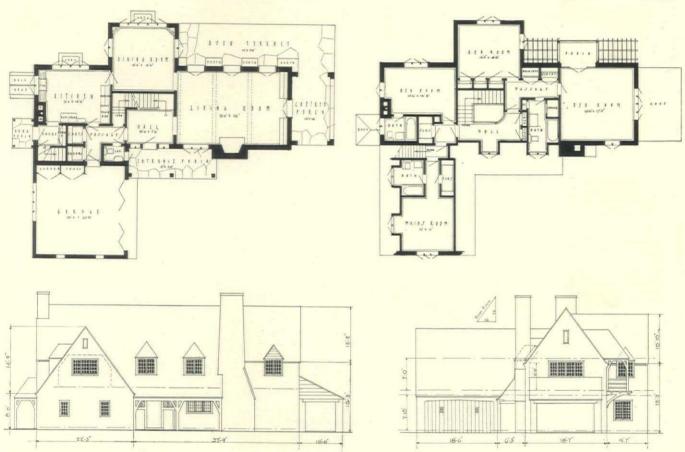


AUDITORIUM and Sunday School Room

Interior materials: Walls, light ivory plaster. Exposed trusses and ceilings, weathered oak. Pews, oak. Floor, acid stained cement in deep red tones, marked off in 12-inch squares, 1/2-inch joints, waxed finish



DILLON



Construction: Brick whitewashed. Roof, wood shingles. Doors, frames and trim, oak stained brown. Sash, steel, leaded

HOUSE OF A. BRADLEE HUNT, DEVON, PENNSYLVANIA

DESIGNED BY A. BRADLEE HUNT





DILLON

REAR AND SIDE ELEVATIONS

HOUSE OF A. BRADLEE HUNT, DEVON, PENNSYLVANIA, DESIGNED BY A. BRADLEE HUNT



GABRIEL MOULIN

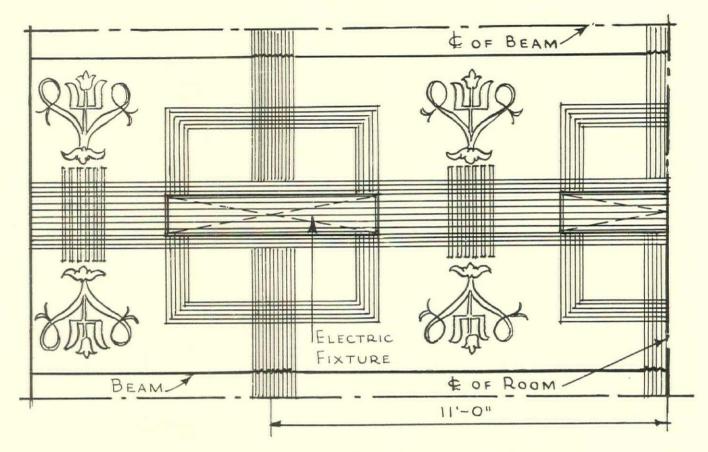
GENERAL VIEW OF LOUNGE

LUNCHEON CLUB • STOCK EXCHANGE SAN FRANCISCO, CALIFORNIA J. R. MILLER AND T. L. PFLUEGER, ARCHITECTS

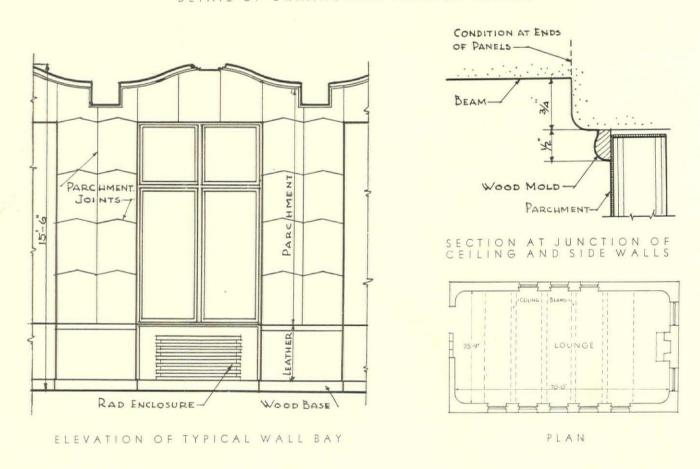


PETER A. JULEY

DETAIL OF FOYER



DETAIL OF ORNAMENTAL PLASTER CEILING

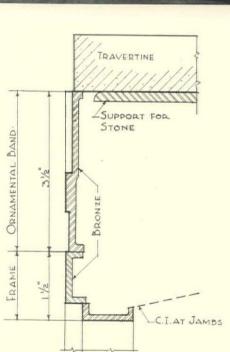


DETAILS OF LOUNGE

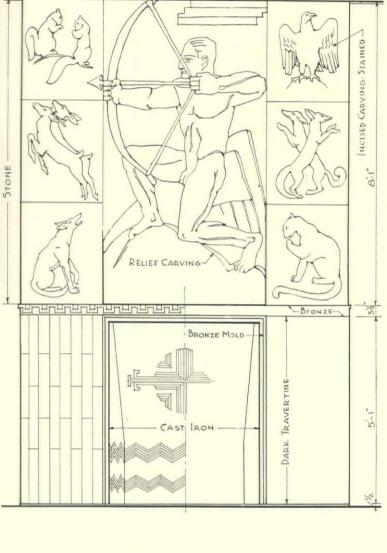
LUNCHEON CLUB, STOCK EXCHANGE, SAN FRANCISCO, J. R. MILLER & T. L. PFLUEGER, ARCHITECTS

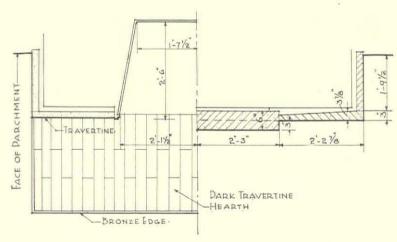


MATERIALS IN LOUNGE: Walls, parchment stretched over solid laminated panels, rabbeted at edges and blind nailed. Wall behind panels lined with galvanized iron to protect parchment from moths and vermin. Ceiling: Field, light gold leaf with ornament picked out with deep gold leaf. Ceiling fixtures have flashed opal glass panels with carved stripes. Carpet, golden brown with black border. Hangings of coarse texture running from light gold to rich brown



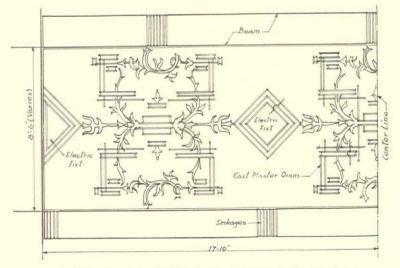
Above, detail at fireplace opening. At right, plan at and above opening. Lower part of mantel, California travertine, deep brown. Upper part, "Jeanned'Arc" stone, square dressed tight joints; smooth surfaced; design cut after work was in place



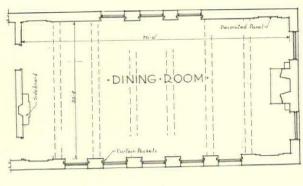




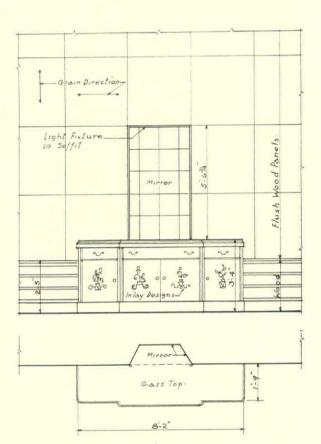
DETAIL OF WOOD INLAY WALL PANEL



ONE-HALF TYPICAL CEILING PANEL



PLAN



PLAN AND ELEVATION OF SIDEBOARD

DINING ROOM DETAILS

LUNCHEON CLUB STOCK EXCHANGE SAN FRANCISCO

J. R. MILLER AND T. L. PFLUEGER,
ARCHITECTS

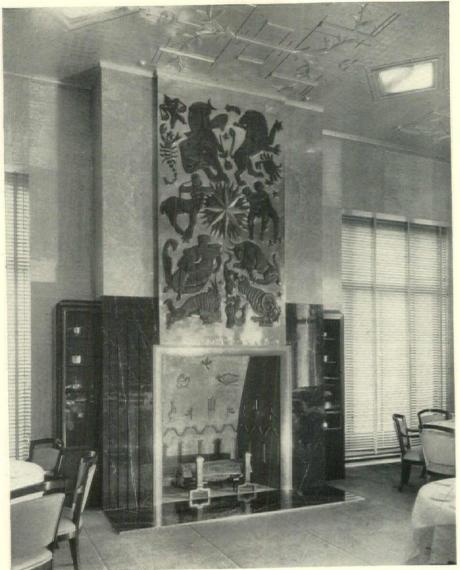


MOULIN



DINING

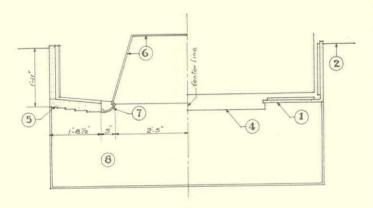
Walls, "Avodire"; dado, Hungarian ash finished with clear lacquer. Window trim, alternate strips of ebony and pear wood. Grille and lighting fixtures, bronze, polished bronze and polished chromium plated. Ceiling, gold leaf. Flush ceiling lighting fixtures, carved flashed opal glass with silver plated frames. Decorative panels, wood inlay



FIREPLACE IN DINING ROOM LUNCHEON CLUB STOCK EXCHANGE SAN FRANCISCO

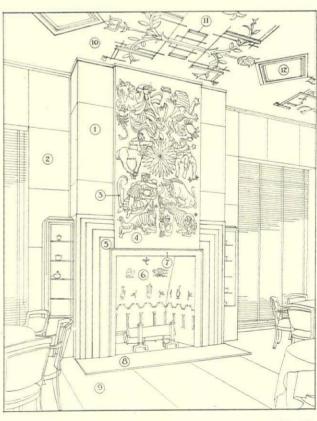
J. R. MILLER AND T. L. PFLUEGER. ARCHITECTS

MOULIN

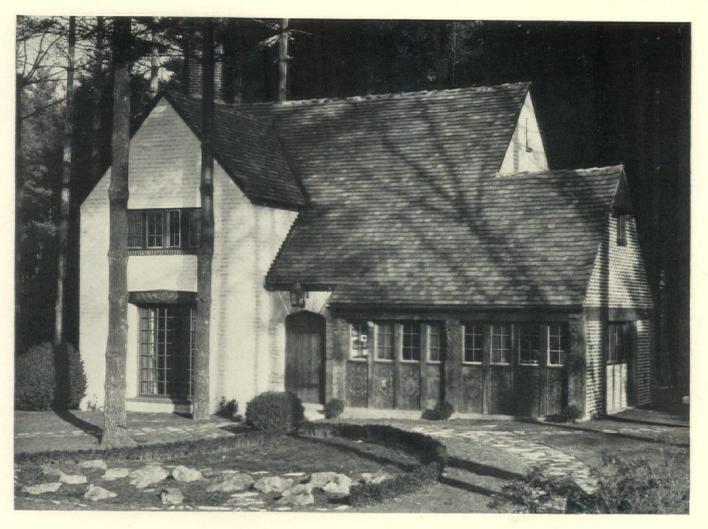


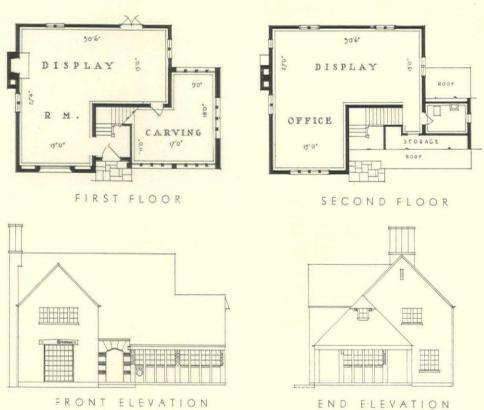
KEY TO COLORS AND MATERIALS

- 1: Cream Saint Genevieve marble
- 2: "Avodire" wood veneer
- 3: Cast bronze figures
- 4: Polished cast bronze panel
- 5: Dark blue Belgian marble
- 6: Cast iron, natural color
- 7: Cast bronze, satin finish
- 8: Granite, bronze edging
- 9: Carpet, green
- 10: Gold leaf
- 11: Carved flashed opal glass with silver plated frame
- 12: Frosted glass



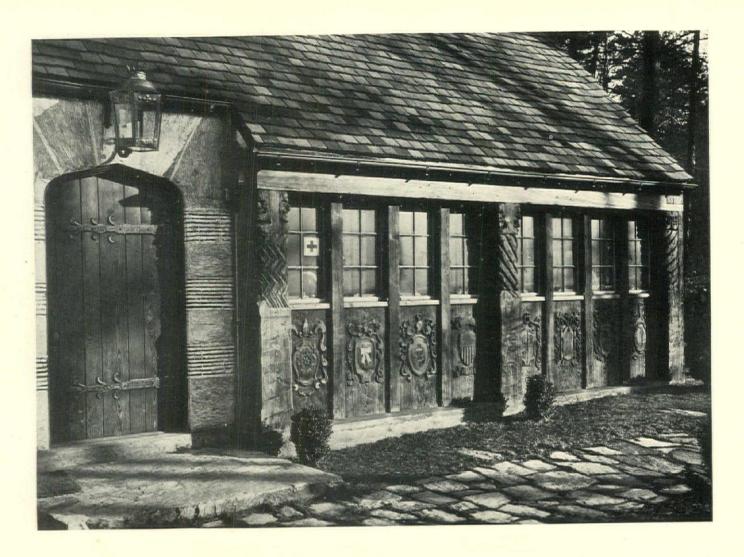
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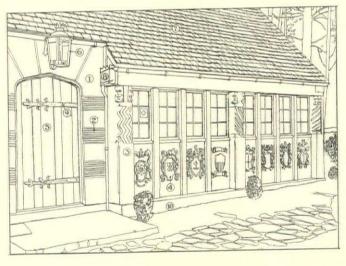




ARTISANS' SHOP, ASHEVILLE, NORTH CAROLINA

WILLIAM WALDO DODGE, JR., ARCHITECT

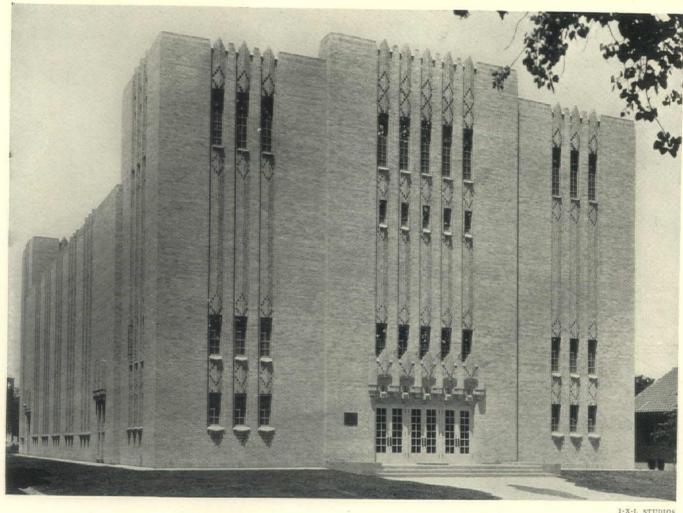




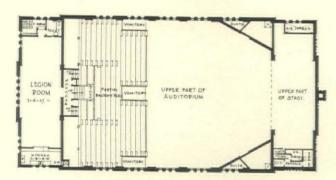


- 1: Local stone cleft with a hammer and tooled along edges.
- 2: Roofing tiles 1/2 inch thick, joints 3/4 inch thick; mortar, white cement and pink sand.
- 3, 4 and 5: Cypress with raised grain. Shields (4) painted in various colors.
- 6: Copper lantern.

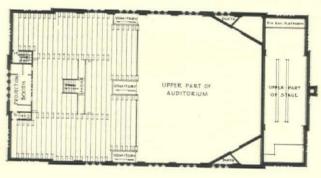
- 7: Shingle tile graduated from almost black at eaves through red to bright red and tan at ridge.
- 8: Copper leader head.
- 9: Wrought iron hinges.
- 10: Concrete slab color of wood above.



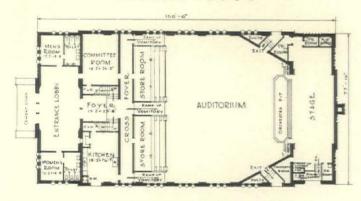
I-X-L STUDIOS



SECOND FLOOR



BALCONY

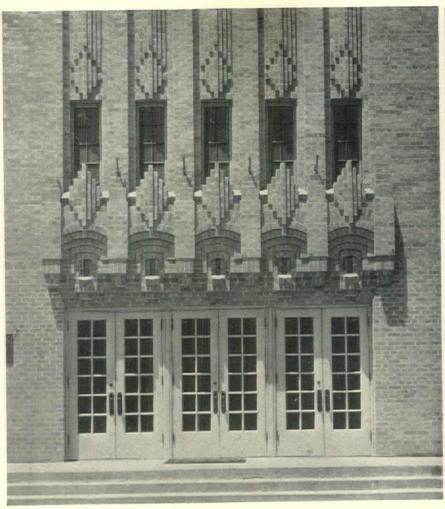


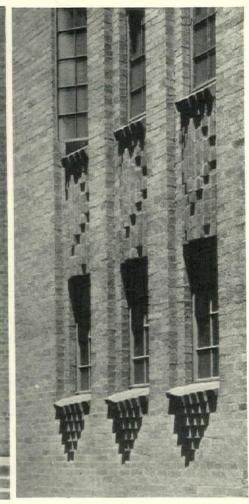
FIRST FLOOR

Exterior materials: Light cream brick; all patterns produced by use of standard sizes. Auditorium seats 1,600. Front half has a level floor which may be cleared. Rear half equipped with fixed opera chairs. Chair storage provided under balcony. Stage equipped with footlights, border lights, fireproof curtain, picture screen, to serve all types of entertainment. 567,000 cubic feet. Cost, 17 cents per cubic foot. Built as a war memorial

MEMORIAL AUDITORIUM, STERLING, COLORADO

T. H. BUELL & CO., ARCHITECTS





I-X-L STUDIOS

DETAILS OF BRICKWORK, MAIN ENTRANCE AND WINDOWS

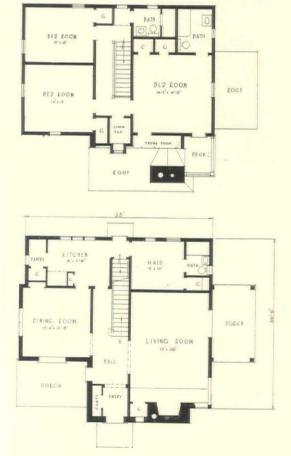


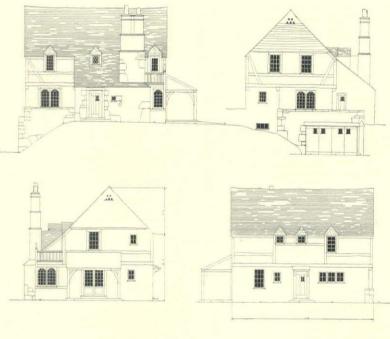
FORTNER

AUDITORIUM

MEMORIAL AUDITORIUM, STERLING, COLORADO, T. H. BUELL & CO., ARCHITECTS AMERICAN ARCHITECT 76



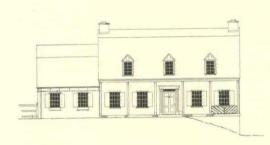


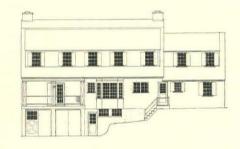


HOUSE FOR ERNEST T. HAND PLAINFIELD, NEW JERSEY

BERNHARDT E. MULLER, ARCHITECT



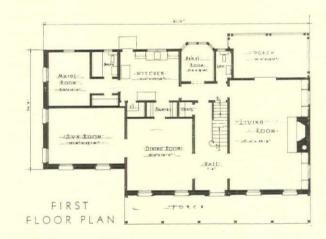


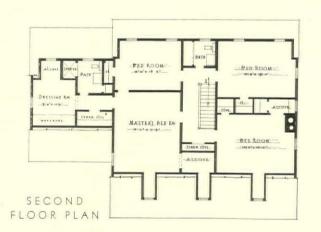


FRONT ELEVATION

END ELEVATION

REAR ELEVATION





HOUSE OF WILLIAM ZANGLINE, MAPLEWOOD, NEW JERSEY

D. WENTWORTH WRIGHT, ARCHITECT

Built of local stone. Shingles, hand-split; on side walls, stained white; roof stained green. Trim, white. Built in 1930. 36,000 cubic feet. Cost 55 cents a cubic foot

THE READERS Have a Word to Say

MORE ABOUT THE ARCHITECTS' SMALL HOUSE SERVICE BUREAU

Editor, AMERICAN ARCHITECT:

ATURALLY it was with gratification that I read the detailed returns and tabulation of the results of the American Architect National Referendum on the endorsement of the Architects' Small House Service Bureau by the American Institute of Architects, and the report of the proceedings of the Institute Convention in connection with same.

I note that the convention action does not agree with the "sense of the meeting" as it was taken. And I also note that you now call for opinion as to how the Bureau

should operate.

May I call your attention that the vote taken by your publication overwhelmingly indicated that the endorsement should be discontinued? That this vote was most definite and decisive and that in all states with the exception of three with a total of nine votes, eight of which were a tie, the vote was always against bureau endorsement?

The bringing in now of a question as to how the Bureau should operate confronts us with something altogether different and endeavoring to decide this, the situation must be made clearer than the Institute Convention made it. First, we must point out that the question of endorsement by the A. I. A. has been answered, and answered in no uncertain manner, before we can tackle the second question. Furthermore if the first question has been sidetracked or evaded by failure to so record same by withdrawing the approval, just where will we get with the second question through the Institute? Let the Board of Directors first act on the first question. When they do we will give them an answer to the second question.

Therefore I will state for the architects whom I represent, that our answer to your question is as follows: We are not interested in solving the Bureau problem as to how it should operate. It has been stated by the Board of Directors that perhaps the rank and file has been insufficiently informed, this after the issuing of a "report" prior to the Convention by the Bureau to every Institute member. We have only one point on which we are not informed and that is the financial report of the Bureau and who the "friends" are who were interested enough in the Bureau to make up its deficit of \$125,000.00.

We architects of this state are in favor of solving this question by leaving it to the architects by rendering regular architectural services in accord with the recommendations of the American Institute of Architects for construction problems without any exceptions for any particular group, i.e. small houses, churches, schools or governmental buildings.

We have repeatedly made this point clear in our statements and campaigns. We architects need not prove that small homes cannot be done by architects. The new plate section of the American Architect offers graphic evidence. We have yet to see actual photographic evidence that stock plans produce such excellent results in actual completed jobs.

The small house field problem was created by stock plan abuses and misuses and finally Institute endorsement of a Bureau offering syndicated services to publications which did not encourage small home owners to use architectural services as such, but rather to use stock plans.

In conclusion the architects of this state do not wish to endorse any stock plan bureau or agency nor do they wish to have anything to do with such practices, knowing full well that they are detrimental to the best interest of the public.

We advocate as we always have, full and complete architectural services which are relatively the cheapest item in a small home at regular Institute fees. That is all, no more, no less.

And we ask, now that we have through agitation and cooperation brought this question where it is, why must we now start all over again in a circle without end? We have fought this pernicious thing for more than twelve years. If the American Architect takes the viewpoint that there is still a question to be answered, we and the American Architect and its splendid poll have not accomplished anything.

Because of the prominent part we have played in this matter, I ask that you publish this letter, stating the views of the architects whom I represent. I also know that the architects in the surrounding territory are in complete accord with our views, which they have often expressed heretofore and for example published in the Blue Print of the Westchester County Society of Architects. The Bureau leaders are persistent. We can see in this nothing other than an attempt to again put something over on the profession, as we feel has been the case heretofore.—Harry Lucht, President, The Architects League of Northern New Jersey, Cliffside Park, N. J.

 FALSE CHIMNEY EXPERTS TO THE RESCUE

Editor, AMERICAN ARCHITECT:

OUR latest number of your always interesting and and instructive magazine shows plans and pictures of several attractive houses with well placed and well proportioned chimneys.

I always ask my own draftsmen to observe carefully the handling of the chimney whenever, in trips around our suburbs, they happen to admire an attractive cottage. Good domestic design, I tell them, can usually be attributed to the degree of thought and care shown by the architect in his handling of the chimney problem.

But, I must say, that in a housing career of some twenty-seven years, it never occurred to me to suggest to my young hopefuls that they might solve the problem once and for all by simply (Continued on page 96)

Seaports of Old New England

(Continued from page 43)

picturesqueness, is good bait for the tourist; and nature provides the bait for the fish business. Life is simple in Provincetown.

From Provincetown to Salem is a long jump, both in geography and in spirit. By motor it is a pleasant trip along the ancient King's Highway that skirts the coast; one leaves the Cape Cod atmosphere gradually, passes the old Pilgrim town of Plymouth, the unrenowned but lovely Common at Cohasset; and soon becomes entangled in the labyrinth of Boston suburbs. With time and patience one can hunt out the Royall House at Medford, the venerable Fairbanks house, America's oldest house, at Dedham, and some good seventeenth century work at Melrose and Saugus.

Up the famous North Shore from Boston lies Salem, time, fire, and what we know as progress have taken heavy toll of that old-time leisurely atmosphere except in a few choice spots. Chestnut Street is still one of the noblest streets in New England. As one approaches from the center of the town, one finds the stately little 1818 Custom House still looking down the length of Derby Wharf. In this structure, "partaking of the Ionic order," Nathaniel Hawthorne served three years as Survevor of the Port, as he so charmingly records in his introduction to "The Scarlet Letter."

That was in 1846-1848; even then the harbor was a deserted place. Derby Wharf, where tall-sparred Indiamen were once berthed three deep, was already a crumbling, tide-washed spectre. Today the whirr of the factory has replaced the sailors' chantey, and along the harbor front the fine old square houses from which lords of shipping once gazed down at their teaming docks are tenanted by throngs of alien mill-hands. Gigantic coal derricks supply the only note of harbor activity.

NE amenity remains: at the foot of Turner Street, its shaded lawn stretching to the water's edge, stands the House of the Seven Gables, one of the most satisfying glimpses in New England of the seventeenth century. The face of the house is flush with the sidewalks of the narrow lane; the rear, with its rambling ells and its neighbor, the Old Bakery, forms a background of weather-stained pine around a charming perennial garden, in which meals are served.

Almost a part of Salem, yet utterly different in spirit, is old Marblehead, that weatherbeaten town that clings to a rocky point a few miles to the east. The town contains the two renowned and imposing mansions of Jereric' Lee and King Hooper; the 1727 Town Hall, free tanding in its Square; and many battered and amusing old houses down toward the harbor.

Time was when Newburyport, a few miles north of Rowley, bade fair to become a leading metropolis of the East. Located a few miles upstream from the mouth of the Merrimack River, she put up a staunch fight with her neighbors, Salem and Portsmouth, for the shipping of the region. Today the river flows calmly past a few deserted wharves, a few fishermen, a few children play-

ing in a clumsy dory. Yet in 1810, no less than 140 merchant vessels had "Newburyport" painted across their bluff sterns, and 21 more were under construction on the ways. From this harbor "Lord" Timothy Dexter sent out his famous load of warming pans to the West Indies-the warming pans that found such unexpected use as ladles in the sugar refineries, and brought a goodly return to Lord Timothy. In this harbor was built the Atlantic packet, "Dreadnaught," probably the fastest and most celebrated sailing vessel to fly the American flag. Her passage of 9 days and 13 hours from New York to Queenstown still stands as a notable achievement.

LTHOUGH the houses of Newburyport are less renowned than Salem's, her "nabobs' row" along the two mile stretch of High Street is one of the most stately in New England. Many of them are of the three-story square type, often with captain's walk and

cupola.

The Babson house, a simple vine-covered brick mass, has an amusing interrupted belt course which crops up only over the windows; the Thomas Hall house is charmingly surrounded by a perfect picket fence. Probably the most imposing in town is the quoined and cupolaed mansion of "Lord" Timothy Dexter. Although shorn of its monumental forecourt where Lord Timothy once ranged his amazing collection of statues, the house is decidedly impressive as it stands on its terrace above High Street; the chimneys are probably unique, with their full regalia of quoins and cornice.

It is easy to see why "the Strawberrie Banke" was chosen as the site of Portsmouth. The Piscataqua, a long reach of the sea, here broadens out to the semblance of a landlocked lake. To the north is the rocky shore of Kittery, beloved of Whittier; to the south rises a gentle slope up which the town has grown. Mason Hall was built at Odiorne's Point, the Plymouth Rock of New Hampshire, in 1623. In 1631, Humphrey Chadburne erected the Great House at Strawberry Bank, the present lower harbor, and Portsmouth was begun. The town today has a dignity and repose that are above the passing years. The twentieth century has brought few intrusions; there are no depressing ruins of the past.

When George Washington visited Portsmouth in 1789 he spoke rather slightingly of the architecture: " . . . there are some good houses," he inscribed in his diary, "but in general they are indifferent, and almost entirely of wood." Accustomed to the splendors of the Southern mansion, he was not attracted by the Jacob Wendell house in Pleasant Street, with its unique whale oil lamp finial in the broken pediment of the entrance, or the sturdy Georgian dignity of the Warner house behind St. John's, to mention only two of the delightful pre-Revolutionary houses in town.

St. John's church, high on the hill above the harbor, boasts one of the four Vinegar Bibles in the country, a bell captured from Louisburg in 1745, and a remarkably naive interior. The plaster vaulted ceiling over the cen-

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- STAGGERED BUTTS. Double sets of punched nail holes permit laying irregular shingle courses.
- 7. DEEP SHADOWS. Butts are 5/16" thick, assuring deep, massive shadow lines.
- MODERATE COST. Saving in both materials and labor permits roof cost in keeping with 1932 incomes.

ter aisle rests directly on rows of columns, without benefit of cornice. The whole is painted gray, with some remarkable decorations in grisaille, the idea, the custodian proudly says, of the first rector. But the most astounding church in Portsmouth is old South, an early attempt at the supposedly modern all-glass construction. When the building was being planned, Mr. Henry Sherburne, a pious churchman, offered to provide the window glass; the thrifty parishioners erected a church whose walls, between the piers, were almost solid windows.

Portsmouth has her share of three-story square houses—the post-Revolutionary contribution of the New England seaport. The Langley Boardman house with its flush boarded front and delicate semicircular Ionic porch,

and the brick Larkin house, might well be the work of Bulfinch. The Athenaeum in Market Square is also in the manner of Bulfinch, but the only authenticated building of his is the Academy, now the Public Library.

The upper harbor above the bridge does have a bit of activity with its coal barges and its lobsters. The warehouses of brick, presumably built after the great fire of 1814, rise from the water's edge. The cupola of St. John's still looks down on steep, winding streets, and across the harbor towards Badger Island. There, in 1777, John Paul Jones' frigate "Ranger" slid into the water beginning her glorious career. The harbor is full of ghosts of bygone heroes. If the moon is right you can see them—Decatur, Bainbridge, and the gallant Lawrence.

Modernization Shows Would Boost Business

(Continued from page 13)

should be included. For instance, on Main Street there is a group of stores that could be made more attractive. Present conditions and improved possibilities can be shown by photographs, drawings or models. Untenantable upper floors of downtown buildings can be reclaimed for offices, studios and apartments. A few outmoded houses, found in every city, can be shown together with suggested changes for improving their appearance through changing the roof lines, removal of superfluous porches, turrets and jig-saw work and making them livable through the combining of parlors and reception halls, more convenient kitchens, and large closets made into bathrooms. In all cases, charts showing the estimated cost of improvements should be displayed.

Public improvements of various kinds should not be overlooked. Every community has its own problems of this nature. The value of the employment of labor on public improvements that benefit the entire community as contrasted with the support of the unemployed by charity should be stressed. Funds so used stimulate business activity, put money into circulation, provide a return on the investment, and enable labor to maintain its self-respect doing constructive work.

The Philadelphia Committee, Better Homes in America, is making awards for reconditioned homes. Medals and certificates are to be awarded for the best executed reconditioning projects of 1932 submitted to the committee. This idea could be utilized to advantage in connection with a modernization exhibition. It would offer splendid publicity material in either or both of two ways. A prize could be offered for work completed before the opening of the exhibition and the award made at the opening of the exhibition. As a continuing feature of the exhibition an award could be made for the best reconditioning job inspired by the exhibition displays.

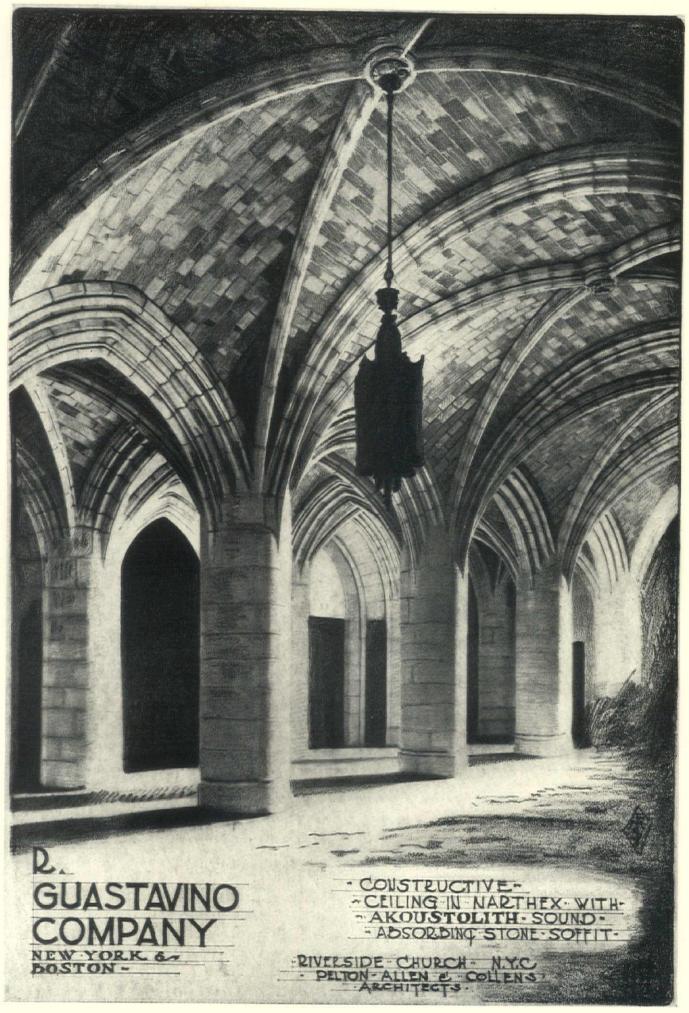
The most profitable and probably most easily secured building material exhibit would appear to be a series of well designed and varied rooms. These might be confined to rooms of average size such as found in most houses. The items modernizing each room should be tabulated and their costs given. For instance, one room might be painted. Give the cost of painting a room of the size shown. Do the same with papered walls and painted trim, a new corner cupboard, new screens, window hang-

ings, reconditioned floors, furniture, and so forth. Show a modern bathroom and give the cost of the fixtures and the cost of other fixtures that might be used. Set up a typical kitchen with convenient cupboards, a new sink contrasted with an old, a new range and refrigerator. Again, give the prices of items shown and the price for which other similar items can be obtained, installed. Costs would form an important part of the exhibit, due to the ignorance or mistaken ideas of the public on this subject.

Little imagination is needed to vision the vast publicity possibilities of an exhibition of this kind. Building material dealers and contractors would be quick to sense its value to them and advertise it. Local stores would benefit and no doubt advertise it. Local transportation companies would support it. Newsreels of it would find a place in the local movies. Civic organizations would immediately sense its importance to the community and perhaps sponsor or indorse the movement. Prominent architects and builders could be secured to address clubs, schools and other groups. The radio should be utilized. And with so much activity the newspapers would be certain to lend their support.

It would offer an unusual opportunity for achitects to present to the public information on the practical dollars and cents value of their services. This could be done through group advertising in the newspapers, public addresses, radio, and a generally distributed folder or booklet. Along with this and in connection with the exhibition, the consulting idea presented by Arthur B. Holmes of Montclair, N. J., published on page 14 of the June, 1932, issue of American Architect could be promoted in a dignified and professional manner.

A home modernization campaign in 200 cities will and labor before the close of the summer, according to result in the expenditure of about \$25,000,000 in material a survey made by the Committee on Home Modernization of the United States Department of Commerce. The potential possibilities of a modernization exhibition at the present time as a means of stimulating building activity and placing the architectural profession in close contact with the public should be seriously considered. The cost should not be great and the cost represented in time and personal effort should be well rewarded.



Financing Plan Now Operating to Stimulate Building

FINANCE plan to stimulate new building in West-chester County, New York, has been developed by Arthur W. Lawrence, president of the Westchester County Park Commission. Briefly, the plan is this: A fund of one million dollars has been made available through the Bowery Savings Bank of New York. This fund will be disbursed through three title companies operating in Westchester County, each company being allocated an equal amount. The Bowery Savings Bank purchases with this fund guaranteed first mortgages from the title companies. The title companies in turn use the money thus secured to finance only new house construction approved by what is known as the Westchester Home Finance Committee.

The Home Finance Committee is composed of Mr. Lawrence as chairman, three title company representatives, the president of the Westchester County Realty Board, the mortgage officer of the Bowery Savings Bank, and a member of the Reconstruction Finance Corporation of the New York Federal Reserve District. The committee will approve loans up to \$9,000 on new houses for owner occupancy or where a builder presents evidence of the sale of the house to an owner from the plans, in approved locations, of good construction, and owned by responsible persons.

Applications for loans are referred to the committee for approval. If the committee approves the loan, the title company thereafter accepts or rejects the loan and handles the transaction in accordance with usual practice. If accepted by the title company it draws on its share of the revolving fund furnished by the Bowery Savings Bank. No bonuses will be charged for loans. Interest will be charged at six per cent.

The committee believes that the plan will aid in reestablishing confidence in real estate values by showing on the part of banks a willingness to loan; relieve unemployment in the building trades; increase the demand for building materials; and have a good psychological effect on the community.

The plan is simple and applicable to any community. A committee that will consistently investigate, carefully determine the justification for the building, and wisely judge the soundness of the investment can go far in safeguarding invested funds. Reliable assurance of the safety of capital thus used should permit the banks to resume making loans on building construction. This would soon result in stabilizing industry, creating returned confidence, and speeding the relief through private sources rather than through the slow-moving, red tape bound agencies of government. It is the basis upon which loans should have been made several years ago.

THE architects of the Kentucky Chapter, A. I. A., are the designers and chief sponsors for the Architects & Builders Exhibit, opened at 620 South Fifth Street, Louisville, Ky. There is a meeting room on the second floor in which the organizations sponsoring the exhibit will hold their meetings without charge.

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Society of Liberal Arts — Joslyn Memorial, Omaha, Nebraska John McDonald and Alan McDonald, Architects

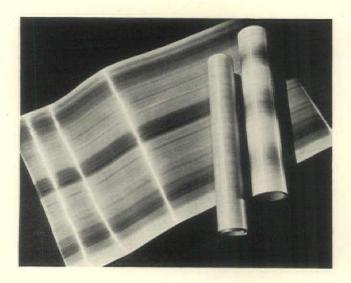
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BRIEF REVIEWS THAT MAKE IT EASY TO KEEP IN TOUCH WITH THE PROGRESS MADE BY PRODUCERS



New Steel Flooring

84M The H. H. Robertson Co., Pittsburgh, Pa., and the Mellon Institute of Industrial Research have cooperatively developed a new steel floor slab called the "Robertson Keystone-Beam Steel Floor." The slab is fabricated by pre-forming two steel sheets and subsequently welding them together in the plane above the neutral axis. A cross-section taken through the width of a completed unit shows four keystone-shaped cells, all connected together near the neutral axis. The four ducts that constitute each unit are spaced at six-inch intervals and connect directly, when installed, with the corresponding ducts of the adjacent section of floor slab. Slabs are 24" wide and up to 12' 5" in length. They are laid across the structural beams and then bolted, clipped or welded to the supporting members thus eliminating form work.

Spun Glass Wallpaper

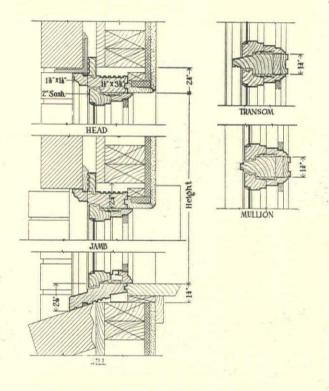
81M A wallpaper of spun glass made in Germany has been introduced into this country by Miller, Godart & Co., 138 East 55th Street, New York. The paper reflects in a soft way the illumination of a room and if indirect lighting is used unusual effects may be had. It is washable. Applied like any other wall paper except that the glue is applied on the wall and not on the paper. Rolls contain 42.16 square feet. Furnished in any color scheme.

Stainless Steel Kitchen Sink

82M A seamless kitchen sink made of Enduro stainless steel and called the "Hydrocrat" has been placed on the market by the Domestic Products Division of the Bossert Corporation, Utica, N. Y. Satin finished except for polished panels in back and end splashes. The reverse side of the metal is treated with "Silentex," which is a special sound-deadening compound and prevents any metallic sound. The 8-inch basin with a removable "strainer-stopper" forms a dish pan. In back of the drainboards is a slightly raised ledge supplying a convenient space for tumbler, soap and kitchen tools. A 54-inch flexible hose, which disappears into the shelf of the Hydrocrat when not in use, makes the spray usable for rinsing and scalding dishes. Fixtures are chromium finished. Comes in four standard lengths, 4', 5', 6' and 7'. Installed on any standard cabinet installation.

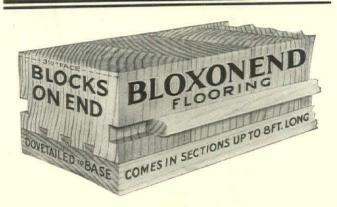
Armstrong Cork Now Makes Rubber Tile

83M Rubber tile has been added to the line of floor coverings made by the Armstrong Cork Company, Lancaster, Pa. Twenty-one colors are available. The designers have paid particular attention to blending the shades employed in the different marbles. Made in 3/16" and ½" gauges.



New Anderson Complete Casement Window

85M A new type of casement window has been placed on the market by the Anderson Frame Corporation, Bayport, Minn. This window is furnished as a complete unit ready to install. It consists of winter sash with aluminum frame in addition to the regular weatherstripped sash, screen and hardware. Made of clear pine primed with aluminum paint. Wood members have greater thickness than width, which increases strength and maintains narrow lines. Sash operated without removing screen. Made in single and multiple units.



THE floor for Industrial Service

BLOXONEND is neither an innovation nor an experiment. It is the original strip type block flooring. Since 1916 BLOXONEND has proven to be THE floor for heavy service, combining lasting smoothness and resiliency with long life. Millions of square feet have been laid in factories, warehouses, printing establishments and industrial plants of all kinds. Also widely used in gymnasiums and school shops.



The construction principles of BLOXONEND are sound! Dovetailing the small, tough blocks endwise onto substantial baseboards and joining the built-up sections with heavy wood splines results in a degree of smoothness and durability not obtainable in other types of flooring. Write for Descriptive Folder.

CARTER BLOXONEND FLOORING COMPANY

GENERAL OFFICES - KANSAS CITY, Mo.



Small House Designs at Cost

(Continued from page 35)

by refusing to handle small work and thus leave a clear field for the "jerry-builder" to reap a harvest.

A major part of new building construction is small houses which, to a large extent, reflect the cultural standards of our cities. A well-designed small home is beautiful to the eye and an inspiration for people to improve their present mode of living. If a nation-wide campaign to organize local small house service bureaus is sponsored while construction is at low ebb, we will not be forced to spend our next slack period looking at the architectural and economic failures of incompetent and unscrupulous builders.

Every architect knows that "stock plan" services are wrong in principle; that they can never become a means of providing good architecture. It is neither a feasible or practical solution of the small house problem. So-called "services" which sell plans only and architects who do not supervise their work are injuring the profession by not rendering complete service. We must impress on the public the fact that an architect does not sell plans but professional service. Plans are only "instruments of service"—a means to an end.

While few architects can contribute an adequate amount of money to support a nation-wide educational movement of the kind needed, every architect could and should devote a part of his time to the betterment of his profession. If the time spent by architects in contacting small house owners educates the public on the value of architectural service, they have been well repaid.

BULLETINS

REHABILITATING BLIGHTED AREAS. Report of the Committee on Blighted Area Housing. Published by the Architects Club of Chicago, 1801 Prairie Avenue, Chicago. Price 25 cents.

TESTS OF INTEGRAL AND SURFACE WATERPROOFING FOR CONCRETE. By C. H. Jumper. Research Paper 394 issued by the Bureau of Standards, U. S. Department of Commerce. For sale by the Superintendent of Documents, Washington, D. C. Price 10 cents.

TESTS of PLAIN AND REINFORCED CONCRETE MADE WITH HAYDITE AGGREGATES. By Frank E. Reichart and Vernon J. Jensen. A report of an investigation conducted by the Engineering Experiment Station, University of Illinois, in cooperation with the Western Brick Company, Bulletin 237 of the Engineering Experiment Station, University of Illinois, Price 45 cents.

THERMAL EXPANSION OF HEAT-RESIST-ING NICKEL-CHROMIUM, IRON-CHROMIUM AND NICKEL-CHROMIUM-IRON ALLOYS. By Peter Hidnert. Research Paper 388 issued by the Bureau of Standards. For sale by the Superintendent of Documents, Washington, D. C. Price 25 cents.

UNIFORM MECHANICS' LIEN ACT. Revised act prepared by a committee appointed by President Hoover and published by the Department of Commerce. Copies may be purchased from the secretary of the committee, Dan. H. Wheeler, care of the Bureau of Standards, Washington, D. C. Price 10 cents.

RESEARCH IN FARM STRUCTURES. By Henry Giese. Published by the United States Department of Agriculture. For sale by the Superintendent of Documents, Washington, D. C. Price 15 cents.

HOUSE INSULATION; ITS ECONOMICS AND APPLICATION. Published by the National Committee on Wood Insulation, U. S. Department of Commerce. For sale by the Superintendent of Documents, Washington, D. C. Price 10 cents.

COLONIAL GARDENS. The landscape architecture of George Washington's time. Prepared by the American Society of Landscape Architects and issued by the United States George Washington Bicentennial Commission, Washington, D. C. Illustrated. No price given.

ARCHITECTURE AS A CAREER. By Walter J. Greenleaf. Leaflet No. 10 of a series "Guidance Leaflets." Published by the United States Department of the Interior. For sale by the Superintendent of Documents, Washington, D. C. Price 5 cents.

ACCELERATED WEATHERING TESTS OF SOLDERED AND TINNED SHEET COPPER. By Peter R. Kosting. Research paper 422 issued by the Bureau of Standards. For sale by the Superintendent of Documents, Washington, D. C. No price given.

PERSONALS

S. WALTER KATZ, architect, has moved to 527 Fifth Avenue, New York.

KARL B. WEBER has opened his own office as registered architect and registered engineer at Perrysville Ave., at East Street, North Side, Pittsburgh, Pa., and would like to receive manufacturers' catalogs.

CHRIS J. KING, ALBERT CRIZ AND HARRY A. TURK have announced their association for the practice of architecture and interior decoration with offices at 25 East Jackson Boulevard, Chicago. They would like to receive manufacturers' catalogs and samples.

ERNEST R. RICHARDS, architect, has opened an office for the practice of architecture at 2123 Summerdale Ave., Chicago. He wishes to receive manufacturers samples and literature.

CHESTER N. LOWE AND W. NORMAN JEAVONS have opened an office at 12429 Cedar Road, Cleveland Heights, Ohio, for the practice of architecture.

MERRILL, HUMBLE AND TAYLOR is the name of a new architectural firm at 23 East 26 Street, New York. The firm is composed of Daniel D. Merrill, A. I. A., Albert Humble, A. I. A., and Walter A. Taylor, A. I. A.

FREDERICK W. MELLOR, architect, has moved to 110 East 42nd Street, New York.

CARLETON MONROE WINSLOW, architect, announces that the address of the Santa Barbara branch office has been changed to 1410 Chapala Street.

EXTERIOR LIGHTING FIXTURES by SMYSER-ROYER CO.



Skill, experience and craftsmanship make such a vast difference in exterior lighting fixtures, . . . that is why Smyser-Royer Company fixtures and other metal work have been specified by America's leading architects for almost a century.

Architects and builders who are contemplating the use of cast iron, bronze or aluminum for ornamental work—whatever the period or style—are extended a cordial invitation to consult with Smyser-Royer Company about any phase of design or execution.

Consult SWEETS Volume D, Pages 5035-5045 for Exterior Lighting Fixtures — Volume A, Pages 1224-1225 for Cast Iron Veranda Designs

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Architect Can Help to Build Buildings Faster

(Continued from page 37)

fifty per cent can visualize easily and naturally in three dimensions from a blueprint or drawings.

E. H. Faile & Co. made use of a model on the Goelet Building, New York City. This model is said to have been of definite value beginning with its aid to the designers in perfecting the concept. The draftsmen also used this model constantly when producing the working drawings. The model aided in visualizing the project to the owner. It was of marked value, as used on the job, in aiding the subcontractors and their foremen to gain a clear idea of their own part of the work and so to be able to direct their workmen to greater advantage. Errors were forestalled and changes of detail were matured in the model instead of on the structure. Speed in production was advanced.

SECOND factor in speeding the job, even when all means of clear visualization have been used, lies in close cooperation with the contractor and his progress schedule. The contractor needs prompt delivery of initial drawings, details and information so that he can produce the shop drawings. He then needs quick decisions and prompt return of the shop drawings by the architect. This is highly essential when drawings cover materials which must be fabricated and delivered at the time indicated by the progress schedule. I have been confidentially shown cases where delays in these features alone have been costly in both money and time.

Let us grant that the architect has performed well all of his duties thus far and construction is well under way. The architect remains in a position to be an impartial and able aid in the "strategy" of handling the job. The progress schedule is the contractor's daily Bible. Once it becomes disorganized his troubles multiply. The architect can aid by acting as chairman at weekly meetings which the contractor holds with his subcontractors on matters of schedule. Coordination of all factors and settlement of conflicting interests and a clearing up of misunderstandings is sought at these "weekly forums." The experience and suggestions of any or all members is available and mutual interest brings it into service. These forums stir the laggers to pick up their heels and also create an esprit de corps valuable for speed and smooth working.

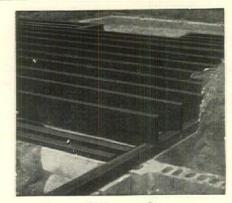
Raymond Hood spoke of the architect's likeness to Henry Ford. Well, Ford does design for speed in production. Possibly this is more an engineering principle than an architectural one. But, "pay dirt" lies in this field and it remains a case of who will stake the claim first. In the Empire State Building the repeat elements such as the 6,600 window spandrels with recesses for radiators, the stone ashlar facing and the alloy steel trim were elements that permitted fabrication in mass quantities and delivery and erection well within the time schedule. In prospect, monotony might possibly have been feared. Mr. R. H. Shreve tells me it was feared by some. But in realization, even the old timers are getting a thrill. This buildings tells a great story and enriches architecture.

The Empire State Building has added one other great contribution to speed in construction and to the economics of construction in general. For the first time, it is believed, a great change has been made in the handling of the masonry materials on the job. Since the time of the Egyptian pyramids hand handling has prevailed. Nearly one hundred thousand tons of masonry materials were handled on the Empire State Building, largely in bulk and by use of mechanical equipment and electric power much more rapidly than is customary.

About seventeen thousand tons of stone ashlar were taken from trucks by overhead tram rail hoist and then assembled upon flat cars and forwarded over industrial railroads to mine hoists and sent up inside to the distribution floors. They were then sent over other rails which placed the stone above their floors of use, thence to be lowered into place by hand winches.

Twenty odd thousand tons of backup brick were dumped into floor hoppers, fed by gravity to rocker dump mine cars and likewise forwarded over rails to the masons' side. Building tile were hand handled to flat cars and then routed on through as were the stone and brick. Mortars for setting were basement made and forwarded by the dump car method. Sixteen odd thousand tons of plastering materials were handled by dump cars for sand, and flat cars for lime and lath.

By these methods materials went up in loads ranging from one to four tons of effective net loads whereas by usual methods the loads run slightly up and down from



Creosote Oil Prevents Decay and Termite Damage

TERMITES

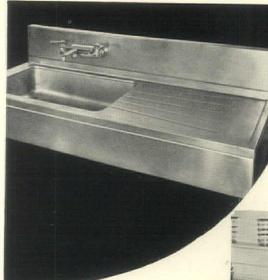
Write for booklet telling how Termites destroy foundation timbers. For permanent prevention, use A & L Timber, Pressure Treated with Pure Creosote Oil.

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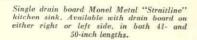
Plants—Carbondale, III., Grenada, Miss., Louisville; Ky., North Little Rock, Ark., Montgomery, Ala. Marine Ways—Paducah, Ky.



GOOD NEWS...

FOR YOU

and your clients



Double drain board Monel Metal "Straitline" kitchen sinks are available in both 72- and 60-inch lengths.



"STRAITLINE" Monel Metal sinks at prices any home can afford...

8

reasons why you should specify Monel Metal "Straitline" Sinks

- 1. Rich, lustrous beauty...with a satiny, glass-smooth surface.
- 2. Neutral silver tone that harmonizes with any kitchen color scheme.
- 3. Rust-proof...highly resistant to corrosion...easy to clean.
- 4. Solid metal...no coating to chip, crack or wear off...strong as steel.
- 5. Surfaces give cushioning effect that protects dishes against breakage.
 6. 31% more work space than ordinary
- sinks of same nominal sizes.

 7. Standardized sizes and models for every
- kitchen.

 8. Prices within reach of every family

Monel Metal is a registered trade-mark applied to an alloy containing approximately two-thirds Nickel and one-third copper. Monel Metal is mined, smelted, refined, rolled and marketed solely by International Nickel.

 Every family wants a Monel Metal Sink...and every family can have one now. The new Monel Metal "Straitline"*
 Sinks are here!

Fitting companions to the higherpriced "Streamline"* models, the new Monel Metal "Straitline" Sinks are designed, styled and priced to please thousands of women who have always longed for a Monel Metal Sink but never could afford one. They offer, at truly moderate cost, the beauty and durability that have been previously associated with kitchen sinks selling at much higher prices.

In these popularly priced sinks, the new "Straitline" design and Monel Metal have been combined to give trim, modern beauty that is rare in any kitchen equipment ... permanent beauty that grows with the years ... and always

harmonizes with every kitchen color scheme!

Such sensational sink value has been made possible only by volume production and advanced manufacturing methods. Monel Metal "Straitline" Sinks have been created to meet today's economic conditions. As a result, you can now specify Monel Metal Sinks for every home you plan... "Streamline" models for higher-priced homes and the new, inexpensive "Straitline" Sinks for the more modest ones.

Monel Metal "Straitline" Sinks are now on display at leading plumbing supply houses. See them — and if you have not received your copy of the new illustrated catalog (A.I.A. file No. 29H6) giving sizes, specification data, etc., on Monel Metal kitchen sinks, we will be glad to send it upon request.

* Trade-mark.

MONEL METAL A HIGH NICKEL ALLCY

MONEL METAL

NICKEL ALLOYS LOOK BETTER LONGER

THE INTERNATIONAL G

NICKEL COMPANY, INC., 67 WALL STREET, NEW YORK, N. Y.

five hundred pounds. No accidents came from the change. The men operating the system were fully satisfied.

The handling of the workmen to their stations was noteworthy. Mine hoist passenger cages and electric hoists were so employed that "cat heads" could be raised each two-story tier of the steel and carry the workmen to their steel jobs.

These elevators also carried the concrete workers and

the masonry builders to their stations and enabled them to follow closely the steel erectors. The early installation of permanent elevators, one in each bank, kept these temporary elevators open for release to the advance work. The principle of adopting modern terminal facilities and methods for transportation of materials within the building under construction has been well proved and is worth the attention and interest of the architect.

What Architects Are Talking About

(Continued from page 41)

Spot Are His Brain Children, and One in Fieldston, Has Won the Gold Medal of Better Homes in America."

BENJAMIN LANE SMITH of Chicago has been awarded the A. W. Brown Travelling Scholarship this year. This scholarship is awarded annually by Ludowici-Celadon Company. Second prize went to Samuel E. Homsey, Boston; third prize to William S. Morris, Albany; fourth prize to William P. Kramer, Milwaukee; and special mention to Urban A. Bowman, Abington, Pa.

VINNERS of The House Beautiful cover competition have been announced. Margaret Masson, Penacook, New Hampshire, was awarded first prize.

Second prize went to Elizabeth Lewis, Victorville, Cal. Student prize went to Thula Clifton, Spokane, Wash.

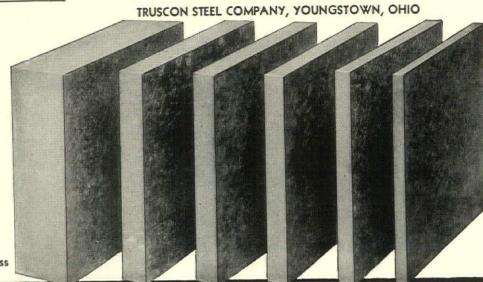
CHARLES H. HIGGINS has been elected president of the New York Chapter, A. I. A., and Dwight James Baum as been elected vice president. Eric Kebbon was elected secretary, Frederick Mathesius, Jr., treasurer, and Christopher La Farge, recorder.

A COMPETITION for a town plan for the city of Stockholm has been announced. It closes February 1, 1933. Information may be secured from the registrar, Town Planning Office, Stadshuset, Stockholm, Sweden, if requested before August 15.

A NEW METAL FACED INSULATION

Ferroclad Structural Panels

Inquiries concerning the development of Ferroclad for your individual requirements are solicited. Write for samples and data. A product of great utility that combines the advantages of commercial insulation with the strength, firesafety, weather-proofness and permanence of steel. Ideal for suspended ceilings, sidewalls, spandrels, door panels, radiator covers, ducts, dryers, small buildings and a multitude of other uses. The manufacturing process permits the utilization of steel in any finish or non-ferrous metals as outer surfaces and insulation of any thickness or other composition as the core.



any thickness



ODERNISTIC SERIES

- Plate Thirteen

In this picture of the Northern States Power Building, St. Paul, Minn., the sky-riders seem to

dominate the whole interior. A reproduction in actual colors would show how the various elements have been brought into harmony—a harmony which is enlivened by the spirit of the new era. It would show also how naturally the different marbles — Grand Isle Fleuri, French Gray and Montenelle—with their individual blends of color—can be adjusted to a plan of this kind. The structure was designed by Ellerbe & Company, Architects, and the marble was finished and installed by the Drake Marble Company of St. Paul.

VERMONT MARBLE COMPANY — PROCTOR, VERMONT

Branches in the larger cities

See Sweet's Catalog for Specifications and Other Data

VERMONT MARBLE

HAT people in the lower income brackets want in a house, what leading architects think of the problem, and what is being done right now in the way of improved and cheaper methods of construction was discussed at a series of meetings called by the American Institute of Steel Construction and held in New York, May 24th and 25th.

A. YOUNG, a student of Atelier Adams-Nelson, Chicago, has been awarded the first prize for a design to illuminate the Electrical Building at the Chicago World's Fair. The contest was conducted by the Illumination Engineering Society. Foster Gunnison was chairman of the contest committee and said, "This is the first time in the history of lighting that a competition has been held in which light has been considered an integral part of architecture and not an embellishment added to a building upon its completion."

A SERIES of modernization expositions was held during the week of June 20th in the Metropolitan New

York area under the auspices of the National Association of Master Plumbers. These expositions were held in some 31 cities at the same time that a national exposition was held in Madison Square Garden, New York. The object was to promote neglected maintenance or modernizing work in the plumbing and heating trades.

NON-FEE charging employment service for technical men has been sponsored by the Engineers' Club of Philadelphia with headquarters at 1317 Spruce Street. It is known as the Philadelphia Technical Service Committee and is cooperating with the Pennsylvania State Employment Commission. A feature of the service is that assistance will be given prospective employers in preparing job specifications.

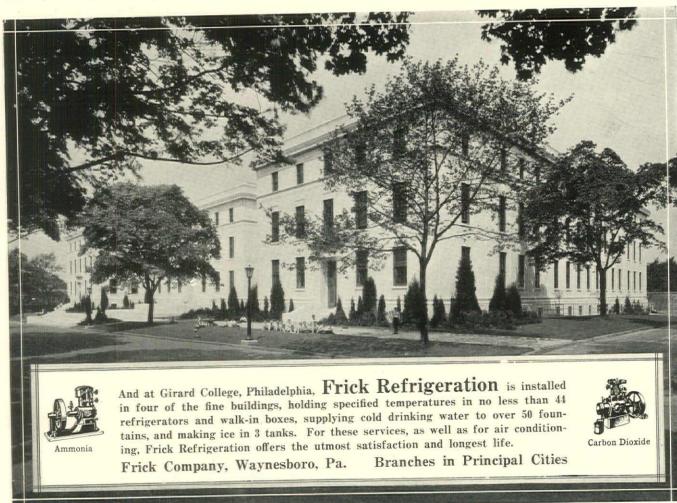
J. E. R. CARPENTER, architect, designer of the Lincoln Building and other large New York office buildings, died June 12. He was a graduate of the Massachusetts Institute of Technology.

Presenting "Space" to Prospective Tenants

(Continued form page 25)

content. This naturally appeals to the renting agent who knows that if he is in a position to actually get the tenant to sit down, study the layout and change the location of furniture, partitions, etc., he has created one of the essentials of a sale. He has aroused the tenants interest through the manner of presentation of space.

However, although this method of presentation possesses a distinct advantage over the pencil sketch, it still inadequately serves to give the tenant a complete and accurate portrayal of his space. It is apparent that this method cannot create so complete and vivid a picture of the space that even the most unimaginative client will



Atmosphere plus ENDURING BEAUTY



Today, as never before, modern architecture is capturing that intangible something called Atmosphere - and combining with it greater beauty, and still more enduring utility.

Every construction detail plays its part in determining the permanence of any structure, and in such vital points as plumbing and heating systems, electrical installations and ventilating systems the use of Youngstown pipe, Youngstown Buckeye conduit and Youngstown Steel Sheets is sound assurance of the enduring utility of these important details.

A cozy, homelike corner of the inner patio of Scripps College, Claremont, California.

Architect Gordon B. Kaufman

9

*

THE YOUNGSTOWN SHEET AND TUBE COMPANY

One of the oldest manufacturers of copper-steel, under the well-known and established trade name "Copperoid"

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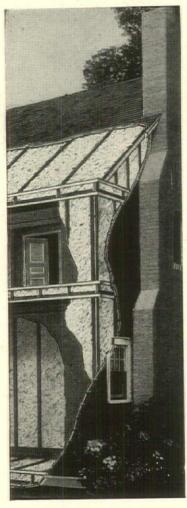
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When you specify and use U. S. Mineral Wool you assure to any building the greatest degree of insulating effectiveness obtainable from any insulating material.

U. S. Mineral Wool is the lowest of all in thermal conductivity, is indestructible, and unequalled as a sound deadener. In addition, it is more sanitary—vermin cannot burrow or live in U. S. Mineral Wool.

An investigation on your part will prove convincingly that no other material, natural or manufactured, can equal the complete protection supplied by U. S. Mineral Wool.

Sample and illustrated folder on request.

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have a clear and definite picture of it. To create such a picture, the model method of presentation may be utilized.

This method has the advantage of showing the problem in three dimensions, length, breadth, and depth. The construction of a model for this particular purpose is simple. An outline of the typical unsub-divided floor plan of the tenant's space is transposed upon a wooden base. The model, of wood, is then built to scale. The exterior walls, utilities, etc., are glued down by means of "areo glue." This glue has the faculty of drying immediately, yet holding the parts securely in place. Once the columns are built, the sub-dividing walls and other construction items are put in place.

Furniture models are usually made up in advance and kept in stock. A steel pin is secured to the underside of the furniture so that it can be shifted around and maneuvered to any position desired. The windows are indicated by using celluloid. The model method, more than any other, accomplishes the purpose of quickly visualizing rentable space to tenants or prospective tenants.

The Readers Have a Word to Say

(Continued from page 79)

placing a false chimney wherever they felt a real chimney might be useful to fill out the composition. Live and learn.

At least you lead the country in publishing the plans along with the photographs of the chimney exteriors.—
Robert Tappan, Architect, New York.

WORLD'S LARGEST ROOF

Editor, AMERICAN ARCHITECT:

AY I call your attention to the following misstatement in the May, 1932, AMERICAN ARCHITECT? On page 29, under the picture of the Travel and Transport Building, which is given as 200 feet across, it states. . . "This is the largest unobstructed area ever enclosed beneath a roof."—In Breslau, Germany, there is a market hall covered with a dome of 213' span, and in Leipzig, Germany, there is one of 246' span.—Harry Bogner, Architect, Milwaukee, Wis.

• IF "ARCHITECT" WILL WRITE

COPY of a letter addressed to Bruce Barton relative to an article he wrote for the "Woman's Home Companion" was forwarded to the editors of American Architect. The letter was signed by the nom de plume "Architect." A post card from "Architect" has been received calling attention to the fact that no mention was made in the June issue of American Architect of the letter. While the letter was received too late for mention in the June issue, attention is called to the fact that no unsigned communications can be published. Names will be withheld if desired but the original communication must contain the name and address of the sender.

How to Make a Living Out of Architecture

(Continued from page 29)

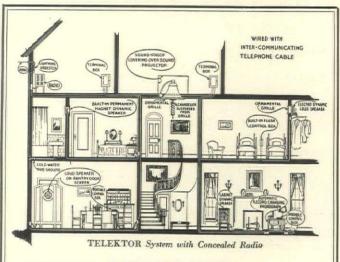
I learned to do the best I have the least opportunity to do—ordinary business grind takes all my time. Art—my hat! I only wish it were!"

"Oh! I say now!" protested F. Puddingstone Huntley, solemnly. "You fellows can't truthfully say that architecture is not an art, even if we devote only a small portion of our time to its artistic side. You will have to admit that it is this significant ten per cent which dif-

ferentiates it from the ordinary business."

"Omigosh!" Jackson Lee threw up his hands despairingly. "I'm not fool enough to advocate removing the artistic appendix of the goddess of architecture—the old girl needs it; without it, the dear old thing might shrivel up and have to have her face lifted. However, we are judged by our business ability as much as by our artistic accomplishment. The fact that we are inadequately trained in the business side of architecture is responsible for many of the difficulties that confront us today, and we can't laugh that off, either—we've got to face facts and find the answer. Our training is out of balance; our education is, say, 85% artistic for work which is 85% business. After all, we are largely judged by our business accomplishment."

"Right you are, Jack, old boy!" impulsively declared George Bradley. "I think it's high time we architects quit worshiping at the shrine of the old gods of tradi-



TELEKTOR

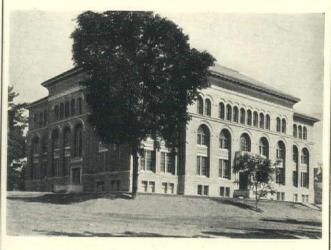
High quality reproduction of radio and phonograph programs is made available throughout the residence with TELEKTOR control of the distant instruments. Outlet plates available for standard one to four-gang switch boxes. Write for details.



Stromberg-Carlson Telephone Mfg. Co., Rochester, N. Y.

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enhance the beauty and utility of any building

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SPECIFICATIONS

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TO INSURE standard, dependable equipment installed promptly at moderate cost, the Cutler Mail Chute should be specified by name. If desired, approximate estimates will be furnished in advance.

If preferred, a stated sum may be allowed to cover this item.

Full information, details, specifications and estimates on request.

CUTLER MAIL CHUTE CO.

General Offices and Factory
ROCHESTER, NEW YORK



A distinctive stone and stucco bungalow from July Good Housekeeping. Lewis E. Welsh, architect

Wise Spending Needs the Architect

To safeguard its readers' pocketbooks
Good Housekeeping guarantees the products which use its advertising pages. For
the same reason Good Housekeeping
pleads editorially the services of the architect when it comes to that most important
of investments—the building of a home.

Month after month, the architectural pages (a major editorial feature) drive home to the 1,850,000 families Good Housekeeping reaches, the gospel of the value and economy of the architect's services. It urges this to insure the wise expenditure of the building funds, to guard against the costly

mistakes the tyro inevitably makes, and to guarantee a finished house satisfactory in all details. Thus, while stimulating the desire of potential home builders, Good House-keeping shows the safest means of gratifying it—through the use of the architect.

It is a reasonable surmise that many of the small house architect's best prospects will be found among these Good Housekeeping families—not only because of this carefully cultivated predisposition toward the architect, but also because of financial ability to build the homes that will embody all their ideals.

GOOD HOUSEKEEPING

Everywoman's Magazine

tion and started being our own ancestors.

"Well, why not?" agreed Julian Munroe. "Other businesses, when they have been suffering loss and chaos because of ignorance of operating costs, have resolutely organized to establish more accurate and standardized accounting methods. They have made analytical studies of their businesses which have resulted in a measure of stabilization and prosperity. It's the same with us—a matter of perish or progress!"

James Cameron absent-mindedly sketched on the table cloth with a soft pencil as he spoke: "You know, fellows, I believe that the architectural organizations which realize this necessity and help the profession to see economic daylight will be the only ones to grow and flourish."

"I think you're right, Jim. I'm awfully sorry, old man," Jackson Lee apologized regretfully. "The whistle blows; time to take up the pick again; one-thirty, you know. It seems to me we can well devote another session to a discussion of the business side of architecture, so be on hand with padded gloves for the next bout. We'll see how far we get next time before the gong rings."

A Plan to Reorganize the Small House Bureau

(Continued from page 21)

lump-sum prices. This is one of the greatest and too long unrecognized advantages held by the "jerry-builder." A man scrimps through half his life to save \$7,000 to build a home. An architect goes to him and says, "I'll draw you some plans for \$400 of your savings. That

will leave \$6,600 for the house. I can't promise that it won't cost as much as \$7,000 when bids are received. If so, and you find you can't afford to go through with it, you must pay me \$245 anyway." Another man comes along and says, "Here are a number of beautiful homes for exactly \$7,000. The price includes everything. Take your choice." He does.

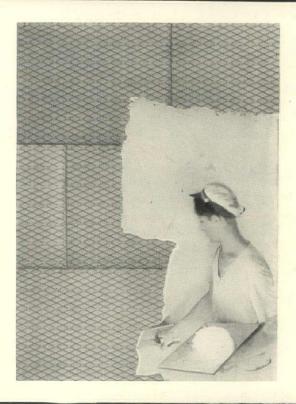
To complete our organization we must provide a fair and simple credit plan, with easy terms and reasonable security. Properly presented, we might obtain the assistance of the Federal Government.

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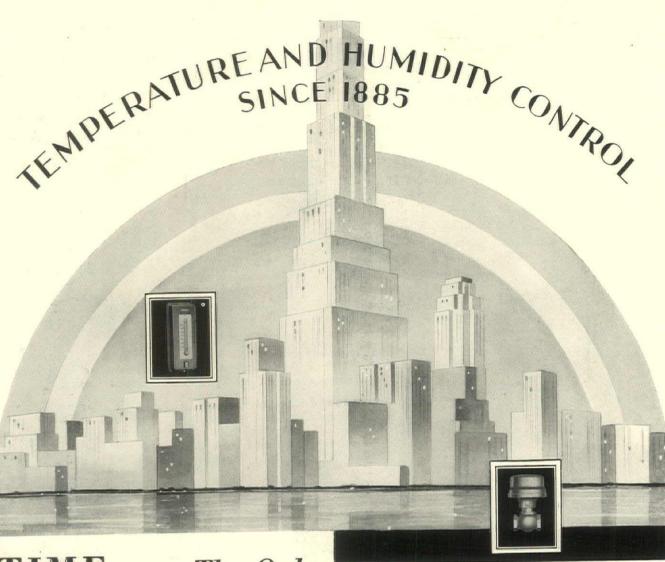
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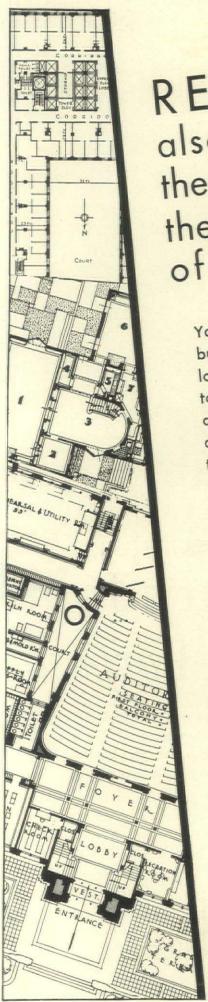
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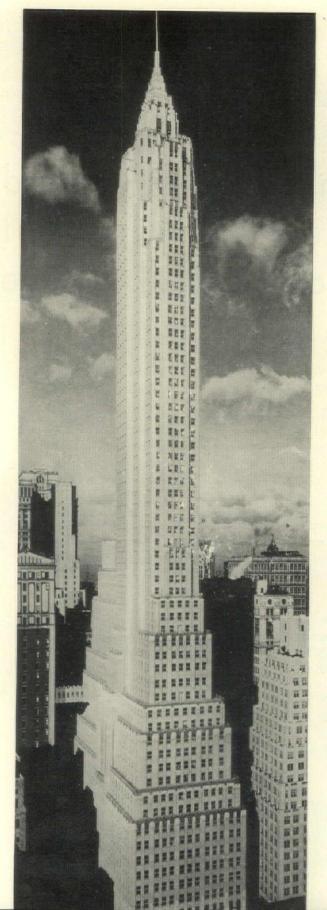
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Tot only in physical dimensions but in all that goes to make such a building admirable, "60 Wall Tower" stands high. Architects, engineers, and builders have given it dignity and soundness above the ordinary in design, construction, and equipment. In beauty, convenience, and outlook its occupants find much that is inspiring. Among its several advantages—superior transportation facilities and fine unobstructed views from successive set-back levels, etc.—the management directs attention to highly improved heating and ventilating for the health and comfort of the occupants. In the forced hotwater system by which the building is heated, it is worthy of mention that NATIONAL Pipe was used. Thus once again, signal recognition is accorded to NATIONAL-

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Printers' Ink mark in limestone, Library of Iowa State College. From "The Design of Lettering"

THE DESIGN OF LETTERING

By Egon Weiss. Published by Pencil Points Press, Inc., New York. Illustrated; 174 pages; size 9 x 12; price \$5.00

A N exact system of letter spacing for inscriptions, etc., is presented in this book. Alphabets of every style, showing the application of this system, are worked out. Also included are the Hebrew and Greek alphabets, Arabic numerals, United States standard letters and symbols for airports and other unusual items, all presented in such form as to be quickly available for reference. A number of plates are reproduced from the "Writing Books" of master letterers of past centuries. Reproductions of various old and new tablets are presented.

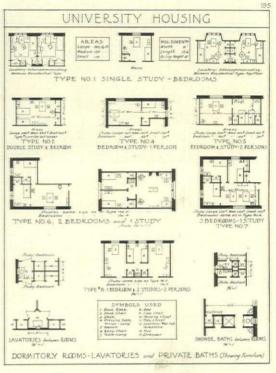
Some of the subjects presented are the fundamentals of lettering, spacing, monograms and initials, considerations in design, lettering in materials, elementary ideas about color, drawing for reproduction, etc.

THE GATES OF LIGHT

By Beatrice Irwin, A.A., E.A.W. Published by David McKay Company, 604 South Washington Square, Philadelphia. Illustrated; 160 pages; size 51/2 x 81/2; price \$3.00

THE book contains a record of the values of color and light in their many applications and forecasts their future possibilities. The author is one of the pioneers in the modern color movement and has illuminated buildings and exhibitions in many parts of the world.

The book covers the nature and basis of art, style and structure in illumination, history of illumination and the value of shadows, colored light, esthetics of color and light in city planning, illumination of parks, gardens and fountains, interior illumination, filter illumination, international progress and future developments.



Typical plate from "Architectural Graphic Standards"

ARCHITECTURAL GRAPHIC STANDARDS

By Charles George Ramsey and Harold Reeve Sleeper. Published by John Wiley & Sons, New York. Illustrated; indexed; 233 pages; size 113/4 x 91/2; price \$6.00

ERE is a book for which every architect and draftsman will find almost daily use. It consists of 213 sheets of fundamental details of all sorts, all well and specially drawn. The object of these plates is to present in condensed, convenient form all necessary information about types of construction, sizes of equipment, rooms, etc., which never seem to be at hand when wanted. For instance there is a sheet on fundamentals of retaining walls, several on waterproofing, fireplaces, cut stone, architectural terra cotta, flashing, etc.; various types of framing, window and door details; sizes of closets, bath room accessories, furniture of various types, kitchen equipment, etc.; space required for various games including ping pong, polo fields, handball courts, trap shooting, etc.; garages and parking, private roads and turns; and a veritable host of similar information for domestic as well as commercial work, giving everything in graphic form from the size of a fireplace flue to the drawer space required for a dress shirt.

Plates are all well drawn and the lettering is sufficiently large so that all dimensions and words are easy to read. The book is indexed so that all information is easy to find. The authors are associated with the architectural office of Frederick L. Ackerman, New York, and spent over two years in the compilation and drawing of material presented. Several colleges have already adopted this book as a standard text. It deserves a place in every architectural office.



House at Esher, Surrey. From "Small Houses and Bungalows"

SMALL HOUSES AND BUNGALOWS

By Frederick Chatterton, F.R.I.B.A. Published by the Architectural Press, 9 Queen Anne's Gate, London, S.W., England. Illustrated; 104 pages; size 121/4 x 93/4; price 7/6 net

A COLLECTION of 104 examples of small houses and bungalows costing from 292 pounds to 2,000 pounds. Illustrations are mostly reproductions of photographs of houses with accompanying floor plans. Some of the illustrations, however, are plans and elevations of proposed houses. The book gives a good idea of the English small house as it is being built today.

A STUDY OF ARCHITECTURAL SCHOOLS

By F. H. Bosworth, Jr., and Roy Childs Jones. Published for the Association of Collegiate Schools of Architecture by Charles Scribner's Sons, New York. 193 pages; size $61/4 \times 91/2$; price \$1.50

THE result of a study made possible by a grant from the Carnegie Corporation, New York. It is based on information and impressions gained by personal visits to 49 schools in the United States and Canada and on such data from other schools as could be collected by correspondence. There is a general discussion of schools themselves and their curricula, an analysis of subjects taught and the manner of teaching, statistics regarding students, information as to requirements of all schools, cost of tuition, etc. Architects or teachers interested in the general subject of architectural education will find this book well worth reading.

THE ADVENTURE OF BUILDING

By P. Graham. Published by the Architectural Press, 9 Queen Anne's Gate, London, S.W., England. Illustrated: 16 pages; size $51/2 \times 81/2$; price 6d

A LITTLE book intended to help the public to understand how necessary are the services of an architect. It explains why going direct to a builder will not result in a cheaper structure, how utilization of the services of an architect result in the lowest price, how the architect can investigate various types of materials and equipment which the builder could never find time for, methods of financing, and similar information. It is illustrated by several designs of English houses.



Sketch made by a student at the University of Illinois. From "Outlines of the History of Architecture"

OUTLINES OF THE HISTORY OF ARCHITECTURE

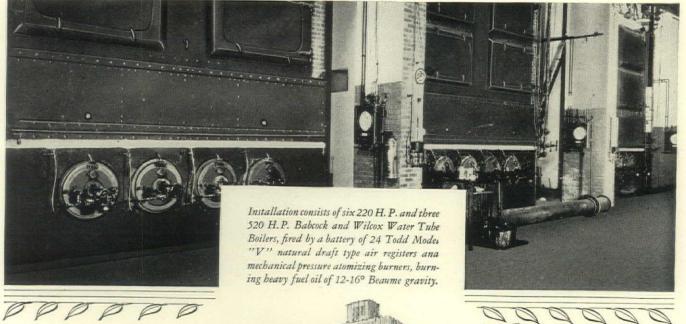
Part I. Ancient Architecture. By Rexford Newcomb, A.I.A. Published by John Wiley & Sons, Inc., New York. Illustrated; 176 pages; size 81/4 x 101/2; price \$2.50

RIGINALLY prepared for use in the author's classes at the University of Illinois and now used in several schools of architecture. Printed on one side of the paper only so that the facing page may be used for notes or sketches. Covers the Egyptian style, the architecture of Western Asia, including the Assyrian-Babylonian style, Persian style, Sassanian style and the Hebrew style; the architecture of Greece and Grecian lands including pre-Hellenic or Aegean architecture, and Hellenic architecture; ancient Italic styles including the Etruscan style and Roman architecture. Concisely written, a great deal of information being given in a few words. The influence of the people, religion, climate, etc., on each style of architecture is discussed.

PLANNING FOR RESIDENTIAL DISTRICTS

Edited by John M. Gries and James Ford. Published by the President's Conference on Home Building and Home Ownership, Commerce Building, Washington, D. C. Illustrated; indexed; 227 pages; size 6 x 9; price \$1.15

THIS book contains the reports of the committees on city planning and zoning, subdivision layout, utilities for houses, and landscape planning and planting, submitted at the recent conference on housing called by President Hoover. It is well written and might well serve as a handbook for members of city planning commissions, municipal engineers and consultants in city planning, engineering and landscape architecture.





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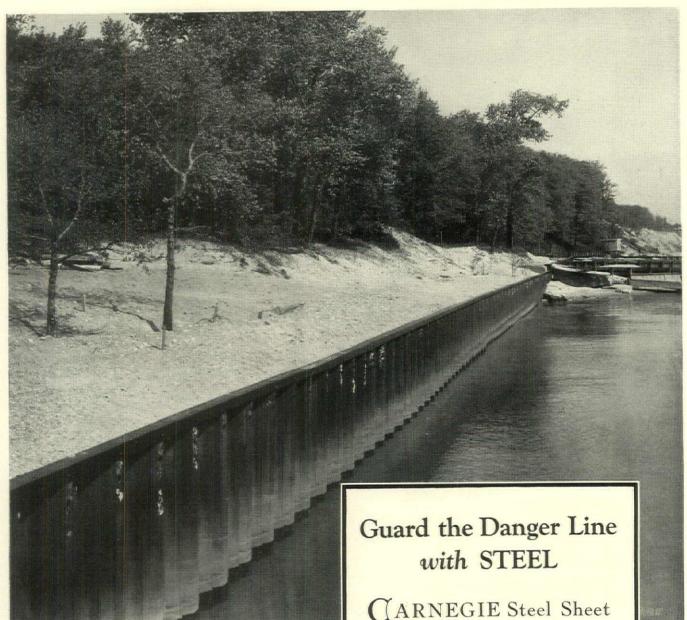
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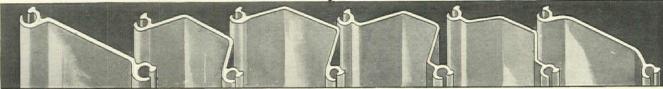




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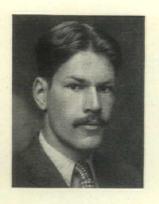
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CARNEGIE STEEL SHEET

Fifty-seventh Street, New York, is the subject of this month's cover by Howard Cook. It was done from the seventeenth floor of the Rolls-Royce Building shortly after noon on a bright day in winter. Mr. Cook has held one man shows at the Weyhe Gallery, New York, and is represented in the



public collections of the Metropolitan Museum of Art, New York Public Library, Art Institute of Chicago, British Museum, Bibliotheque Nationale, Paris, etc. He was awarded, in April, 1932, a fellowship by the Guggenheim Memorial Foundation for creative work in Mexico.

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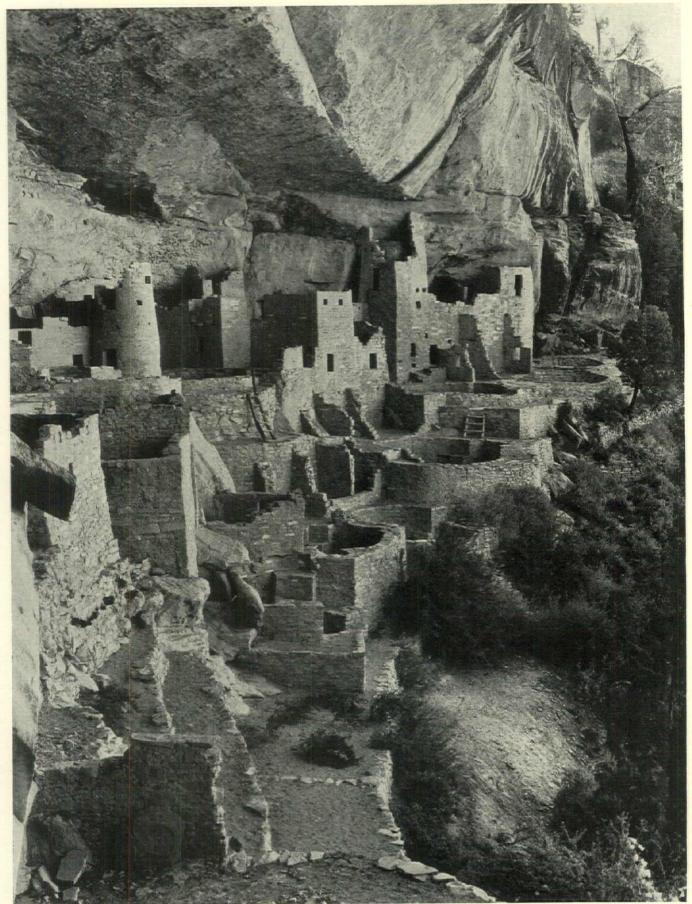
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AUGUST 1932

Cover-A Water Color by Howard Cook

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PHOTOGRAPH BY JOHN KABEL

AN EARLY AMERICAN APARTMENT HOUSE

Flat roofs and apartment houses were old long before Columbus sailed from Lisbon. Ruins of the Cliff Palace built by cliff-dwellers in the Mesa Verde National Park, Colorado

Stock Plans Are Not Necessary

BY BENJAMIN F. BETTS, A.I.A.

ARCHITECTS everywhere condemn the sale and use of stock plans, knowing they are not a substitute for architectural service. Sentiment on the question was made plain at the last convention of the American Institute of Architects in its discussion of continued endorsement of the Architects' Small House Service Bureau and by the national referendum on this question conducted by this magazine. The results were four to one against continued endorsement. The altruistic aims of the Bureau are not questioned. Hence it is reasonable to assume that opinion was registered against its stock plan feature.

An argument advanced to justify this feature of the Bureau is that people who purchase stock plans will not engage an architect because they cannot afford the added expense and that stock plans can be used to attract prospective clients for architects. It is also stated that architects cannot provide service for this kind of work at a price the public can afford. Both are fallacies.

PEOPLE do not ask the real estate agent to forego or cut his fee. As a matter of fact they pay this as part of the cost of the property without complaint. They do not ask the plumber to cut his cost and profit, nor do they ask the general contractor to eliminate his ten per cent. When they purchase a readybuilt house from a speculative builder they never know how many fees, commissions and profits they are paying. Yet they cannot afford the cost of a capable architect!

Possibly the large architectural office cannot profitably handle residential work. But there are numerous architects maintaining small offices in practically every community who can and do handle house work successfully. One such architect states that last year was the worst year he has experienced in seven years. His gross income was \$13,000. His income after deducting his expenses was \$8,000. Few people in the United States have incomes comparable to his.

Stock plans are not necessary to attract the public to architects. What is needed are reliable agencies to give the public unprejudiced information on building matters; research by architects that will show how the cost of house construction can be reduced; and publicity that will convince the public that architectural service is an economy, a necessity and a safeguard that is justified at any cost. Perhaps the Architects' Small House Service Bureau could do that.

Through Europe on a Bicycle . .

40 YEARS AGO

By Elmer Grey, F.A.I.A.

Pasadena, California

HEN I was nineteen I entered a competition offered by an engineering magazine for a water tower and pumping station and won the first prize of \$100. To this I added \$25 and bought my first bicycle. This was in 1890, before the days of automobiles or even of pneumatic tires. Shortly after that my attention was attracted to an advertisement announcing the formation for architects of a bicycle tour through France. I sent in my name and joined the tour. It had been arranged by a well-known architect of Portland, Maine; there were twenty-two in the party and, after a slow voyage, we landed one foggy morning off Boulogne-sur-Mer.

I shall never forget the impression the old red-tiled roofs and gray stone walls of that ancient city made upon my youthful fancy. The picturesque caps of the fisher women, the blue blouses of the men, the curious calls of the street vendors, and the brilliant colors of the fruits, vegetables, and awnings in the public market all combined to create a scene that stirred my imagination to its depths.

When we took to our wheels, the pleasure was even greater. Trains go too fast and in Europe they often do not go to the right places. The bicycle takes one over roads where knights once rode in armor past peasants' cottages, up to the doors of chateaux, and along the paths that Sir Walter Scott has made famous in his romances. It takes one over hills instead of cutting through them, and often up into hill-top towns that are not even seen from the railway.

Of course we had some mishaps. One nervous member of the party mistook the early morning cry of the fishwoman at Boulogne for a call that the hotel was on fire and rushing to the window, peered out frantically expecting to see smoke! The shock was such that he was too ill to proceed further. Another boy had the frame of his bicycle part when he was going down a steep hill and, although not seriously hurt, he also was put out of commission for a while.

The first great architectural monument we saw was

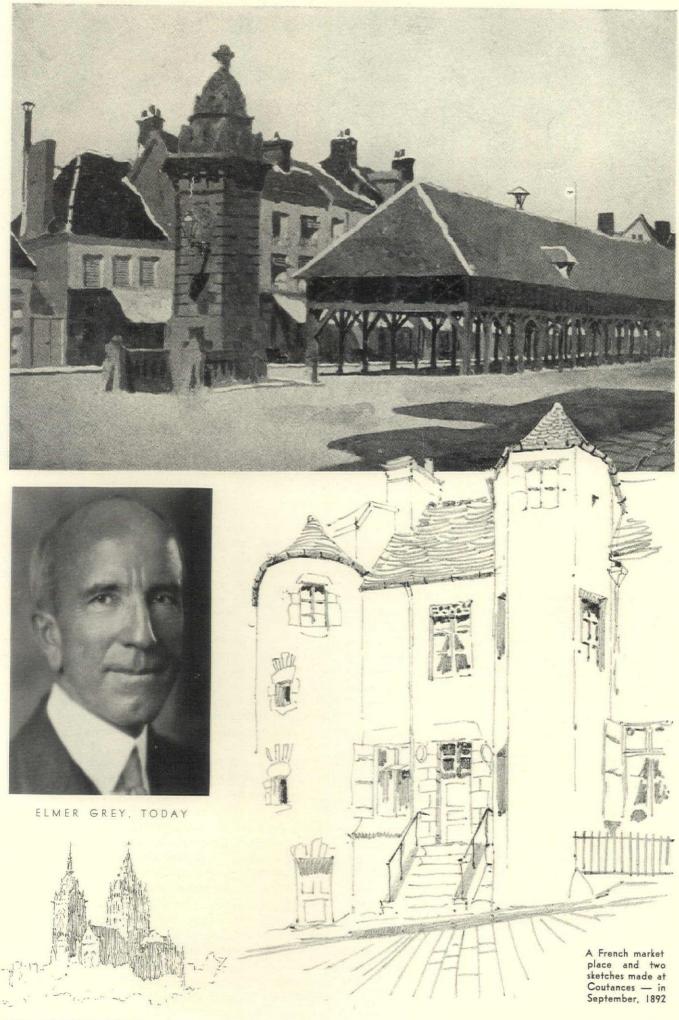


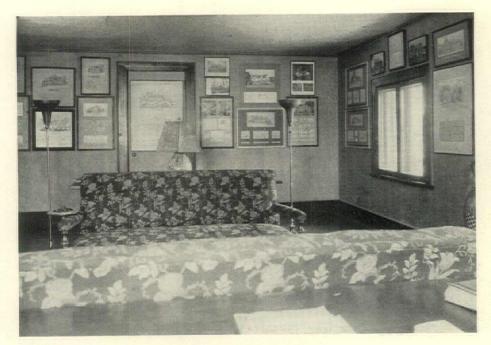
Somewhere in France—and in no hurry to get any place

at Amiens. Its wonderful cathedral made an impression upon me that is indescribable. I have heard it said that there is a language of spirit by means of which thought can be conveyed without the use of words. I think it must have been some such language as that which spoke to me through this majestic pile. It told me of the wonderful skill of its designer, of the fidelity of those who carried out his purpose, of the patience of the carvers in stone who shaped its tracery, and of the vast labor of head and hand and heart that entered into all the other intricate parts of its construction.

In the little town of Pierrefond one day we ran into Ridgeway Knight, an American artist who was then exhibiting in the French Salon and whose work was attracting much attention. On ten minutes acquaintance he invited some of us to dine with him at his home at Poissy-sur-Seine. The house had once been a monastery and was hid behind high, vine-covered walls in the midst of a garden. It had long tile-paved corridors where monks once recited their prayers. The dining room was raised several steps above the other rooms, there were deep casement windows with leaded glass, and the whole place had a beautiful old world atmosphere that enchanted us. At the end of the garden the placid Seine, fringed with reeds and rushes, flowed gently along. We did not wonder that an American artist loved such a retreat

Joe Pennell joined us while we were cycling down the Loire valley. We first passed him on the road, mistaking him for a Frenchman and a very odd looking one at that. Later he was introduced to us (Continued on page 98)





ARCHITECTURAL EXHIBIT



DIRECT MAIL PIECE

7 Jobs and 21 Active Prospects

Material Dealer and Architects Hold Exhibition

BY BENJAMIN F. BETTS, A.I.A.

Business for architects can be stimulated by architectural exhibitions that reach the public. This fact has been demonstrated in Philadelphia and Altoona, Pa. It is today again being proven in New Rochelle, New York. One month after an exhibition was opened in that city and as a direct result of it, four new houses and three alteration jobs had been started by architects, nineteen serious prospects had been sent to various architects, one architect received calls from two former clients who are considering building in the near future, and a large number of "deferred" prospects were placed on file.

The New Rochelle exhibition is more in the nature of a permanent than a temporary exhibit and is staged on the second floor of the main office building of the J. A. Mahlstedt Lumber & Coal Company, building material supply dealers. Arrangements for the exhibit were made with the Westchester County Society of Architects. It is a combination material and architectural exhibit. In the latter, only work of members of the society is shown. The total space devoted to the building material and architectural exhibit is 30'x80', additional space being available when and if the demand for more room arises. In addition to a large room devoted exclusively to architectural drawings and photographs there are also several rooms containing building materials of all kinds.

The idea for the exhibition originated with John E. Mullaney, president of the Mahlstedt Lumber & Coal Company who approached the Westchester County Society of Architects with a statement that he was con-

vinced that a demand for moderate priced new houses existed, and that this work could be directed to architects through the medium of an architectural exhibition. He agreed to provide the display space and promote the exhibition. The society appointed a committee consisting of Laurence Loeb and Edmund MacCollin to cooperate with the Mahlstedt Company.

A room in the material company's main office building was turned over to the committee to be put in suitable condition and authority given to draw on the company's material supplies and mechanics for this purpose. At small cost, the room was made presentable by refinishing the floor, covering the walls with stained plywood, painting the ceiling, and adding indirect lighting fixtures, settees and tables. Members of the society contributed photographs, sketches and plans of small and moderate sized houses suitably mounted for placing on the walls.

At the request of the Mahlstedt Company, the architects gave the company's salesmen sufficient data on the houses displayed so that they can intelligently discuss with prospective builders types of houses, plans, equipment and costs. The salesmen have been enthusiastically "sold" on the idea and make effective use of the exhibition. The company placed a large sign in front of its building, runs special advertisements in the local newspapers, and uses direct mail literature to inform the public of the exhibition. The company has assigned one of its employes to devote his entire time to interviewing prospective home builders and making sure that proper architectural, contracting and mortgage services are maintained when the owner commences building.



ADVERTISED AT ENTRANCE

MATERIAL EXHIBIT

To Architects Within 30 Days

Which Shows the Value of Educating the Public

Prospects who indicate a preference for the type of house exhibited by any one of the architects is referred to that architect. This is believed to be a more direct way to place a prospective builder in touch with an architect than to provide him with a list of architects from which to choose.

As soon as the exhibition opened, it came to the attention of the company that financing new building was a definite obstacle. The president of the company immediately set about remedying this, and has arranged for supplying mortgage money on well-built, sound projects for owner occupancy that are designed and supervised by an architect. An important factor in the granting of loans is that the Mahlstedt Company guarantees the quality of materials and construction, thus making the mortgage an attractive one to conservative loan agencies.

The exhibition performs three important functions; it stimulates prospective builders to action and helps to crystallize their ideas, rounds out the building materials display of the company, and provides contacts for architects with active prospects. From the building material company's point of view, this direct contact with the owner and architect is beneficial and helps to build a lasting relationship.

The Mahlstedt Company has taken a broad view of the idea and promotes it as a public measure conducted in cooperation with the Westchester County Society of Architects as an aid to stimulating local building activity in the belief that everybody who goes ahead and does something also encourages someone else to do something. The company has also taken the stand that it should supply any building information at its command to anyone whether or not a prospect for the sale of building materials.

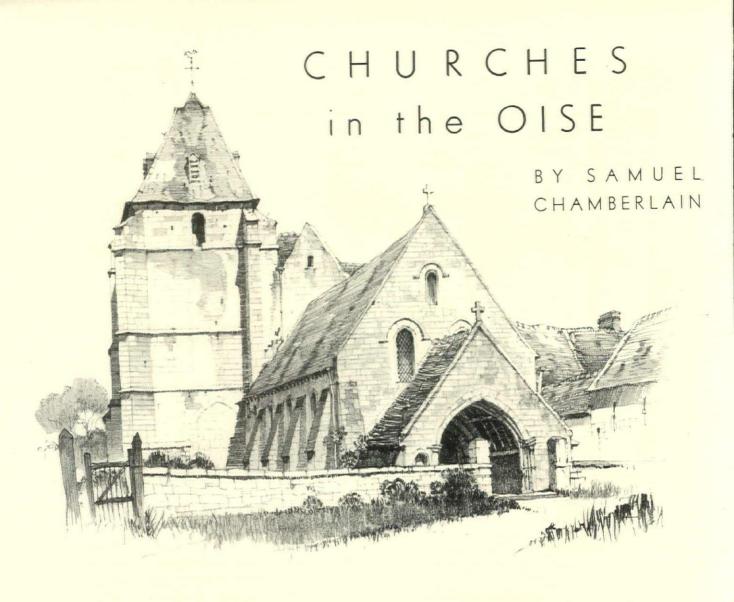
An exhibition of this type will attract people who would hesitate to consult an architect or other building authority for fear of being placed under obligation or being annoyed by salesmen. "Remote" prospects are brought into contact with the building industry under circumstances most likely to stimulate confidence and interest. Most people, even the idle curiosity seekers, have the desire to own their own homes and would build if they had the money and knew the best way to go about it. They can have their questions answered at an exhibition of this kind, ponder over them, and when circumstances permit, approach building in a way that is most likely to secure permanent satisfaction—that is, through the employment of a capable architect who will honestly help them to build, using good materials, and with proper consideration for their individual needs.

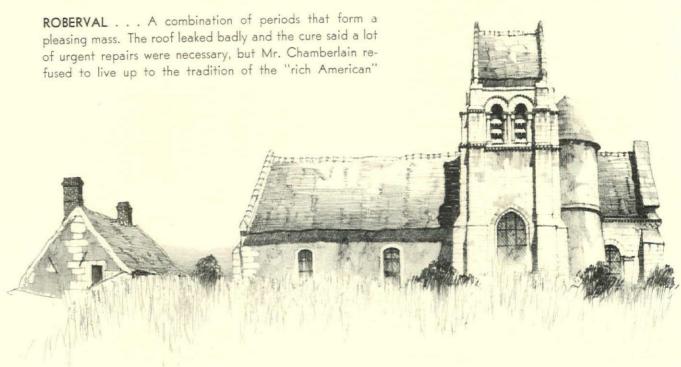
Laymen, as a rule, have little imagination when it comes to building. Let them see sketches, let them see quality construction and understand what it means—as they can in an exhibition of this kind—and the whole problem is reduced to terms which they appreciate.

An exhibition of this kind has the advantage of being available to the public over a long period of time and can be visited when the prospect is seriously considering building. It also has the possibility of being changed from time to time so that people may be induced to come back again and again for new ideas.

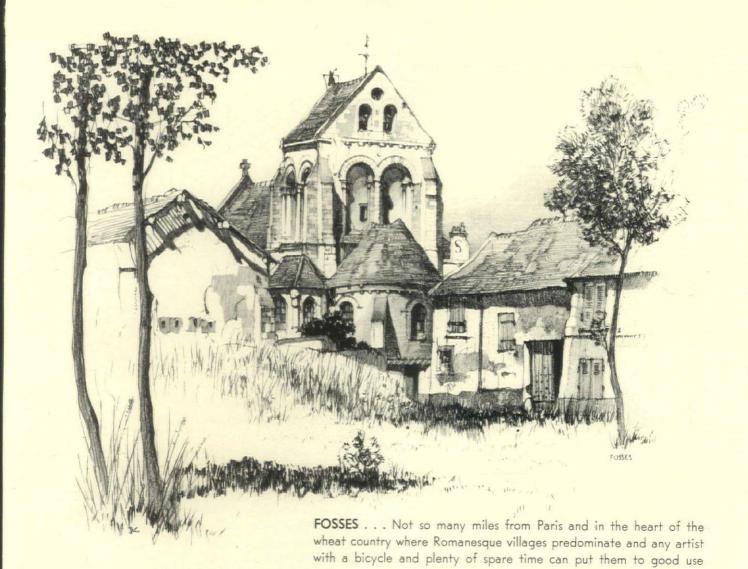
The idea of creating

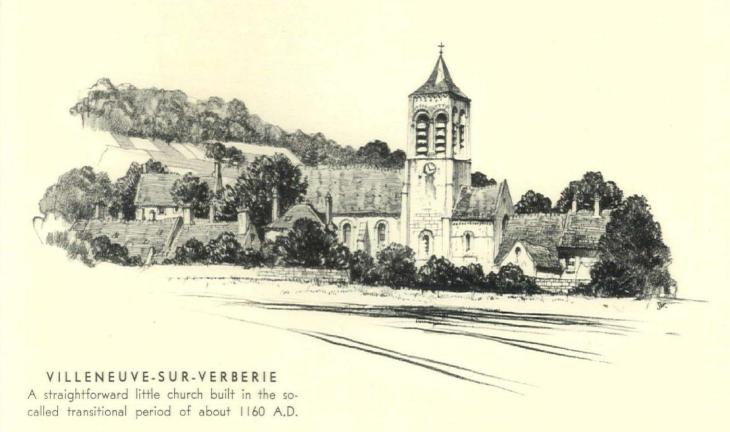
(Continued on page 92)

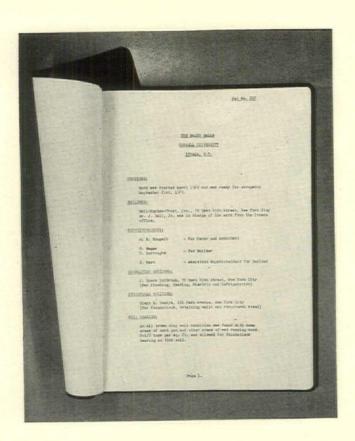




NOEL ST. MARTIN . . . Services are held in this twelfth century church only once a year, for the village is now little more than a handful of peasants in crumbling houses, and wheat fields nestle close to the old church







HE old saying that "a man builds only once" is giving way to the statement, "once a client, always a client." Architects who are aware of this fact are developing office methods and rendering such service as to insure that these subsequent jobs remain with their own offices.

Aside from producing good work the best insurance to bring back subsequent jobs, and incidentally to make them profitable, is to give each client a "Job Report" at completion of his work. Many architects will swallow twice at this thought of extra work, time and expense needed to deliver another document. However, the value of such a record greatly over-balances any expense or effort incident to its preparation, especially if the job is systematically done as part of the office routine.

The purpose of this document is to correct and supplement the specifications, to summarize all facts and details of the job for the future use of the owner or of the architect. Specification changes, substitutions and additions occur during the progress of the work and usually are recorded only in memoranda, letters or shop drawings. The information is often difficult to discover later; many materials used may only be recorded in the contractor's orders or in the subcontractor's records.

Material for the report should answer the following questions: Will it tell the owner how to replace or supplement equipment installed? Will it help the architect in case of future alterations or additions? Will it help the owner to maintain his plant properly? Will it give the architect data useful for other jobs?

To make the compilation easy, mimeograph forms may be set up with the main headings and open lines to be filled in as the information comes to light. The building superintendent on the job can fill out much of the report; the office accountant can do that part dealing with costs; and the man in charge of the job record all de-

Reports That Help to Get the Client's Next Job

BY HAROLD R. SLEEPER of the Architectural Office of Frederick L. Ackerman, New York

cisions made in the office, contracts let, and so forth. When all work is complete the report can be re-typed with copies for the owner, the architect and the contractor. A section of the report should be set aside for the architect only and held in his office. This section would state the basis of the contract with the owner, cost of work to the architect, contracts with engineers, and similar data. The size of the report may vary from one page to thirty pages, depending entirely on the importance, type and size of the job and the probabilities of future work, or its value for future reference.

The "Handbook of Architectural Practice," issued by the American Institute of Architects, contains as Appendix A "Memoranda of Procedure," which is similar to the "Job Report." The main difference between the two is that the "Memoranda of Procedure" was prepared for use during a job as a record of actions taken rather than for its future value. The Job Report may well answer both purposes. Many offices have such clearly defined systems of procedure and of recording that the above mentioned system would be a duplication in many cases. This memoranda is excellent as a guide and should be studied by any office setting up a report form.

THE usual owner is definitely pleased to receive a neatly bound job report at the end of his long struggle. A business-like summary will later remind him of the architect, and the petty annoyances and arguments that are bound to occur even under the most favorable circumstances will fade from his mind much sooner with this useful document at hand.

Selfishly and financially, however, this post-specification is worth while to the architect. The fact that you can instantly answer questions in regard to former jobs cuts down the cost of answers to old clients who request information on repairs, alterations and additions.

Many offices are tided over slim periods by these second or third jobs for old clients. If the architect is prepared, these small jobs will be profitable and if the final taste in the former client's mouth was sweet, you are likely to automatically get the next job. This report may be a further burden for the office, but burdens that mean future work are a good investment.

THE JOB REPORT

gives the client a complete record of the job including identification of all equipment and materials, tells the owner how to replace or supplement present equipment, facilitates proper maintenance and gives data useful to the architect for other jobs

Job Name	
Job Number	
Owner's Name	
Owner's Address	***************************************

DESCRIPTION OF SITE

Note characteristics of the site, location, lot number, block number, area, percentage of lot covered. Sites considered for secondary buildings not built. Physical data pertaining to the site also may be entered here.

DESCRIPTION OF THE BUILDING

Intended use, such as number of students in school, seating of a church, etc. State if any provision was made for expansion or additions to building.

CALENDAR OR DIARY

Give date of important items such as:

- 1. Architect receives job
- 2. Architect's sketches started
- 3. Working drawings started4. Invitations sent to bidders
- 5. Bids received
- 6. General contract let
- 7. Other contracts let
- 8. Work started
- 9. Foundations inspected
- 10. Roofed in
- 11. Work finished
- 12. Final payment made

DIRECTORY OF THOSE CONNECTED WITH THE WORK

(Name, Address and Telephone Number)

Building Committee Orders and certificates sent to Architect's bill sent to Surveyor's name and address Owner's fire insurance agent and his address State whether architect reported costs to insurance agent Architect's representative in charge Architect's superintendent or clerk of the works Names of all engineers, such as structural, heating, plumbing, electric, elevator, etc. Material tested by Soil tests by

Special field inspections by Modelers Bonding Company

General Contractor-List of Bidders General Contractor selected, address

Names and addresses of all of subcontractors. Divisions of cost may be inserted here or the financial set-up may be kept entirely independent. This list should be secured from the general contractor at the close of the work.

Contractors to whom work was awarded directly. Names, address and amounts of contracts if desired.

RECORD OF MATERIALS AND EQUIPMENT

Mechanical equipment, use and care Services, etc. Unit Prices

This is the most important heading in the report and in order to include all items of interest it is advisable to use a order to include all items of interest it is advisable to use a check list to avoid omissions. Here is where all decisions as to type of brick used, make of pumps, characteristics of current, name of medicine cabinets, etc., are set down. Many specifications allow a wide latitude in final selections and unless the superintendent makes note of these as they go into place it will be difficult to later find out what was used. Sizes of all service mains, pressure source, etc., should be noted. Here the owner may be instructed as to the care and maintenance of special floors, woodwork, etc. The check list for this work should be ample and include furnishing fix-

for this work should be ample and include furnishing fixtures, accessories, equipment when they have been under the architect's jurisdiction. Such items as bulletin boards, lettering, lockers, flower boxes, signs, ironing machines, ranges, etc., are likely to be looked up for repairs or additions.

AREA AND CUBAGE

Large buildings should be classified as to use with subtotal of both area and volume, and percentages should be set up of these uses for help on further preliminary plan-ning. On residences the simple statement of area, volume and cubic foot cost will suffice.

GUARANTEES

The various guarantees and certificates, building permits, etc., should be listed giving limiting dates and these papers themselves bound thereinafter.

FINANCIAL

If the financial set-up was not included under contractor and subcontractor, a separate section may be added giving as much detail as thought necessary. The following summary may be sufficient for small work

Building cost—General contractor's cost
Building cost—Work done directly by other contractors
Deduct for items not part of cubage cost
Net building cost for cubage cost
Equipment
Accessories
Furnishings
Landscape and planting
Total cost (except fees)
Cost per sq. ft.
Cost per cu. ft
* * * * * * * * * * * * * * * * * * * *

ARCHITECT'S SECTION

The section of the report for the architect's own use would consist of the following:

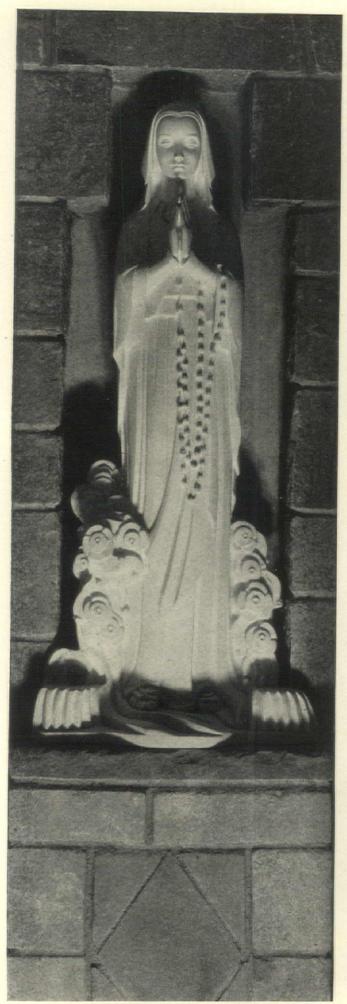
Agreement with owner--date Terms in brief Agreement with engineers Agreement with testing laboratories
Architect's cost, profit, (This should also be set up as a
per cent of the total fee. FROM THE
CHURCH
OF THE
PRECIOUS
BLOOD

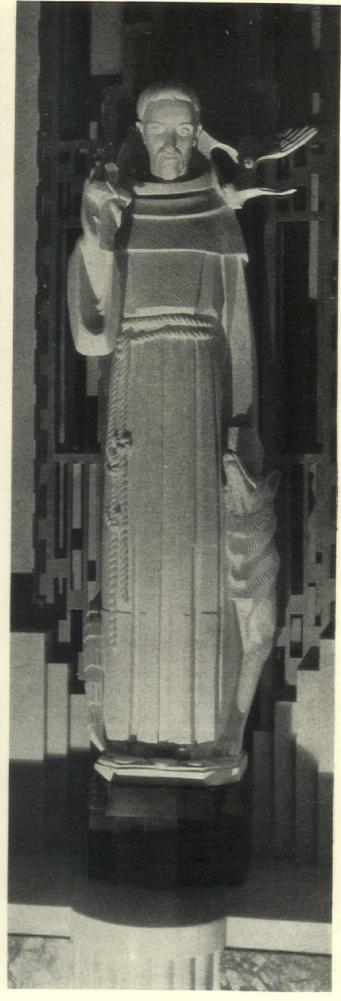
Astoria Long Island

Sculptress
HENRY J. McGILL
Architect

HAZEL CLERE



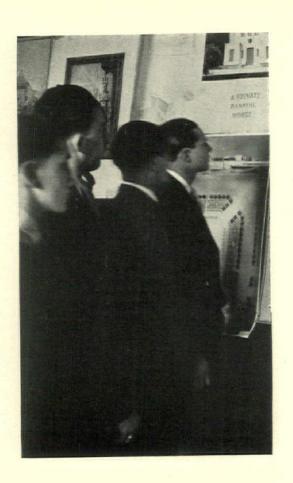




FOR AUGUST 1932

Philadelphia Architects Take Architecture Into The Public Schools

BY VIRGIL L. JOHNSON, A.I.A. Member of the Education Committee, Philadelphia Chapter, A.I.A.



RCHITECTURE has been taken into the public schools by the Committee on Education of the Philadelphia Chapter, A. I. A., through the compilation of a circulating exhibition of student work from the T Square Club Atelier. The drawings are exhibited for two weeks in each of ten selected high schools. When the exhibition opens, an architect gives a talk in the school auditorium on architecture. The purpose of this talk is, in general, to bring the exhibition to the attention of the students, awaken an appreciation of architecture and at the same time stimulate a desire for the beautiful in building. In some cases, entire classes accompanied by an instructor make special visits to the exhibit and keen interest is aroused.

To accurately measure the amount of real educational work of these exhibitions is, of course, problematical, but it is safe to say that this exhibit in the ten schools was brought to the attention of about 30,000 day students and 20,000 evening school students. The important fact is that the subject of architecture is brought to the attention of 50,000 young people at a period in their lives when impressions are most enduring.

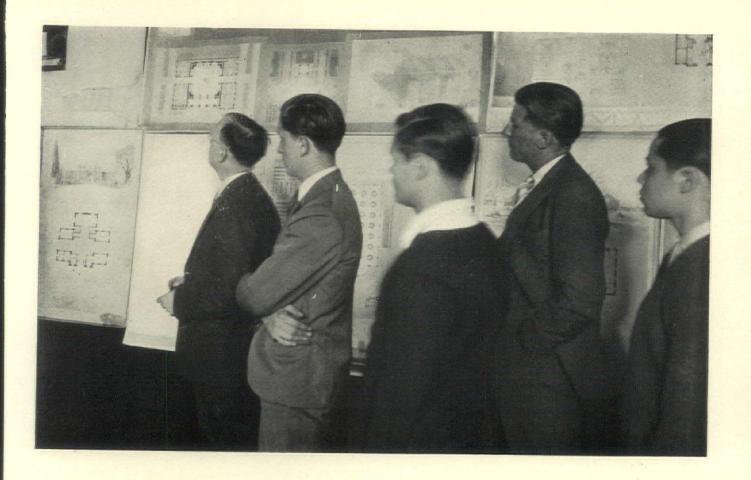
The results of these exhibitions will be better understood by some of the comments from the school principals. One principal writes: "The architectural exhibition from the T Square Club was very helpful to our students who are majoring in architecture, and the student body and faculty in general. It gave them a better conception of the methods pursued in presenting competition drawings." Another principal gives this opinion: "I want to express to you our appreciation of the privilege of exhibiting the drawings made in the T Square Club Competition. The opportunity to have

these drawings available for our students in art is recognized as a very valuable adjunct to the work being done by our teachers of art and I am sure the other schools that will later have the exhibit will share our opinion as to the advantages to be derived from such an exhibition." Another expresses his appreciation as follows: "The exhibit of the T Square Club has been very favorably received and we hope that each year will bring a similar exhibit."

Credit should be given to the architects on the Chapter Committee who have willingly given their time to this work and with pleasure we mention D. Knickerbacker Boyd, John Kell, W. Pope Barney, John F. Harbeson, Clarence C. Zantzinger, George Howe, William F. Hough, Roy F. Larson, Professor Jean Hebrard, and Frank R. Watson.

HILE the Chapter has not committed itself to any definite educational policy the entire work of the committee during the past three years has been of more than usual interest to those who believe that the education of the architect should commence early in life—if possible in the Junior High School. Much thought has been given to the problem of the early education of the public school student in the appreciation of architecture and the allied arts with the thought that courses of studies leading up to a broad knowledge of these arts, whether or not their use would ultimately become a part of the student's preparation for professional training, should be included in the Junior High School curriculum.

The educational plan of the public school system of Philadelphia also includes instruction in the New Pennsylvania Museum of Art during and after school hours.



The chairman of the Chapter committee, Irwin T. Catharine, was instrumental in bringing this about for, as far back as 1921, he prevailed upon the Board of Public Education to adopt a resolution recommending that "practical instruction in art subjects to public school pupils be given in the new museum and that the expenditure incident to the furnishing and maintaining of the museum classroom be borne by the School District of Philadelphia."

And we read in the report of Theodore M. Dillaway, Director of Art Education, another member of the Chapter committee, that: "Seven years after the adoption of this resolution, October, 1928, these classes began actual operations. The public school classes were conveyed to the museum in school busses, where they were conducted through by the Supervisor of art, who explained the architectural features of the building and discussed with the pupils the art and beauty of the various collections. Following these visits the pupils wrote interesting compositions and gave talks in school upon what they had seen at the museum. The Parthenon of history became a real structure and columns representing the different orders were better understood and recognized in local architecture; pictures adorning the school walls took on a new significance and the children expressed a desire to purchase reproductions of some of the paintings in the museum, which indicated the educational value of such pilgrimages. Two years and a half have elapsed since the inauguration of public school classes at the museum and during that interval thousands of children have benefited by this experience."

The appointment in May and February, 1930-31, of regular museum instructors for public school children

made it possible to carry out the project of organizing classes for selected groups of specially talented high school students. Through the courtesy of the museum authorities, an appropriate classroom was set aside for this purpose and suitably furnished and equipped by the Board of Education. Two classes, composed of selected pupils specializing in art in several high schools, were organized last term. These classes have been held on Wednesday afternoons, after school, and Saturday mornings throughout the school year. The Board of Superintendents, recognizing this unusual educational opportunity, has passed a resolution granting extra credit toward graduation to students who complete the course.

THE work of the committee has been further extended during the past year under the chairmanship of Robert R. McGoodwin. In addition to the public high schools, an exhibition was held at the Boys Catholic High School. During this exhibition Frank R. Watson addressed the junior and senior classes, presenting the subject of architecture in his usual interesting and enthusiastic manner.

The work of the Chapter committee has been of interest to those who believe that no man is broadly educated without a knowledge of architecture. Felix du Pont, vice president, E. I. du Pont de Nemours and Company, has said, "I think that all educated men ought to have at least a short course in the history and principles of architecture. Finally, I believe that boys before choosing their college course ought to have constantly held before them by lectures given in their schools, the importance of a broadening education to prepare them to get the best out of life."

FOUNDinthe S. Patent Office

MILTON WRIGHT

Former Associate Editor of "Scientific American"; author of "Inventions and Patents"

PPARENTLY the house that sells most readily is the house that is a little bit different from other houses or has little added features which show that the architect understands what home owners want. Why, then, don't we get together and do something to make dwellings more interesting? Let's put some new and original ideas into the houses we plan. But where are we going to get these new and original

I was waiting for that question, and I have the answer ready. We will get them from the United States Patent Office. For example: Suppose you were going to build a house in Kansas where the wind blows so hard that the people run out of their homes and dive into cyclone cellars. You probably heretofore would have worked along standard, orthodox lines to make that house strong and firm so that it could resist the wind.

Now that I have tipped you off to the Patent Office, however, you can do something different. An inventor has solved your problem for you in a way you might not have thought of in a hundred years. He has invented and patented what he calls a tornado proof house. It is built on a pivot. Jutting out from one end is a large shield. The wind blows against it and swings the house around, heading into the wind like a huge inhabited weather vane, with its nose always pointing into the wind. Of course, some day you might come up the street and find yourself facing the kitchen door instead of the parlor, as you had left it in the morning, but what of that? The house at least would be on the same

This inventor, by the way, lived in Brooklyn. He had read about the strong breezes they have in Kansas. And don't you realize that, if you built a house like that, people would come from miles around to look at it?

Suppose, on the other hand, you were building a big apartment house in New York City. You would be considering, among other things, the question of safety in the event of fire. You might hesitate to mar the front of the building by placing stair or ladder fire escapes there, and yet you would want prospective tenants to know that their safety was taken care of.

An inventor in Trenton, Tennessee, has arranged it nicely for the New Yorkers. His patent papers explain it in these words: "This invention relates to an improved fire escape or safety device, by which a person may safely jump out of the window of a burning building from any height, and land, without injury and without

the least damage, on the ground. It consists of a parachute attached, in suitable manner, to the upper part of the body, in combination with overshoes having elastic bottom pads of suitable thickness to take up the concussion with the ground."

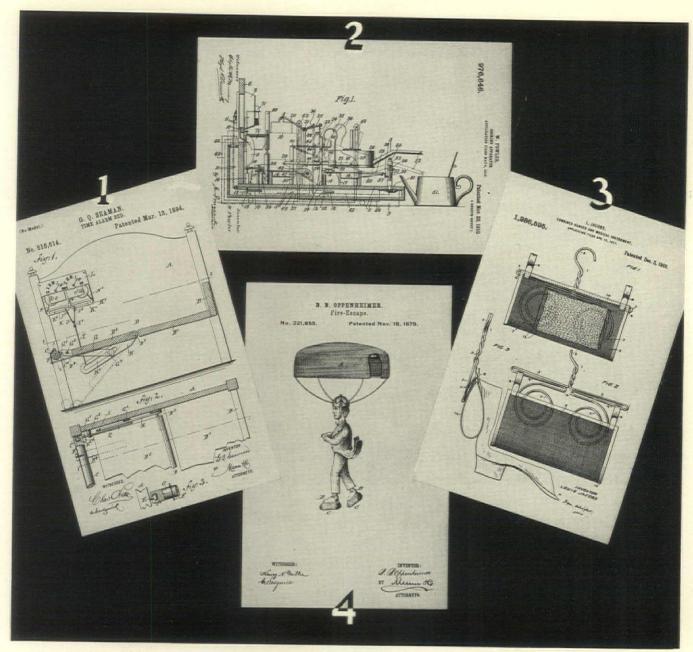
The parachute, he goes on to say, is made of soft or waxed cloth, awning cloth or other suitable material. It is about four or five feet in diameter, stiffened by a suitable frame, and attached by a leather strap or other fastening to the head, neck or arms. You just have it folded up neatly in a little cabinet beside the window. If the building catches on fire you open the cabinet, attach the parachute to your head, put the padded shoes on your feet and step out the window. One ought to be provided for each member of the family and for each guest likely to be in the house. If there is one guest you don't particularly like, merely arrange to have one too few of these patented fire escape parachutes.

Somebody is like to object, "But doesn't it take a considerable time for a parachute to open?" Oh, that's a detail, and, anyway, you can't blame the inventor if the fire doesn't break out in an apartment high enough

up to make parachute jumping safe.

But fires at best are only of rare occurrence. The thing that interests a home owner 365 times a year is his sleeping arrangements. To build into the house an attractive, comfortable bed is no novelty. To build one, however, so that it will get the home owner up in the morning in time to catch the 8:15 train without waking the home owner's wife is something that will appeal to every house buyer. The inventor lives in Brooklyn. In his patent papers he says: "The invention consists of a pivoted bed bottom, connected at its free end by ropes with a drum revolvably journaled in the ends of the bed, the said drum forming a side for the bed. The object of the present invention is to provide a new and improved still alarm bed, which is simple and durable in construction and arranged to cause the occupant to roll out of bed at a predetermined time."

The beauty of this invention, the inventor points out in more or less technical language, lies in the fact that two persons can sleep in the same bed and only one need be awakened. This is accomplished by having the double bed in two sections. Mr. Doe wants to get up at 6:45, but Mrs. Doe wants to sleep until it's time to get the children off to school. Very well, Mr. Doe sleeps on the outside. His side of the bed is hinged to the other and is suspended by ropes passing over a drum fastened



1. A bed that dumps the stubborn sleeper out on the floor

 A simple apparatus to provide hot water for the late riser

3. Handy clothes hanger and musical instrument combined in one

4. A fire escape for quick exit from burning buildings

to the ceiling. At 6:45 the silent alarm clock goes off, a catch holding the drum motionless is released, and the drum starts to revolve as Mr. Doe's weight bears down. The outside edge of the bed settles steadily down until it is resting on the floor. Mr. Doe is rolled out, and, naturally, wakes up. Mrs. Doe sleeps on serenely.

But who's going to get Mr. Doe's breakfast and heat the water for his shave? Why, the inventors are, of course. An English army officer has patented the very thing. He says in his patent:

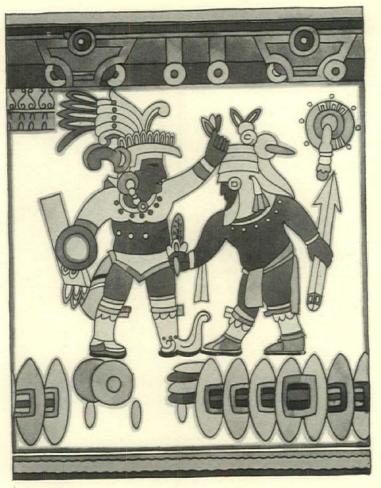
"This invention has reference particularly to apparatus wherein the stoves are lighted automatically at a predetermined time through the medium of an alarm clock, and the kettle is adapted to automatically empty its contents into a receptacle, such as a teapot, upon such contents boiling. A further object is to render it serviceable in connection with shaving purposes as well as heating and cooking purposes."

It's these little things that count. Every man who has

sold houses knows what an advantage it is to be able to open a door in an unexpected spot and say, "Look, madam, we have even put a clothes closet here." I know of one man who sold a house right after he had opened a closet door and pointed to a nice clothes brush with a bright red handle hanging there.

But why not go a step further? Why not put in a musical shoe hanger? It has been patented by a California inventor. The device is made of a piece of strong wire, bent and coiled ingeniously, with a frame or cushion of woven wire mesh rolled or bent about the outside. Clamps are provided to hold the shoes. Also, the inventor points out, "it may be used as a towel, necktie or clothes holder, as a frame to hold fly paper, as a device for hanging up wet laundry out-of-doors or over a steam heater indoors, the spiral coil being passed through the button holes, and for many other uses."

As for its use as a musical instrument, the inventor goes on to say: (Continued on page 92)



From
MEXICO
and
SPAIN..

AZTEC WARRIORS

By Norman H. Kamps Pasadena, California

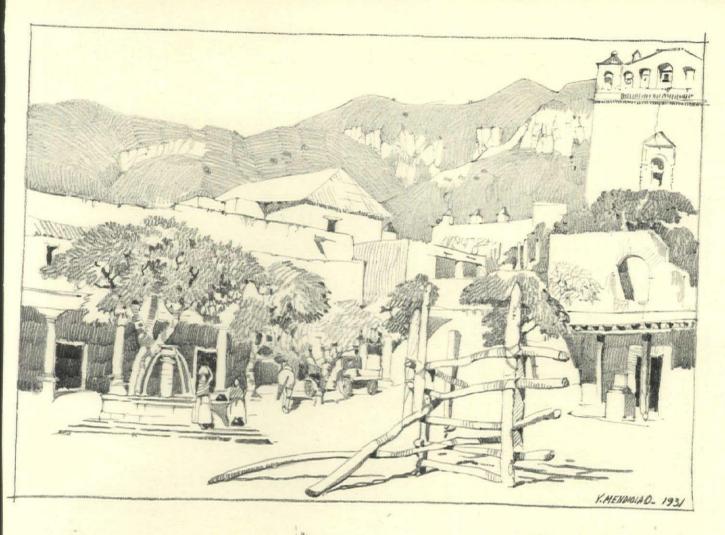
A copy of sculpture on a sacrificial stone in the museum in Mexico City. Mr. Kamps proposes to use drawings like this to illustrate a book on Mexico

SALAMANCA

By George Nelson Hartford, Connecticut

Made on smooth Bristol board with pencils of varying grades of softness. On the facing page is a drawing by Mr. Nelson of a gate of the Jesuit college







MEZTITLAN

By V. Mendiola Mexico City, Mexico

A typical scene in a small mining town in the central plateau of Mexico. Mr. Mendiola is a professor in the faculty of architecture of the University of Mexico City. Many of his sketches were shown in the 1931 exhibition of the Architectural League of New York

Sketches by

NORMAN H. KAMPS

Pasadena, California

GEORGE NELSON

Hartford, Connecticut

and

V. MENDIOLA

Mexico City, Mexico

How to Design Stone Lintels For Safe Economical Construction

BY CHARLES C. HURLBUT

Hurlbut & Van Vleck, Consulting Engineers, New York

S TONE lintels, when they are designed at all, are usually proportioned by some rule of thumb that takes little account of the actual properties of the stone or the conditions of loading. More often the designer is guided solely by his judgment of what "looks right" or by proportions used in other cases.

One of the difficulties encountered in attempting to design stone lintels by scientific methods is the comparative lack of accurate data on which to base unit stresses and the wide variations in such data as are available. Tests of stone in compression give fairly consistent results, but transverse tests, involving tension, seem to be quite erratic, though, when analyzed, they are Jess so than would at first appear. The variations are due in part to the natural differences in composition or texture between different samples of even the same kind of stone and in part to the flaws and seams that frequently occur in large pieces. Flaws which might have little effect on the compressive strength may reduce the tensile strength to almost zero.

Another cause of variation in strength is in the direction of the strata in reference to the stress. Most stones are stronger when tested with the stress perpendicular to the natural strata or bed than when parallel to it. That is to say, a lintel placed as the stone lay in the quarry is stronger than one placed on edge. This applies particularly to stones formed by deposit in water, like limestone, marble and sandstone. Such stones are from twenty-five to one hundred per cent stronger in their natural position than on edge.

The Bureau of Standards at Washington has made tests on several hundred specimens of stone to determine their properties, including the modulus of rupture or fibre stress at the moment of failure, which is the index of transverse strength. For limestone the modulus of rupture ranges from a minimum of 440 lbs. per square inch to a maximum of 2525 lbs. per square inch. This looks like too wide a variation on which to base any computation, but if some classification is made of the quality of stone and tests on the bed and on edge are separated, it becomes possible to select a rational value for a working stress.

If we use the average value of limestone tested on edge with a safety factor of four, the working load is 238 lbs. per sq. in., which is nearly twice the minimum value. This would seem to be a safe and conservative

value and Table I (on the opposite page) is based on it.

This table may be used with confidence for any sound Indiana limestone. If the stone is so cut that the natural bed is horizontal or perpendicular to the direction of stress and the stone is free from seams or flaws, the weights given in Table I may be increased one third.

Selecting the tests made on sound Indiana limestone of a grade suitable for use as lintels, the values of the modulus of rupture were found to be as follows:

(ONBED	ON EDGE
Maximum	1810	1505
Minimum		440
Average		957

Marble appears to be even more erratic than limestone, but this is due to wide variation in its structure. Table II is based on white or gray Vermont marble, using a fibre stress of 358 lbs. per sq. in., which is derived in a manner similar to that given for limestone. i.e. one fourth of the average modulus of rupture of this class of marble tested on edge. As this is only 38% of the minimum for similar marble, it is perfectly safe for sound marble.

So-called fancy marbles with pronounced veining should seldom be used to support weight, though some kinds are even stronger than the white. Verde antique, for instance, has high test values when tested perpendicular to the bed, but low values when tested parallel to it. The highest values of any marbles tested by the Bureau of Standards were given by some black varieties, which seem to be equally strong in both directions.

In using the tables, dimensions not given may be interpolated by proportion. The following example will illustrate their use:

A limestone lintel has a clear span of 8'-0". The thickness of stone, i.e., the reveal, is 8" and the lintel supports a belt course weighing 30 lbs. per lineal foot in addition to four feet of brickwork 12" thick. The total superimposed load is, therefore, 510 lbs. per lineal foot, which, dividing by 8, the thickness, gives 64 lbs. per inch of thickness. From Table I, under the column for a clear span of 8'-0", is found a load of 61 lbs. opposite the depth of 14". As this is 3 lbs. less than the required load, a depth of (Continued on page 109)

TABLE I . . . INDIANA LIMESTONE LINTELS

Safe Superimposed Loads in Pounds for Each Inch of Thickness

Dep				C	lear S	pans	in Fee	ot	1001		140	
	4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'	16'
4"	19	(11)	(6)	(4)	(2)	(1)		111	The same	PLAT TO		
5"	30	18	(11)	(7)	(4)	(3)	(1)	* * *				
6"	45	27	(17)	(12)	(8)	(5)	(3)	(1)	***			
7"	62	38	25	(17)	(12)	(8)	(5)	(3)	(2)	(*(*);*)	(#10#) #)	
8"	82	51	34	(24)	(16)	(11)	(8)		(2)	7:11		
9"	105	66	44	31	(22)	(15)	(11)	(5)	(3)	(1)	250	
10"	131	83	56	39	28	(20)	(15)	(8)	(5)	(3)	(1)	
72 (50)	160	101	69	49	35		(10)	(11)	(7)	(5)	(3)	
12"	191	122	83	59	43	(26)	(19)	(14)	(10)	(7)	(4)	(1)
	263	168	115	83	61	46	(24)	(18)	(13)	(9)	(6)	(2)
	345	222	153	110	81	62	34	(26)	(21)	(15)	(11)	(5)
	439	284	196	142	106	81	47	(37)	(29)	(22)	(17)	(9)
	545	352	245	177	133	102	62 79	49 63	(39)	(30)	(24)	(14) (20)

NOTE: Loads in parentheses are less than a triangular loading of brickwork. See Table IV. Weight of lintel has been deducted

TABLE II . . . MARBLE LINTELS (White or Gray Vermont)

Safe Superimposed Loads for Each Inch in Thickness

Der				(Clear S	Spans	in Fe	et			1150	77
	4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'	16'
4"	29	(19)	(11)	(7)	(5)	(3)	(1)			No.		
5"	48	29	(19)	(13)	(9)	(6)	(3)	(2)	(1)	*** *		(* */*
6"	70	43	29	(20)	(14)	(9)	(6)		(2)	(1)		
7"	97	61	41	28	(20)	(14)	(10)	(7)	(5)	(3)	(1)	
8"	128	80	55	38	(27)	(20)	(14)	(10)	(8)	(5)	(3)	(1)
10"	202	129	88	63	42	34	(25)	(19)	(15)	(10)	(7)	(3)
12"	295	190	131	94	70	53	41	(32)	(26)	(19)	(15)	(8)
14"	402	259	179	129	97	74	57	45	(36)	(27)	(22)	(13)
16"	527	342	237	173	129	99	77	61	49	(38)	(31)	(19)
18"	679	434	303	220	166	128	100	80	65	52	(42)	(28)
20"	831	540	376	275	208	160	126	101	93	66	54	(36)

See Note, Table I. Weight of lintel has been deducted.

TABLE III . . . GRANITE LINTELS

Safe Superimposed Loads for Each Inch in Thickness

Dep				C	lear S	pans	in Fee	et				
100	4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'	16'
4"	33	20	(13)	(8)	(5)	(3)	(2)	(1)			V	
5"	53	33	(22)	(15)	(10)	(7)	(4)	(3)	(1)			
6"	76	48	32	(21)	(15)	(11)	(7)	(5)	(3)	(2)		
7"	108	68	46	32	(23)	(17)	(12)	(9)	(6)	(4)	(2)	
8"	142	90	61	44	(32)	(23)	(17)	(13)	(9)	(6)	(4)	(1)
9"	182	116	79	57	41	(31)	(23)	(17)	(13)	(9)	(7)	(3)
0"	225	144	99	71	53	(39)	(29)	(22)	(17)	(13)	(11)	(5)
11"	275	176	121	87	65	49	(37)	(29)	(23)	(17)		(7
12"	330	213	147	107	80	61	47	(37)	(30)	(23)	(18)	(11)
4"	450	291	202	147	110	84	65	(52)	(42)	(33)	(26)	(16)
6"	589	382	266	194	146	112	87	70	(57)	(45)	(36)	(24)
20"	927	603	420	308	234	181	142	115	95	76	(53)	(43)

NOTE: See Table 1. Weight of lintel has been deducted

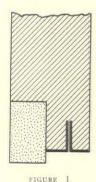


FIG. I: Deflection of stone and lintel should be equal, but they should not be figured as working together

FIG. 2: Where facing is carried on steel, the stone should be jointed to allow for settlement and the steel designed for not more than three-quarters of its safe load. If not jointed, the stone may crack

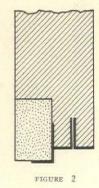


TABLE IV

Clear Spans of Stone Lintels Supporting Their Own Weight Only

Depth	Limestone	Marble*	Granite
31/2"	9'- 4"	11'- 6"	12'- 1"
4"	10'- 0''	12'- 4"	13'- 0"
6"	12'- 4"	15'- 0"	15'-10"
7"	13'- 4"	16'- 4"	17'- 2"
8"	14'- 2"	17'- 6"	18'- 4"
9"	15'- 0"	18'- 7"	19'- 8"
10"	16'- 0"	19'- 8"	20'- 8"
11" .	16'-10''	20'- 7"	21'- 9"
12"	17'- 6''	21'- 6"	22'- 8"
14"	19- 0"	23'- 4"	24'- 8"
16"	20'- 4"	24'-10"	26'- 0"
18"	21'- 6"	26'- 6"	28'- 0"
20''	22' -8"	27'-10"	29'- 6"

*White or gray Vermont marble or equal

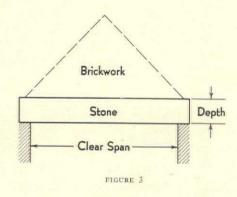


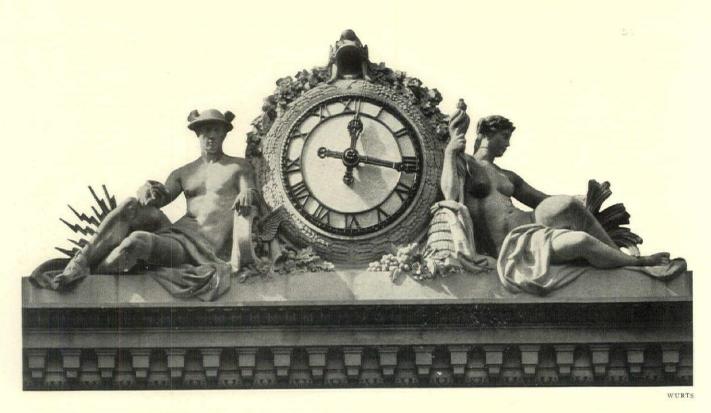
TABLE V

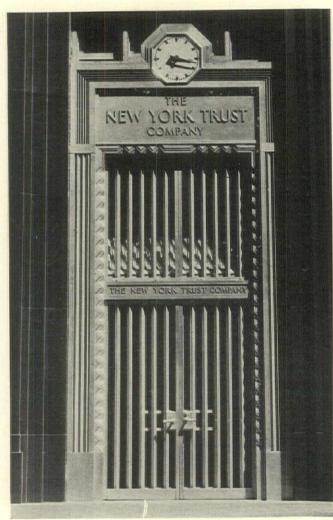
Minimum Depths of Lintels to Support a Triangular Load of Brickwork in Addition to Weight of Lintel

Clear Spans	Limestone	Marble*	Granite
4'-0"	31/2"	3"	23/4"
4'-6"	414"	31/2"	31/4
5'-0"	41/4" 5"	41/4"	3½" 4"
5'-6"	53/4"	43/4"	
6'-0"	61/2"	51/2"	5"
6'-6"	71/2"	61/4"	6"
7'-0"	81/4"	63/4"	61/2"
7'-6"	81/4" 91/4"	71/2"	71/11
8'-0"	10′′	81/1"	7¼" 8"
8'-6"	11"	81/4"	81/11
9'-0"	12"	93/4"	91/4" 11"
10'-0"	14"	111/2"	11"
11'-0"	161/2"		121/2"
- 12'-0''	181/2"	13½" 15"	141/2"

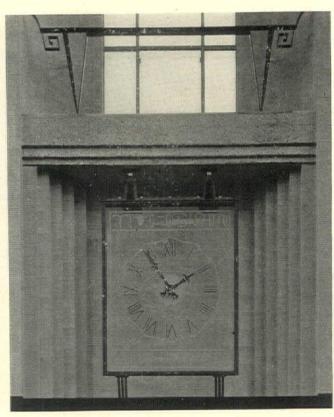
*White or gray Vermont marble or equal Weight of brickwork assumed as 120 lbs. per cu. ft.

SAFE LOADS
FOR VARIOUS
KINDS OF
STONE LINTELS





BROWNING



AT TOP—New York Central Building, New York. Warren and Wetmore, architects. . . AT LEFT—22 East 49th Street Building, New York. Kenneth Franzheim, architect. . . ABOVE—Royal Horticultural Hall, London. Easton and Robertson, architects

Clocks As Part of the Design



WURTS



BROWNING



AT TOP—Former Herald Building, New York. The figures swung sledges to strike hours and quarter hours. Dial at right is wind indicator. McKim, Mead and White, architects

ABOVE—R. C. A. Building, New York. Cross and Cross, architects

AT LEFT—Mercantile Building, New York. Ely Jacques Kahn, architect



How to Make

BY ROGER ALLEN, A.I.A.
Associate Editor, Grand Rapids "Chronicle"

What is news to the newspapers? The right answer may mean page one for important building news—instead of the wastebasket. Mr. Allen tells what Committees on Public Information should know if their "news" is to deserve editorial consideration

HE Pathway to Page One is a one way street where the traffic congestion is terrible. When I temporarily abandoned the classic groves of architecture to devote myself to newspaper editing, it was immediately borne in upon me that a large portion of the adult population of this republic lives but to get something in the newspaper. And now that publicity for architects and for the profession at large is a live subject, with every chapter, state society and local architectural club boasting a Committee on Public Information charged with the duty of bombarding editors with news of moment to the profession, it might be a good idea to consider what an editor thinks about it.

Newspaper space is a valuable commodity. No editor worth his salt wastes a single column inch of it. The matter that goes into type must have certain definite merits or it finds a crowded grave in the wastebasket Papers are sold because they interest the reader. When they stop interesting a sufficient number of readers, someone loses his job. This is as true of architectural or construction news as of any other brand; it must have an interesting angle before it will be considered.

The straight news story about new construction encounters little trouble. A new building is news and is

accorded whatever space it merits. If the architect of the structure will take the pains to write a concise description of the building, with the names of the owners (preferably with all the initials correct) and such other items as he believes the public would care to know, ninety-nine newspapers out of a hundred will accept it, make what changes they require, write a lead paragraph and head for it and print it. If the architect has put his own name in the story they will print that, too.

But between the news story and the promotional publicity, represented by the "Why You Need An Architect" type of material, there is a deep and yawning gulf. Most of the yawning is done by the blase editors who read the latter class of story. If amateur publicists who attempt to get stories of this class into print could realize the competition that they have in this field, it might serve to stimulate them to a little clearer thinking.

Into the editorial offices of every sizeable daily or weekly newspaper in the country pours an unceasing volume of deftly disguised propaganda on behalf of one or another branch of the construction industry and its allied material lines-full page mats bearing well written articles on building greenhouses, painting chinese screens, waterproofing a swimming pool, insulating attics, building brick walks, decorating dining rooms, and a thousand more subjects, all accompanied by illustrations that will reproduce well on news print paper. Millions of dollars annually are spent by the promotion departments of the large material associations on this type of publicity alone. No one paper uses all of it; perhaps not over ten per cent of it ever actually gets to the reader. But the items that do get to the reader are at least well written and carefully illustrated; they are not too obviously propaganda for any one material or method of construction, and they are on some subject that is of interest to a majority of the readers of a building page.

"Very few architects have any real comprehension of what other people like to read," said a managing editor to me. "Architecture has as many interesting phases as



the Front Page

any profession—and more than most. There must be plenty of things about designing that the public would like to know; there must be any number of architects who have vivid and arresting personalities that have the color that makes news value. But very little of that gets into publicity releases. As a matter of fact the first thing to do with the average story sent in by an architect is to cut out the last paragraph and re-write it for a lead. For some reason, most people in your profession with something important to say think that it adds emphasis to leave it to the last part of the story, where as a matter of cold fact we know that unless you hit the reader with your message within the first ten lines you might as well sign off. Look at this story—."

HE story he showed to me was an account of the demolition of an old theatre building to make way for a new office building. The paper had already carried a story of the projected building with a cut of the exterior perspective. The demolition of the old building was now in progress and the architect, with a much better sense of news value than the average, had sent in a little story about the discovery that the piers of the original building had been supported on great slabs of river limestone. At the end of the story, tucked in apologetically, was an account of the visit of an elderly brick mason who informed the foreman of the job that he had worked on the building of the old theatre and that, in accordance with a custom common enough in the wicked 80's, the owner had hidden at the base of one cast iron column a quart bottle of Bourbon whiskey. Search failed to discover the treasure.

"You," said the managing editor accusingly, "are supposed to be funny. How would you head that story?"
"Old Crow Takes Wing After Fifty Years," I

murmured

"You might make a newspaper man yet," admitted the managing editor grudgingly. "Mark that 24 point 2-col. and send it down." So with a re-written head the story, with the name of the architect, made Page One.

For an excellent idea of the proper type of personality story about individual architects, an item in American Architect may be quoted. It recited the fact that Raymond Hood usually has to pay an extra cover charge in restaurants because he draws on the table cloth. He also was said to have incurred the wrath of his wife because when he took his little cousin for a walk they returned with designs for a building sketched all over the little girl's white dress. That kind of story "has everything."

It is painful, however, to reflect that architects cannot always be searching for buried whiskey, and even more painful to remember that they cannot always be sitting in restaurants drawing on the table cloth. The point of the two stories is that they have a universal appeal; everyone would like to find a bottle of 50-year old whiskey, either to have the wicked pleasure of drinking it or the virtuous pleasure of smashing it; everyone at some time or other has drawn pictures on a table cloth. They conform to the editor's trinity; somebody does something; somebody says something; somebody IS something.

But it will be correctly objected that a great deal of what the profession wishes to tell the public is not concerned with personalities. We may wish to point out the errors made by people who embark on a building operation without an architect. Perhaps we have a prepared article on this subject, carefully written by someone who knows how to put his thoughts into concise and appropriate language, and who, out of consideration for the editor who will read it, instructs his stenographer to leave a two or three inch space at the top to allow a head to be written in, and to double-space the whole manuscript to facilitate corrections. The article is sent to the paper, an editor reads it, says gloomily to himself, "No local angle," and throws it on the floor.

The answer to that, of course, is for us to supply the local angle. Instead of reading, (Continued on page 100)

WHAT ARCHITECTS



NATIONAL BANK of Topeka, Kansas, just completed K. M. Vitzthum & Co., Inc., architects; Thomas W. Williamson & Co., associates

THE Detroit Building Congress has inaugurated a modernization campaign. As part of this campaign, a house is being remodeled in Grand Circus Park. A "market place" was established in the house and architects took turns to help answer questions.

Federal Aid for Low Cost Housing

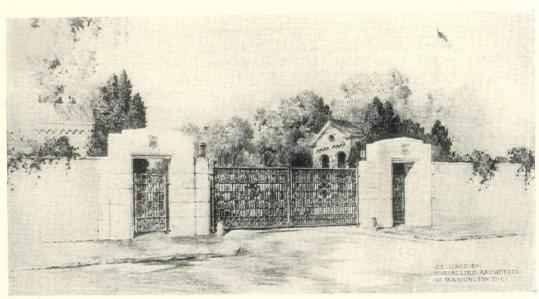
Detroit Has Modernizing Campaign

Wisconsin Architects Organize
State Association

WARDS for the most beautiful steel bridges erected last year have been announced by the American Institute of Steel Construction. They are the Bayonne Bridge between Bayonne, N. J., and Staten Island, N. Y., designed by O. H. Ammann, chief engineer for the Port Authority; the Waldo-Hancock suspension bridge at Bucksport, Me., designed by Robinson & Steinman, consulting engineers; and the West Stewartstown Bridge at West Stewartstown, N. H., designed by the New Hampshire State Highway Department.

THAT Federal aid to large-scale, low cost housing projects be safeguarded by administration through state housing boards, by establishment of minimum standards of construction, and by subordination of land costs to building costs, is urged in a communication sent to President Hoover, to the Reconstruction Finance Corporation and to members of the Senate and House of Representatives by Mrs. Joseph M. Proskauer, chairman of the Housing Section of the Welfare Council, which is composed of about 100 organizations concerned with proper housing for low and moderate income families.

RGANIZATION of the State Association of Wisconsin Architects has been completed. The association includes every registered architect in the state and is modeled on the "California plan." Leo Brielmaier is president.



MEMORIAL GATES, Class of 1907, Naval Academy, Annapolis, Md. Dedicated May 28. Designed by the Allied Architects of Washington. D. C

ARE TALKING ABOUT

California Post Office Criticized

Cleveland Makes Construction Loans to Home Owners

Too Much Government Interference

A LETTER relative to the Oakland Post Office, Oakland, Cal., was recently published in the Oakland Tribune and sent to American Architect by a subscriber. Incidentally, this post office was designed by the Office of the Supervising Architect of the Treasury. The letter reads: "The new post office is a piece of architectural cheese. Just what is expected of a government that still puts scrolly fences around the borders of its postage stamps, and similar scrolls on its currency notes along with a variety of unrelated lettering ranging through what Will Dwiggins likens to living skeletons and superadipose virgins.

"The plaster decoration is just pasted on to a twelfth-carbon copy of a Mediterranean villa, and the beauty of the aluminum mullions only emphasizes the pinchbackness of the whole. It differs only in degree from the gingerbread atrocities of the Hayes-Arthur period. Not a single sign of the fundamental principle that form follows function, and no color.—Jay Chipping."

ONSTRUCTION loans to home builders among its customers will be made by the Union Trust Co., Cleveland, Ohio. The reason for this decision is stated to be due to general improvement in credit conditions since the first of the year and the belief that the time is favorable for at least a moderate recovery in residential construction.



QUAKER PHOTO SERVICE

RADIO BUILDING, Philadelphia, for WCAU. The completed tower will be 100 feet above the eight stories of the building. The frame will be composed of stainless steel and bronze with walls of a specially prepared glass. Main building of dark rose-colored brick and stainless steel. . . . Gabriel Roth, architect

through cooperative efforts, restore a measurable prosperity in this country," recently declared Charles F. Abbott, executive director of the American Institute of Steel Construction. "Under present day conditions industry is unable to initiate practical plans to stabilize conditions. On the other hand, the government refuses to accept any responsibility to promote any plans that might offer relief to business in distress. One of these days the government (Continued on page 106)



SCULPTURED HEADS of the political and religious leaders of Great Britain form a feature of the renovation of the south transept window of Chichester Cathedral, England, built in the 14th century. They represent, reading from left to right, Rev. Bishop Southwell, the Very Rev. A. S. Duncan-Jones, King George V, Bishop Lewes and Dr. Bell

An Idea That Helps One Architect to Get Business Now

Third of a Series of Prize Articles on "Getting Business in Hard Times"

BY A WEST COAST ARCHITECT

HE lawyer sees much of his legitimate business going to trust companies, realtors and abstract companies; the doctor is up against numerous "quacks" and "get-well-quick" schemes, to say nothing of the bottles upon the shelves of the corner drug store. There is an illegitimate competition which plagues the professional artist, the preacher and the engineer. The landscape architect suffers sorely from the activities of the nurseryman; the college professor points with disgust to the inadequacy of correspondence courses and the practice of the dentist is damaged by "painless" profiteers. In short, the problems of other professional men are similar to the problems that daily confront the architect. In slow times these problems are doubly irritating. This fact has undoubtedly helped to crystallize the attitude of our office towards the value of our own fellow professional men.

During the past two years we have completed commissions for a number of professional men and without exception we found that an appeal to their professionalism was a big factor in swinging them into the architect's point of view and ultimately gaining a commission for us. Like many other architectural firms, rather than to wait for our work to "walk" into the office without "selling" assistance we have been forced to go out after it. In thus soliciting work we have contacted storekeepers, teachers, warehousemen and physicians-and all of these have been our clients. Only those who were professional men appreciated the professional point of view of the architect and held an intelligent regard for proper procedure in practice. We think this is because they are versed in professional ethics, for their ethical codes are based upon common sense and closely follow, or parallel, the code of the architect. The alleged "golden rule" of the non-professional man may promote honesty and square dealing among his own kind, but to our sorrow we learned that he certainly lacks experience and understanding in solving a purely professional problem that comes to him.

When this fact dawned upon us we found immediate use for this idea and we have profited. It may have been simply a coincidence that the professional man assumed new importance, in our eyes, during the time of the so-called depression, or it may have been a case of "misery loves company," for all professions have been hard hit, but in any event I want to state that hereafter we will rely greatly upon professionalism.

I will briefly sketch two instances that influenced our decision in the matter. A lawyer was the only professional man upon a building committee which was being interviewed by—it seemed at the time—about thirty thousand other architectural firms! Some of these firms were engaging in a vicious price-cutting war, while others of us were standing by the recognized fee. This lawyer stood firm against arguments of his fellow committeemen that a fee-cutter should be awarded the work. I know now that his attitude was crystallized when I told him, "As a professional man you surely understood this type of competitor." By good luck our firm got the job. This put us in a position where we could find out all the facts and one big fact we learned was the force and value of that particular professional man's professional arguments.

A doctor for whom we had prepared sketches came into the office somewhat disturbed by the advice of well meaning friends who had told him to postpone building. They also had said that "they" could get another architect to do his work for a fee one third of ours. To this he said, "Their fee may be higher than the rest, but so are *mine*. I am going to stick to my own architects, for they stuck by me when I was not at all sure of building." Coming from a professional brother, such a statement warms the architect's heart.

E have also learned that fellow architects can be depended upon. Among architects, there is a generally accepted belief that their competitors are not overly gifted with ethical health. Though personally I have intuitively felt this viewpoint was wrong, the fact remains that from my earliest days in business, fellow architects dinned into my ears their convictions that Architect A and B and C were villains. Now, through circumstances, during the past few years, our firm has been more intimately connected with legitimate competitors than heretofore and in all cases we have found them to be ethical, straightforward and mindful of their responsibilities to the profession. You will certainly agree that it will tend to knit architects closer together when all are courteous and honest in their dealings with each other. It is but another phase of placing confidence in one's own professional contemporaries.

I want to urge all architects to make use of this idea of working with men trained for, and practicing in a profession, architects included. It will certainly pay us.



IN APRIL, L. A. Lamoreux tells how he gets clients to sign on the dotted line, doubles his commission, cuts building costs for clients, handles "chiselers," and gets the client honestly to state his financial limit

IN JUNE, E. B. Van Keuren tells how he signs up prospective clients before other architects even know these clients are thinking of building, how he gets their confidence, and how he operates profitably today

AND IN THIS ISSUE, a west coast architect tells how he meets cut-rate competition, how he gets professional men on his side, how he secures jobs without submitting sketches, and what he has found out about collecting fees

The fellow professional man is a splendid support and one of the best business friends of the architect.

I have learned that our office has, in the past, put altogether too much dependence upon the pulling power or the "sales" ability of the elaborate rendering. With our office force cut down, we have had to "bend over the board" ourselves. At first we attempted to keep up the standard of our renderings which had always been exceptionally well done-and done at considerable expense. But we were rusty; the sketches looked altogether too "sketchy" and rushing at the last did not give the fine results of the old school charette. Once they were too impossible to present and I went to a meeting without them. There I was forced to place reliance solely upon my speaking or personal sales ability, and this, together with freehand penciled thumbnails won the commission. A second job came along and ordinarily we would have made elaborate sketches, but my partner and I had our boards-and ourselves-covered with working drawings for the first commission. I again successfully resorted to verbiage and thumbnails. We then had a conference and the upshot was we resolved to stick to the personal sales talk and eliminate intricate presentation drawings.

In other words, by reason of slow times we were taught that a bad habit and a great overhead, for us, could be dispensed with entirely. And why not? No surgeon will give a free demonstration of a \$1,000 operation; no lawyer will submit a ten page legal docu-

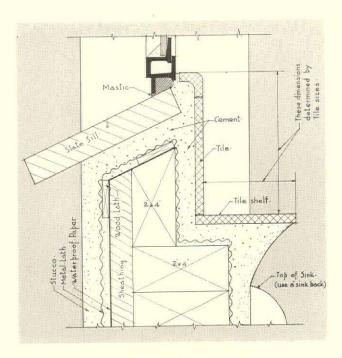
ment "on approval." We are definitely through with costly preliminary sketches and we will not, now or in the future, keep a high-priced renderer on our payroll.

Overhead, however, does not stop with the draftsmen's salaries; it is made up of a multitude of things and not the least of these is rent. We paid too much rent; we had over-expanded—so we moved into smaller quarters in a cheaper location. Incidentally the moving did wonders in cleaning out an accumulation of years. We now thoroughly understand the meaning of the old saw, "It's cheaper to move than to pay high rent," and the other, "Three removes are as good as a fire."

N 1928-29 our firm made several investments. As they were totally unrelated to either architecture or building I suppose we got our just dues when they all proved to be losing ventures. Hereafter *if* we ever do possess surplus money we will invest it in something we understand.

In past years we let small accounts drag along without systematic effort to collect them. One day we were simply amazed when we totaled up tag-end fees and small accounts to the sum of around \$11,000. "Things are brighter, right now, with all this money yet coming to us," we thought—so we tried to collect the \$50 balance, the \$200 sketch fee and the \$85 drafting charge. Did we get them? We did NOT. We will hereafter do a cash business, for we learned that the fee too long delayed in collection is a *lost* fee.

.. Things You Didn't



SHELF FOR KITCHEN WINDOW

By Arthur H. Gilkison, architect New Rochelle, New York

N houses designed with the kitchen located at the front of the house very often bottles, cans and kitchen whatnots are kept on the window stool over the sink in plain view of the street, which gives a service appearance to the front of the house. A window with a low sub-stool or shelf has proven successful in overcoming this.

Jos No	SIZE	OWNER	Type BUILDING Lin Opant Bldg.	LOCATION TO 1024 Means It	DATE-
32001	18×36	Johnson Bto	were coppens. wang.	10.04 topear of	0
32002		103 Paul 194			1 -
32003	100	739 300			100
	100	2/19/10/2006 PM		Alberta (Alberta)	
		F001 C 1900 C		HANDS BEST	

WORKING DRAWINGS FILED BY SIZE

By Charles S. Archer, architect Chicago, Illinois

A SIMPLE and compact system of filing working drawings adds to the efficiency of a drafting room. Practically all jobs can be drawn on sheets: 18x24, 24x30, 30x36, 36x42, 18x30, 24x36, 30x42, 36x48, 18x36, 24x42, 30x48 or 18x42 in size.

Provide paper and tracing cloth in widths of 18", 24", 30" and 36" so that any size sheet can be cut to the exact size without waste of time or material by selecting the proper width.

Since blue printing companies charge by the square foot, these standard dimensions eliminate odd fractions,

keep down the blue print bill, and simplify checking of invoices.

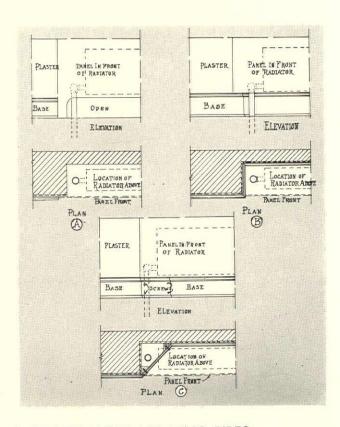
The plan file may consist of five or six drawers, each 23/4" deep by, say, 56"x44", these being divided into spaces to correspond to the twelve standard sizes, the drawings being filed in numerical order, the last job being on top.

The top of the file should be of convenient height for spreading out the drawings for reference. A system of numbering and listing in the plan book may be adopted as follows:

By referring to the plan book, the number and size of any drawing is quickly determined and by opening the drawer at the proper size, the drawing is located im-

mediately, clean and flat, ready for use.

Drawings removed from the file are left on top and replaced at end of day by the office boy or junior draftsman, who is held responsible for the condition of the file.

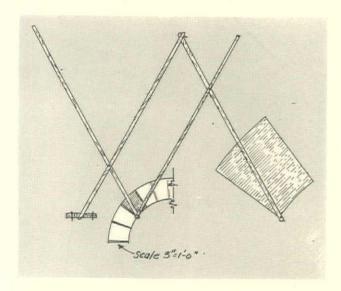


CONCEALING HEATING PIPES AT RADIATOR

By J. R. Smith Lincoln, Nebraska

HEN concealed radiation is installed in the walls, it is usually placed as shown at either (A) or (B), which in either case leaves steam or water pipes at ends of radiators exposed in the recesses. This makes it difficult to clean around them. At (C) is shown a method of placing the base so the pipes are inclosed back of the base, which leaves a clear floor space under the radiator with no sharp or difficult angles to keep clean.

Learn in School...



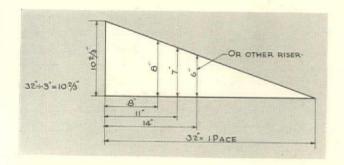
FULL SIZING SCALE DRAWINGS

By R. P. Wallis Cleveland, Ohio

ULL sizing details from scale drawings is frequently complicated by physical difficulties. This is particularly true where long radii are involved.

The problem can be simplified by using a pantagraph set to the correct multiplying factor. For instance if the scale drawing is made 3" equals 1'-0", the multiplying factor is 4.

The accompanying illustration shows this method applied to the full sizing of a special brick for an arch.



FORMULA FOR TREADS AND RISERS

By Morris M. Bruce, A. I. A. San Francisco, California

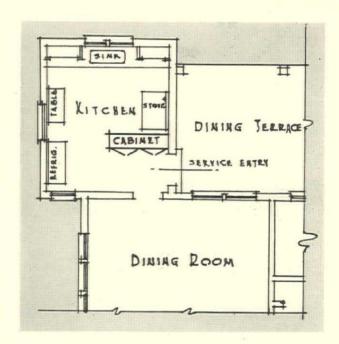
THE basis of the relation of treads and risers and the resulting formula, is the fact that it is harder to climb a hill or stair than to walk on the level. If it is, say, three times as hard to climb vertically a certain distance as it is to walk horizontally an equal distance, then for every change in horizontal distance traveled (width or tread), there should be a corresponding inverse change in the vertical travel (height of riser), equal to one-third the change in horizontal travel; in

other words the steeper the stair the smaller must be the sum of tread and riser. This formula results: three risers plus one tread equals 32".

Taking a few riser heights: 3"x5" equals 15" plus 17" equals 32"; 3x6 equals 18 plus 14 equals 32; 3x7 equals 21 plus 11 equals 32; 3x8 equals 24 plus 8 equals 32. No riser at all, tread equals 32" equals 1 pace; no tread at all, riser equals 10 2/3" or the spacing of rungs of a vertical ladder.

This formula provides different angles of grade for different purposes and different degrees of luxury and monumental effect without interpolating uncontrolled variables as in the rule quoted by Kidder, and gives a uniform degree of comfort in all combinations.

The accompanying graph enables one to read the proper width of tread to fit any riser. To use—lay off height of riser, determined by dividing the story height, and measured from inclined line vertically to base line, and the horizontal distance to the left hand end will be run of tread. The tread width here understood is the horizontal distance from riser to riser, the nosing to be additional. Being an empirical formula it is not necessary to carry it to the ultimate of no riser or no tread, but it seems to be good to the end.



KITCHEN CABINET TO SERVE AS PANTRY

By J. Fred Buenz, architect San Antonio, Texas

OR the small house, a cabinet about seven feet high and long enough to be effective can be introduced into the kitchen to create the convenience of a pantry. At the same time, the cabinet shields the kitchen from view of those in the dining room without requiring additional space. The accompanying sketch shows the idea.

As It Looks

Wanted trated in the architectural magazines?" is a question not infrequently asked. For years many architects have been prone to consider that this type of professional recognition is difficult to attain or else awaited a special invitation to contribute. American Architect is particularly anxious to grant recognition to men of genuine talent. Let them send plans and photographs—even snapshots—of their work, and the editors will give to them as serious consideration as they would to more famous contemporaries. Merit and ideas—not names—are what American Architect is interested in.

Golf Prize
Worth While

A COMMISSION to design a house to be constructed by a development company was the first prize awarded at the 1932 annual golf tournament of the Westchester County Society of Architects. The prize was made available by the Orienta Properties, Inc., Mamaroneck, N. Y., and won by Charles Dewey, architect, of Pleasantville, N. Y. Four contestants who tied for the low net score drew lots for the prize. It is worth while today to be both a good golfer and a lucky drawer when a house commission is to be awarded.

Carelessly
Used Words

N the platform of a London Railway station there is said to be a sign reading, "Passengers are advised to ascertain the destination of trains from this platform as they are liable to run both ways." Not so long ago a sign in the Architectural League of New York called attention to "an exhibition for the benefit of the Architects' Emergency Committee." The admission charged to view the exhibition was really for the benefit of unemployed draftsmen!

"Pa" Martin and ORE than forty years ago
in 1888 to be exact— "Popsy" Laird Clarence A. Martin and Warren P. Laird graduated from the College of Architecture at Cornell University. Both entered the field of education-Martin returning to Cornell and Laird going to the University of Pennsylvania. Both started in "at the bottom" and both ran the gamut from Instructor to Dean of their respective schools. This year both retired after a long period of service in which they have pioneered in the development of architectural education in America. Their influence has been widespread and to these two men the architectural profession owes a debt for the zealous care with which they have maintained their schools abreast of a changing world. Graduates of both Universities who were fortunate enough to come under the sympathetic and understanding influence of "Pa" Martin and "Popsy" Laird will wish them many years of good health and contentment as a small measure of reward for the many years of hard work, the strength

of character and the spirit that enabled them to hold steadfastly to what they believed to be right. Pleasant memories of a job well done can never be taken from these two men no matter what else may happen.

Mass Housing ALK about producing complete houses in the same way that automobiles are pro-

duced generally misses one fact—that houses can not be considered as apart from the site upon which they are to be built. Mass production of housing is far more likely to be universally successful when a system of mass building is evolved in which the units are not only suitable to mass production but are also capable of adaptation to any size and design of house. Such a system would reduce costs to no inconsiderable extent and yet would in no way hamper free architectural expression.

Proof of Worth of Advertising

DOES consistent advertising pay? A most interesting answer to this question is

answer to this question is presented by Roy Dickenson in a recent issue of "Printers' Ink." Of the fourteen leading insurance companies, four have been consistent advertisers during the past ten years; the others have either advertised not at all or intermittently. The four consistent advertisers all showed net gains in 1931, the total gain of the four advertising companies being well over one hundred millions. The ten non-advertising companies showed a total loss in business of nearly twenty million dollars. It does pay to advertise.

Another Racket THE National Association of Master Plumbers has sent a resolution to the American In-

stitute of Architects asking its cooperation in eliminating an evil that is apparently growing out of the practice of architects requiring contractors to make a cash deposit to assure the return of plans used for bidding purposes. The resolution states that some architects in many sections of the country do not return the deposit or only return a part of it.

It is believed that this practice will lead to increased competition through architects inviting a much larger number of contractors to estimate the job than would be the case if no fee were required. The situation demands investigation. The practice must be stamped out if facts support the allegations.

Guild of Small Home Design A N Architectural Guild of Small Home Design has been organized by a group

of architects in Chicago. Membership in the Guild is offered to practicing architects. Documents issued by the Guild for distribution to the public urge the employment of local architects for the design of small houses. The Guild has a library of plans of small houses that

to the Editors .

are sold only to architects for a nominal sum. The architect in turn can sell the plans to home builders, make changes in the plans if necessary and supervise construction in return for a fee which he believes to be within the home builder's ability to pay. The idea is similar to one that has been frequently advocated as a solution of the Architects' Small House Service Bureau. One wonders whether or not architects generally will make use of plans prepared by others. The operation of the Guild will therefore be watched with unusual interest.

Does Russia
Work Fast?

ECTOR O. HAMILTON,
prize winner in the recent
Palace of Soviets competition, needed a 60 in. x 42 in. drawing board while in
Russia. Late one night he explained what he wanted.
The next morning the drawing board was delivered,
having been made during the night. Maybe they have
learned to do things fast in Russia!

Good Return DLENTY of work for architects is to be found in the in Housing field of low cost housing in the larger cities, according to Talbot Wegg, a Chicago architect who is organizing other architects to urge that government funds for unemployment relief be invested in low cost housing rather than in unnecessary and expensive post offices. There is much to be said in favor of Mr. Wegg's contention, for low cost housing can be made to serve as an admirable long term investment. He points to the Michigan Boulevard Apartments, a semi-philanthropic housing development built exclusively for negroes in Chicago. Despite the fact that the negro has suffered more than the white man during the current depression, this building paid its stockholders 51/4 per cent in 1931. Mr. Wegg states: "When the investor is made to realize that money put into housing pays a steady and non-fluctuating return even in times of severe depression, then will our slums be wiped out."

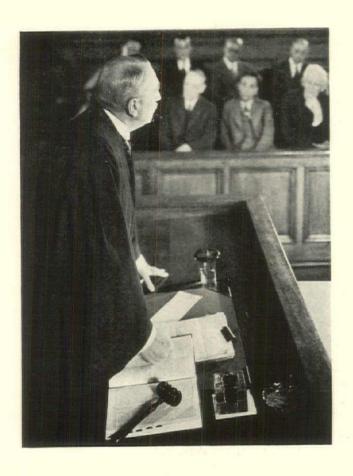
Air Conditioning QUT a few years ago air conditioning was viewed as a Moving Fast practical aid or necessity in certain manufacturing fields. A little later it became an added attraction for theaters and was viewed by the public as something of a curiosity that contributed to comfort. Then air conditioning found its way into a few office buildings and people began to take the idea seriously and talk about what a fine thing it would be if installed in houses. This phase of air conditioning is fast being realized for already several manufacturers have developed equipment for this purpose. A railroad now advertises air conditioning of its trains. Ocean liners are air conditioned. The Union Electric Light & Power Company of St. Louis is carrying on a campaign for extending the use of air conditioning. The general application of this medium of comfort will be upon us almost before we realize it. Buildings without

it will soon be obsolete and this will have an important effect on the building industry.

HE owner of a large house went to a local millwork company and said that he wanted to add an enclosed porch. The shop draftsman made a drawing and estimated the porch would cost twelve hundred dollars. It happened that the president of the millwork company knew the owner. When the matter came to his attention he decided to risk losing the order by advising the owner to go to the architect of the house. This the owner did and the mill furnished the material for a five thousand dollar addition. It paid the company to recommend an architect. The owner obtained a proper addition to his house. The architect probably profited, too.

Displays for PON request, from architects organizing moderniza-Exhibitions tion exhibitions. Housekeeping" will furnish without charge photographs or photostats, plans and data, which can be mounted for display, of altered and reconditioned houses published in that magazine. Much material on this subject has been and will be published in the future and, through this offer, is made available for exhibition display purposes for the asking. This material is especially valuable since it has been carefully selected on the basis of its interest to the public. Requests for this material should be made to Helen Koues, Director, Good Housekeeping Studio of Architecture and Furnishings, 57th Street at Eighth Avenue, New York City.

OO few building material Valuable manufacturers realize the im-Advertisina portance of the right kind of copy when advertising to architects-copy that is concise, informative, authoritative, and well worth filing for future reference. Heretofore no magazine has attempted to do much about it. AMERICAN ARCHITECT, having made an investigation on this subject among architects, has decided that something should be done about it. As a consequence, in this issue will be found an innovation in building product advertising. On page 75 is an article which presents the latest data on the various types of oil burners so that an architect may make the best selection for the particular purpose at hand. Immediately following this article are advertisements of a number of manufacturers of oil burning equipment. These advertisements have been especially prepared and edited. Every effort has been made to substitute facts for generalities, logic for high-sounding claims. It is felt that this section marks a distinct advance in architectural magazine publishing. Similar sections on other topics will be presented in future issues. Other manufacturers who wish to consult with AMERICAN ARCHITECT in order that their products may be advertised as architects would wish to have them advertised are invited to do so.



Can Architect Collect When Bids Are Too High?

BY GEORGE F. KAISER, LL.B.

WHAT HE DID: An architect contracted to furnish sketches, working drawings, specifications and detailed drawings for the construction of a hotel building. The client stipulated that the building was not to cost more than \$340,000, explaining that this hotel could not be run profitably if its cost exceeded that and consequently if the cost could not be kept below \$340,000 the hotel would not be built. The architect prepared plans and specifications and delivered them to the client. After bids were received the client learned that the hotel as planned could not be erected for less than \$500,000 and accordingly abandoned the project. The architect, however, demanded payment for the services he had rendered and when the client refused to pay, brought suit.

WHY HE DID IT: The architect claimed his fee should be paid even if the client saw fit not to go ahead with the hotel, as an architect has no interest in the financial responsibility of his client.

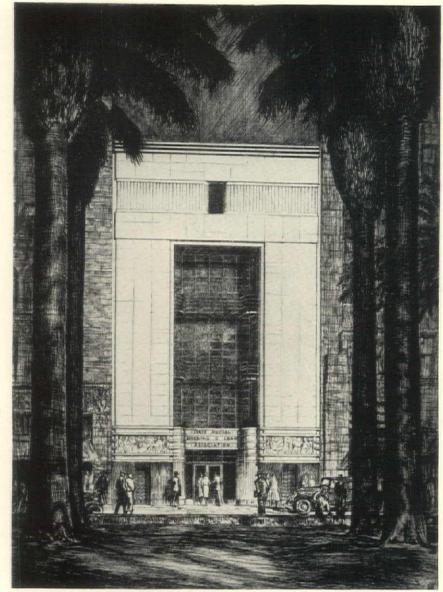
WHY HE SHOULDN'T HAVE DONE IT: The architect was in error, as the court pointed out when the case was tried, and his claim for fees was disallowed when the client showed the architect had been told that the job would not proceed if the cost limit was exceeded. The court said, "Where an owner and an architect have agreed on a set figure made known to the architect, the owner will not be compelled to pay for an architect's services which he cannot avail himself of, particularly where the fault is purely and solely the architect's."

WORK NOT FINISHED BY DATE AGREED

WHAT HE DID: It was specifically provided in a written contract that unless the architect should certify in writing to the contractor that additional time was to be allowed for completion, no such allowance should be made. Nevertheless the contractor, in presenting a claim for additional time because of a delay which he contended occurred through the fault of others, did not insist upon certification in writing by the architect of the allowance of extra time. As a result, when he demanded the balance of the contract price, the owner refused to pay. The contractor thereupon brought suit for the balance he claimed to be due to him under the contract.

WHY HE DID IT: As the architect, when the matter of the delay was taken up with him, had assured the contractor that he could have a reasonable additional time for completion, the contractor contended that he was entitled to the balance due him despite the delay.

WHY HE SHOULDN'T HAVE DONE IT: The court, however, disagreed with the contractor and instead of awarding him judgment for the amount demanded, allowed the owner for the per diem penalty for the delay, provided for in the contract, saying that under such a contract provision as the one sued under, an architect has no authority to verbally extend the time for the completion of the building as an architect can only extend such time for the completion in the manner provided for in the contract. A verbal extension is of no effect when the contract specifically provides that any extension of time given by the architect must be in writing.



Preliminary study of State Mutual Building & Loan Association Building, Los Angeles, Cal. Etching by Erle Webster

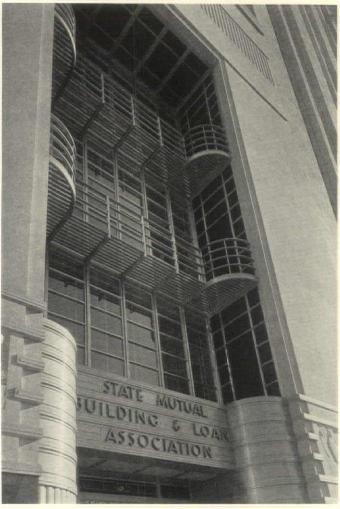
PLATE SECTION

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EXTERIOR MATERIALS

Base, polished black granite. Walls faced with buff Indiana limestone jointed to express its function as a veneer. Metal work, aluminum, satin finish; depressions of cast grilles and sides of letters, oxidized.

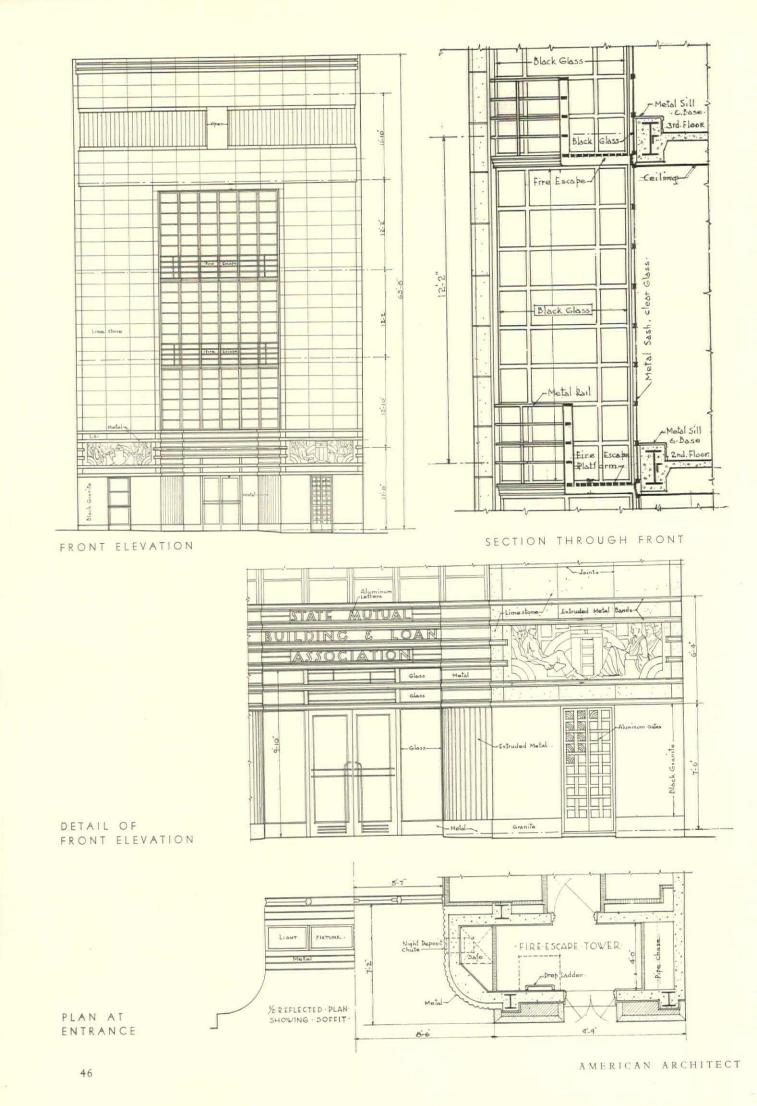
Sculptured panels carved in place by S. Cartaino Scarpitto, sculptor.

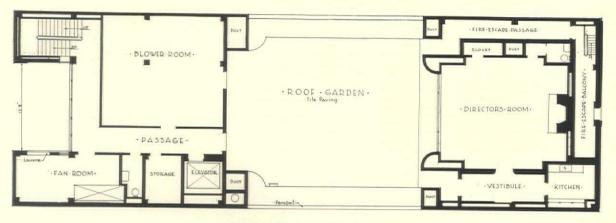
Fire escape was made part of the design by providing ornamental balconies communicating with a fire tower and stairway behind the masonry pylon on the right, exit being provided through a doorway at street level, which also serves as an employes' entrance.

Windows are stock aluminum sash sections assembled to special detail so that horizontal meeting rails are no wider than ordinary muntins. Vertical mullions have steel stiffeners covered with extruded aluminum moldings which miter with the mullions covering the steel cantilevers supporting the balconies. Balcony floors of duralumin. Polished black glass in soffit and reveals of openings.

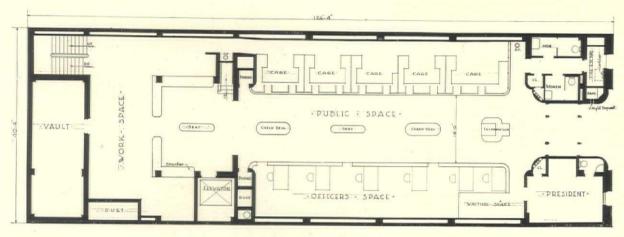
STATE MUTUAL BUILDING & LOAN ASSOCIATION BUILDING, LOS ANGELES, CALIFORNIA

WILLIAM RICHARDS, ARCHITECT PHOTOGRAPHS BY MOTT STUDIOS

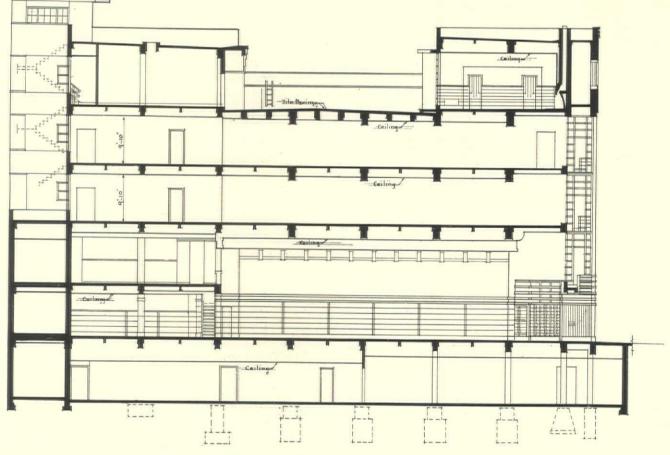




FOURTH FLOOR PLAN



FIRST FLOOR PLAN



LONGITUDINAL SECTION

STATE MUTUAL BUILDING & LOAN ASSOCIATION BUILDING, LOS ANGELES, CAL. WILLIAM RICHARDS, ARCHITECT

BANKING ROOM

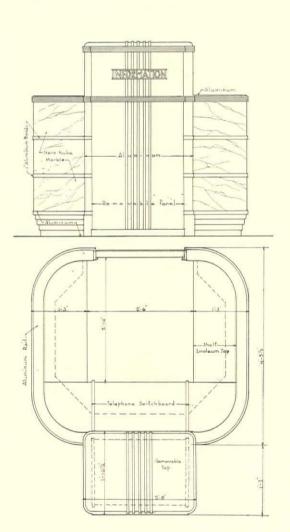
The aluminum of the exterior is carried through the entrance vestibule with concealed radiators in the circular motifs which form alcoves in the rooms at either side of the vestibule. The ceiling of the vestibule is glass; light is admitted to the adjoining rooms through the ceilings of the alcoves.

The telephone switchboard, covered by a removable aluminum housing, is incorporated in the information booth.

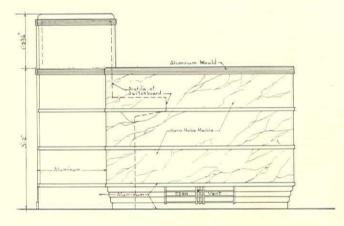
Wainscot, American black walnut veneer finished with clear lacquer; bands at cap, painted. Walls of acoustic plaster tinted beige. Fluted band at break in ceiling, acoustic plaster; molded members in the ceiling and wall frieze cast in hard plaster. Decoration painted in special water color to maintain acoustic qualities of the plaster.

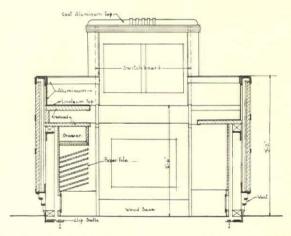
Floor, sheet rubber. Marble of counters and check desks, dark brown Nero Nube and light brown French Napoleon.

Conditioned air is supplied at the grilles in the frieze and exhaust is through the grilles in the metal base of the counter.



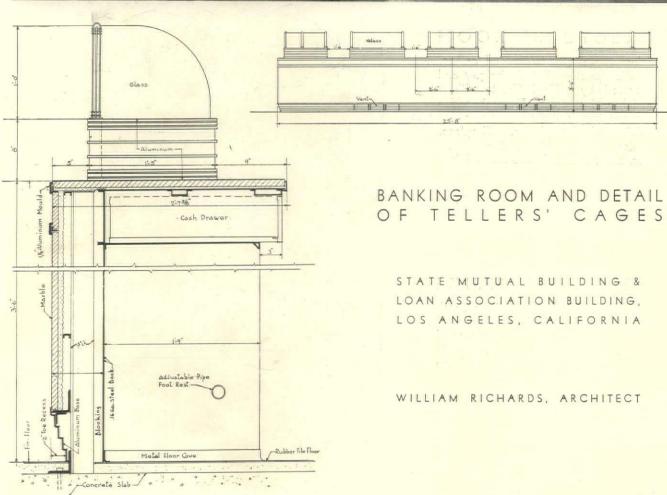


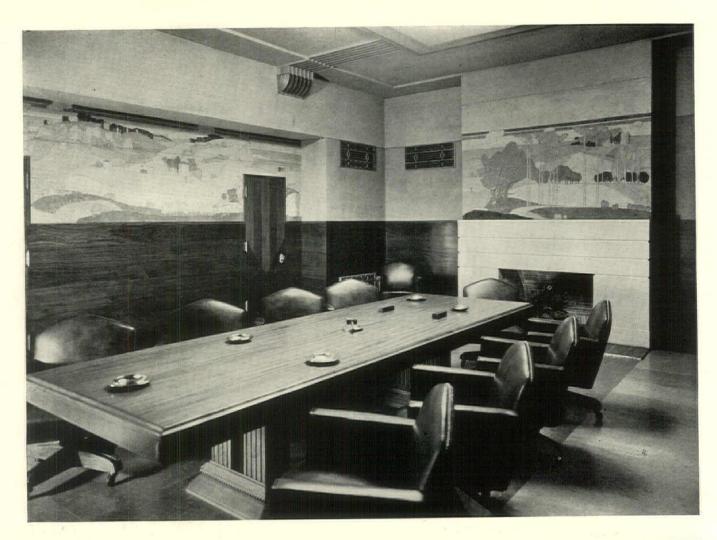




ELEVATIONS, PLAN AND SECTION OF INFORMATION BOOTH





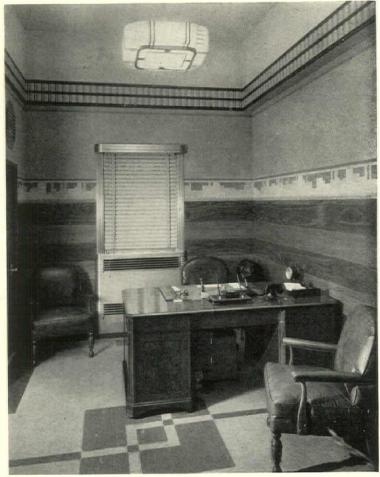


DIRECTORS' ROOM

Wainscot, walnut. Walls and ceiling, acoustic plaster tinted beige and decorated by Millard Sheets with a special water color pigment which does not impair the sound absorptive qualities of the plaster. Fireplace, limestone with a quarry tile hearth. Floor, sheet rubber in browns and tans

PRESIDENT'S OFFICE

Located on main floor. Wainscot, walnut veneer, the grain in the horizontal bands being alternately quarter sawn and slash grain. Walls and ceiling, acoustic plaster. Floor, rubber, brown and tan

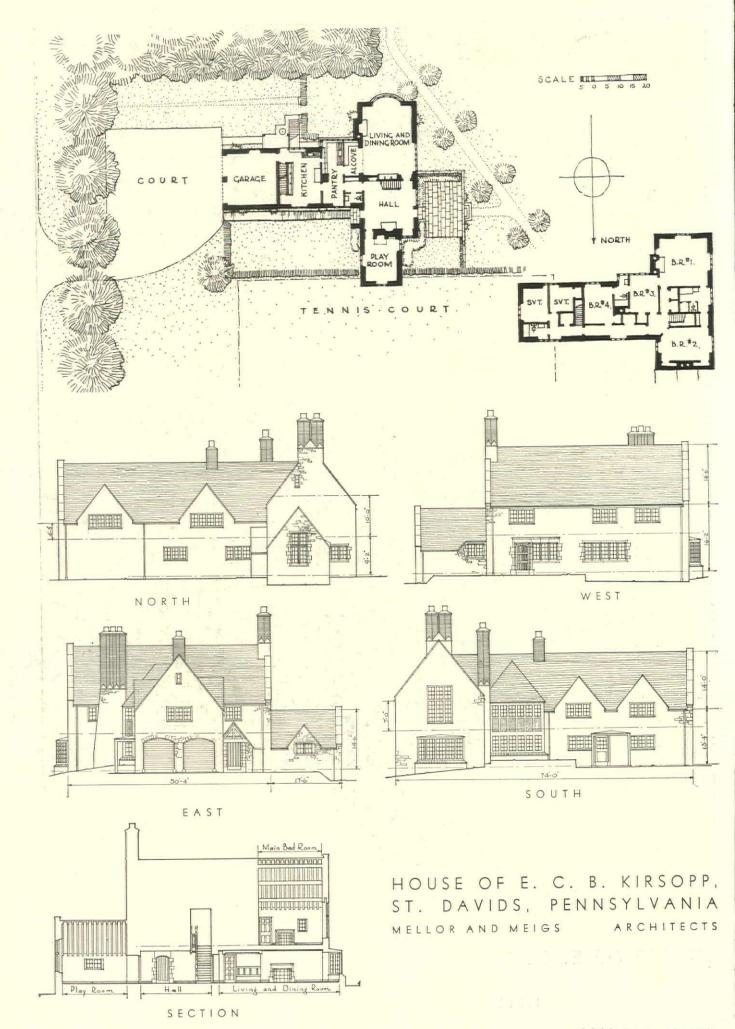


STATE BUILDING & LOAN ASSOCIATION BUILDING: WILLIAM RICHARDS, ARCHITECT



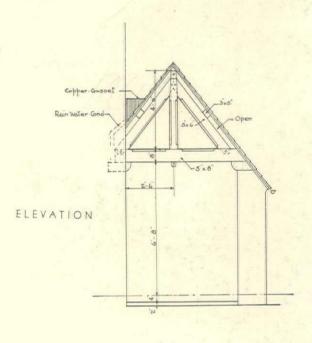
HOUSE OF E. C. B. KIRSOPP, ST. DAVIDS, PENNSYLVANIA

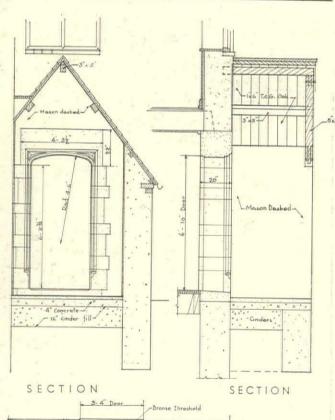
MELLOR AND MEIGS, ARCHITECTS





Door 12/2 JAMB -Wash-





PLAN

EXTERIOR MATERIALS:

EXTERIOR MATERIALS: Walls, 18", local stone, pointed rough trowel cut finish, 2" furring, 1" blanket type insulation. Windows, limestone frames; oak bucks, natural oil finish. Cornice, brick corbelled with slate projection over upper member. Chimneys, bases of local stone, upper part of common hard red brick. Roof, red cedar shingles, 24" long, random widths, laid 51/2" to weather. Gable copings, 3" flagstones. Metal casements



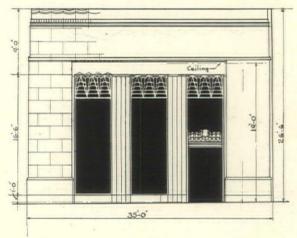
WALLACE

HALL FIREPLACE

HOUSE OF E. C. B. KIRSOPP, ST. DAVIDS, PENNSYLVANIA, MELLOR AND MEIGS, ARCHITECTS

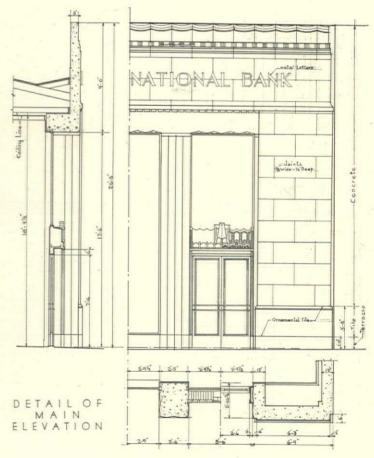


MOTT



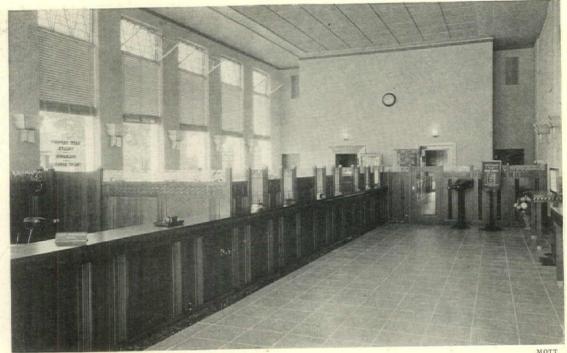
ELEVATION

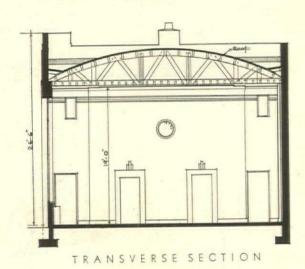
Exterior materials: Sub-base, terrazzo; base, decorative tile; walls, concrete; roof construction, wood trusses, composition roof. Steel sash. Metal work, white metal. Cube, 80,500 cu. ft. Cost, 30 cents a cu. ft.



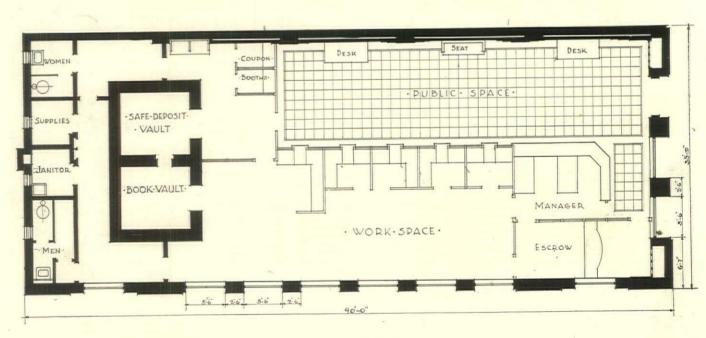
SECURITY FIRST NATIONAL BANK, SANTA MONICA, CALIFORNIA

MORGAN, WALLS & CLEMENTS, ARCHITECTS





Floors: Banking room, cement marked into 16" squares; work space and book vault, linoleum; safe deposit lobby and vault, manager's office and escrow, rubber tile. Walls, plaster. Ceiling, pre-cast acoustical plaster, stippled paint finish. Fixtures, walnut

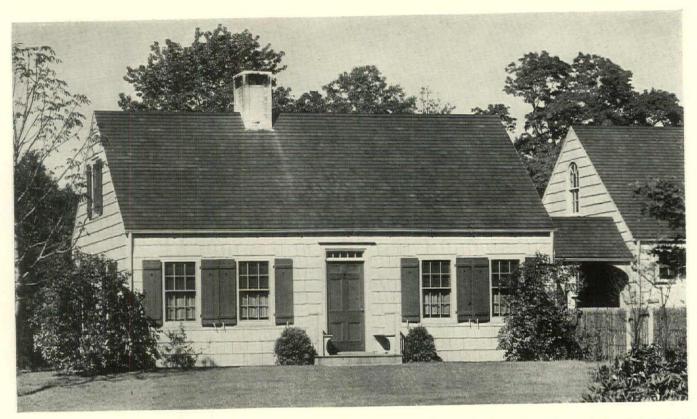


SECURITY FIRST NATIONAL BANK, SANTA MONICA, CALIFORNIA, MORGAN, WALLS & CLEMENTS, ARCHITECTS

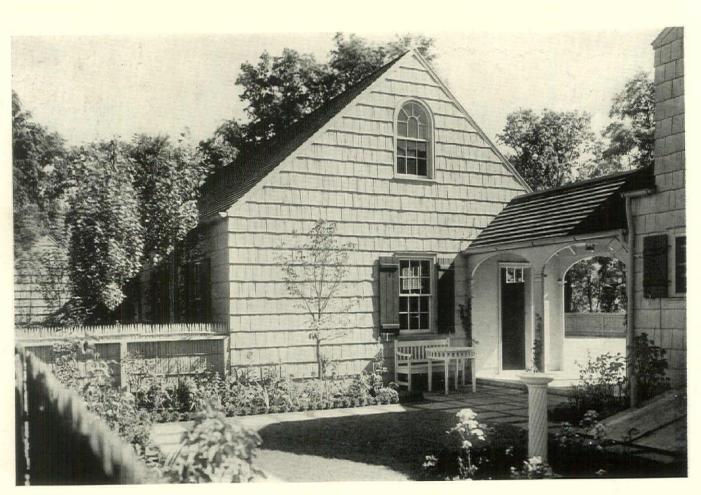


ENTRANCE TO GARDENER'S COTTAGE, ESTATE OF MRS. E. Y. BRENCHLEY, DARIEN, CONN.

CHARLES S. KEEFE, ARCHITECT
PHOTOGRAPHS BY LOUIS H. DREYER



GARDENER'S COTTAGE CONNECTED WITH GARAGE AT RIGHT



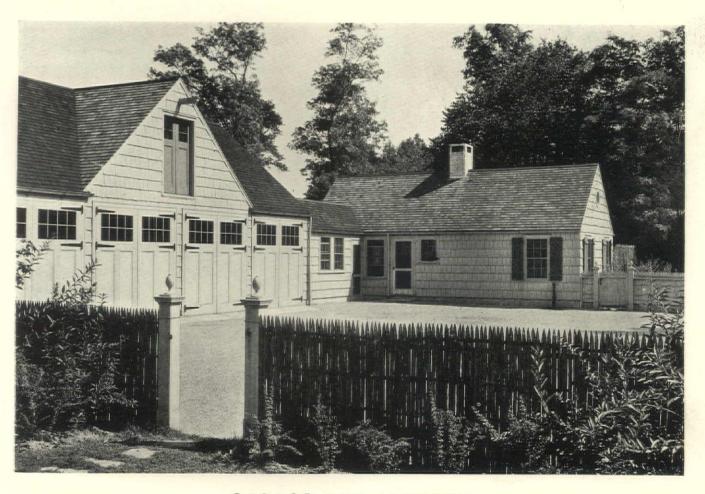
GARDENER'S COTTAGE AND PORCH

SERVICE GROUP, ESTATE OF MRS. E. Y. BRENCHLEY: CHARLES S. KEEFE, ARCHITECT

58

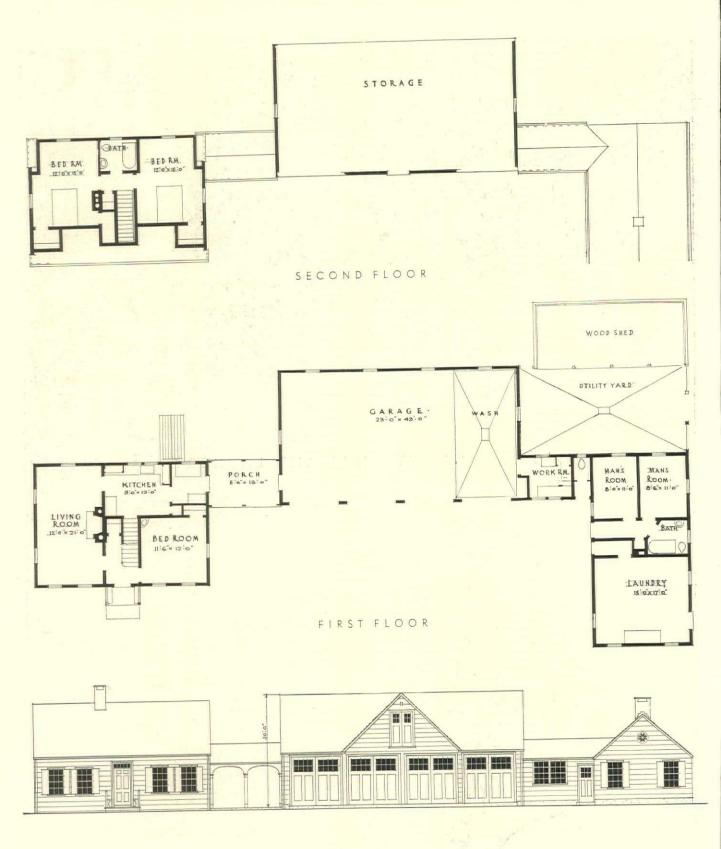


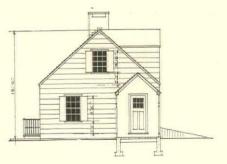
DRIVEWAY ENTRANCE AND LAUNDRY



GARAGE AND LAUNDRY

SERVICE GROUP, ESTATE OF MRS. E. Y. BRENCHLEY; CHARLES S. KEEFE, ARCHITECT FOR AUGUST 1932





Walls covered with rived cypress shingles exposed 10" to the weather and painted gray. Exterior woodwork, gray. Doors and shutters, bottle green. Roof shingles laid 51/2" to weather; stained green. Chimneys, whitewashed. Ceilings in first story, 7'6"; second story, 7'0". Walls, plaster on fibre board

SERVICE GROUP, ESTATE OF MRS. E. Y. BRENCHLEY, DARIEN, CONN.; CHARLES S. KEEFE, ARCHITECT

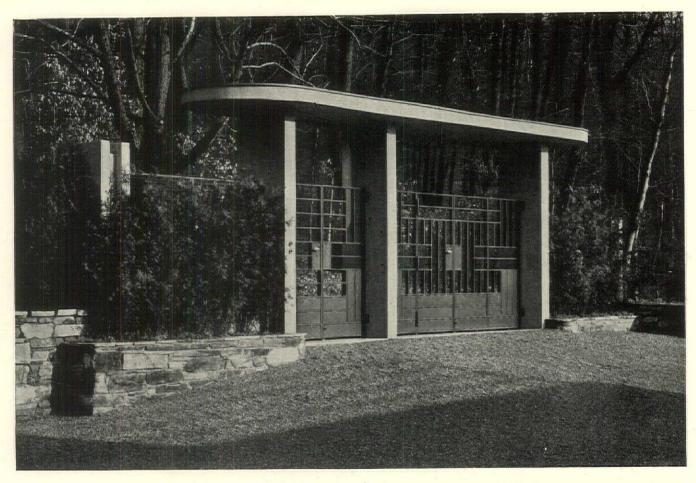




The house stands upon a clearing on a southerly slope. Its placement in the landscape is sensitive to the fitness of things. There is a wide sweep to the view and in the middle distance are wooded hills. Before the house are sweeping terraces with vine clad walls. The back of the house faces the entrance court across which one comes from the highway

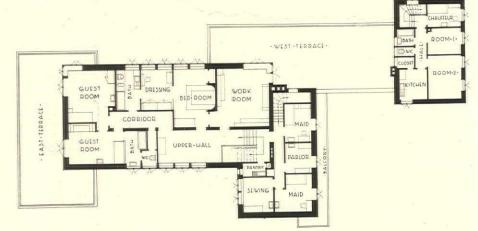
A HOUSE IN THE TAUNUS NEAR FRANKFORT, GERMANY

PROFESSOR PETER BEHRENS, ARCHITECT PHOTOGRAPHS by M. GOLLNER



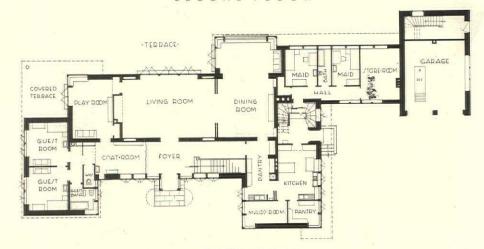
ENTRANCE GATES, A HOUSE IN THE TAUNUS

EXTERIOR walls are faced with limestone, a light yellow-gray streaked with pale violet. Glass of the windows is flush with the surface of the stone. There is no ornament, the exterior being an expression of lighting for the rooms within



SECOND FLOOR

TERRACE WALLS. From an old quarry near by came the irregular stones for the garden and terrace walls. Their color passes from soft lilac to darker violet, from yellow ochre to dark brown, from lime white to light blue. They are not garish. Their effect is that of natural walls. Camile Schneider was the landscape architect. Hundreds of plants and shrubs that thrive among rocks were introduced



FIRST FLOOR



THE LIVING ROOM Walls are covered with large sheets of champagne-colored natural mottled parchment. Near the top occurs a strong simple line of gold concealing the indirect lighting units, whose rays are reflected from the smooth white ceiling above. The fireplace is 9 ft. wide and 7 ft. 3 in. high, being faced with a green ceramic tile with a fine Chinese crackled surface. The triple window is 18 ft. 4 in. wide. The double flush entrance doors of macassa ebony form the only darker surface of the room and give the effect of a rich hanging. The furniture is deeply upholstered in white silk



THE DINING ROOM Walls and ceiling are of rosewood, natural finish; the only break in the smooth surfaces is the recessed buffet. Floor is of mahogany. A 10-ft.-long Breche Oriental marble topped table on a silver base is placed against wall



DINING ROOM SOLARIUM A solarium, one side of which is a wall of plate glass 13 ft. by 61/2 ft., adjoins the dining room and looks out upon receding terraces, middle distant hills, and high mountains in the distance. It provides a natural and logical transition from the house to the out-of-doors. Pressing a button causes the sheet of glass to sink out of sight beneath the window sill

A HOUSE IN THE TAUNUS
PROFESSOR PETER BEHRENS,
ARCHITECT

FOR AUGUST 1932



MAIN STAIRWAY. Treads and risers, cast marble. Handrail of ivory with rails of silver. Walls, sapphire blue, the color being an integral part of the fresh plaster and polished after setting. Window jambs, white marble

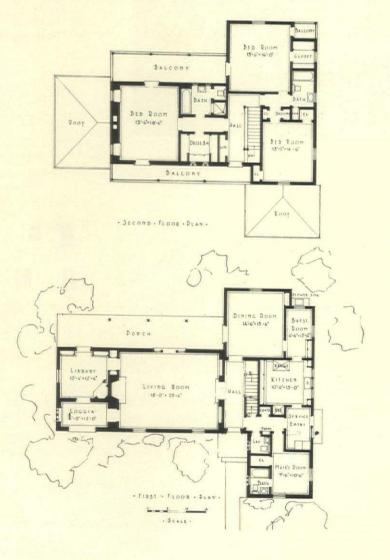


CLYDE STOUGHTON

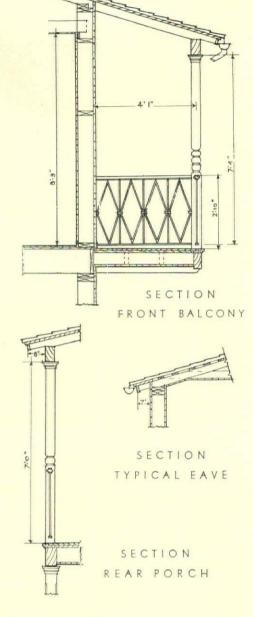
HOUSE OF CLARENCE P. DAY, SAN MARINO, CALIFORNIA

H. ROY KELLEY, ARCHITECT

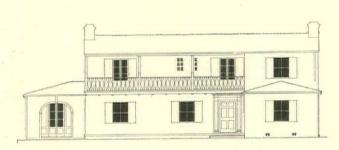
Designed in the manner of the early houses of Monterey, a type developed by early settlers who came to California from New England







CLYDE STOUGHTON



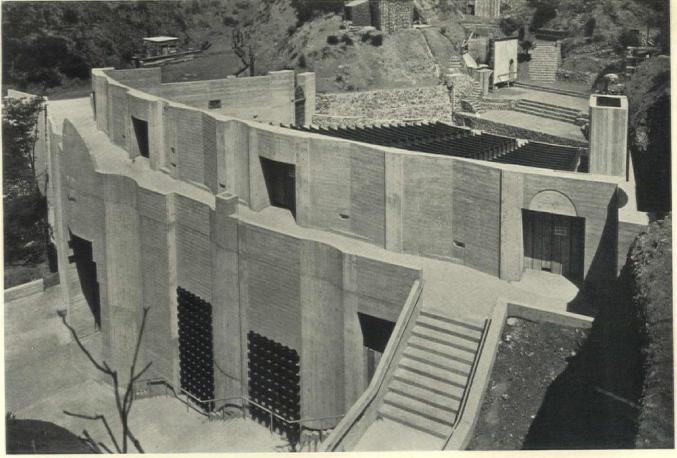
FRONT ELEVATION



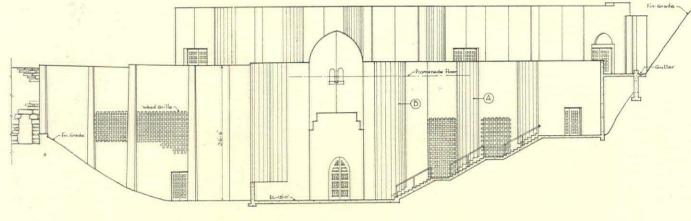
END ELEVATION

Exterior walls of whitewashed brick, wide clapboards and stucco, oyster-white color. Roof, hand-split red cedar shakes stained brown. Trim painted yellow-ivory; shutters, colonial green. Porches and garden walks, red brick. 32,987 cubic feet.

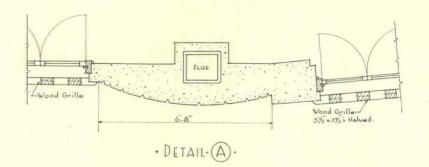


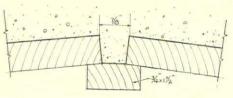


The stage is set up-hill, the background being the hinterland of crag and hillock, ravine and intertwining trail PILGRIMAGE PLAY THEATRE, HOLLYWOOD, CALIFORNIA WILLIAM LEE WOOLLETT, ARCHITECT



FRONT ELEVATION

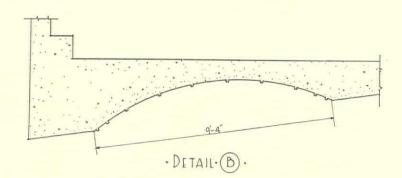


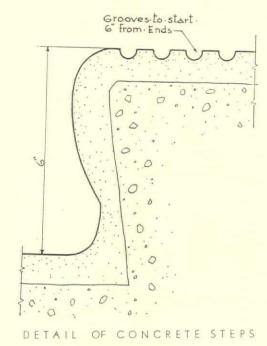


· DETAIL · OF · CONCRETE · SURFACE · AT · D · SHOWING · FORMING ·



· DETAIL-OF-CONCRETE - SURFACE · AT- (A) · SHOWING · FORMING ·

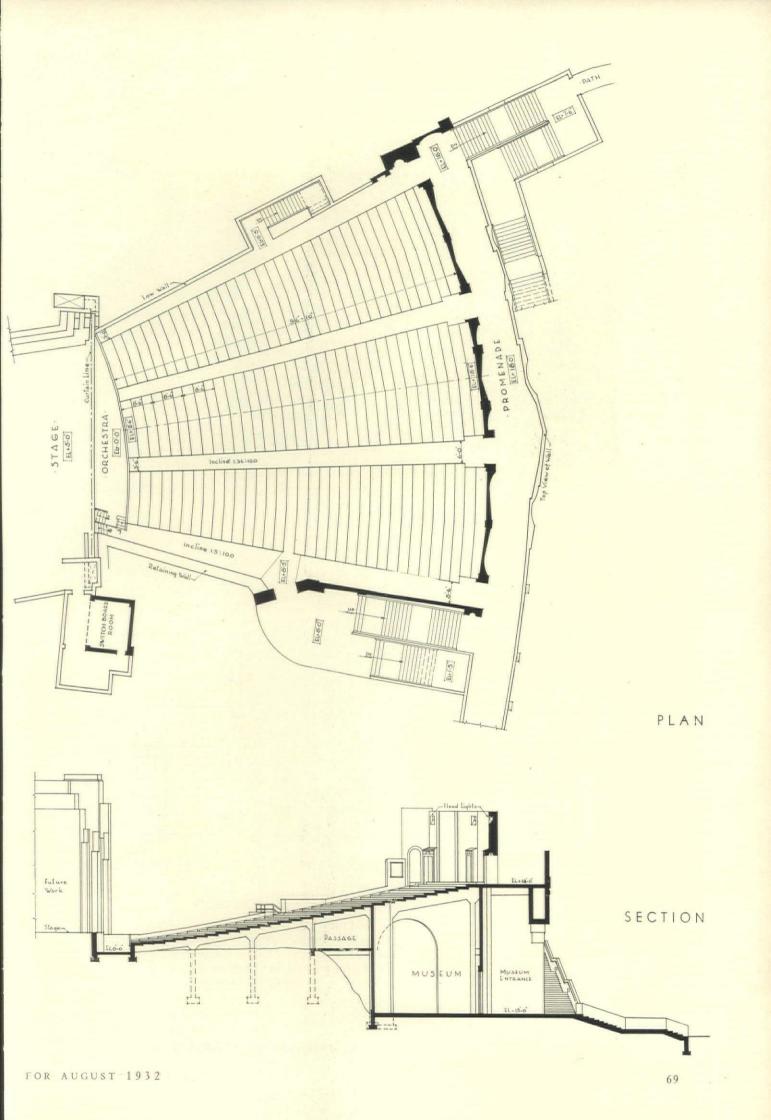


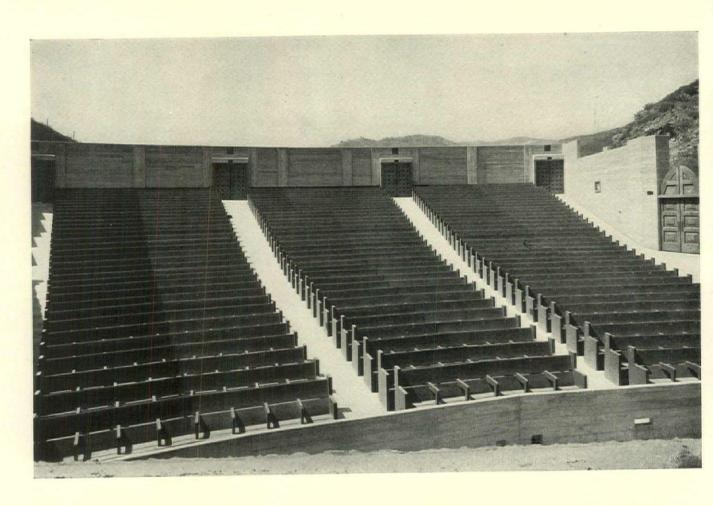


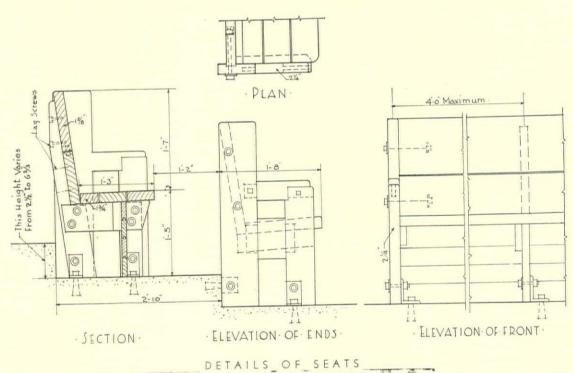
DETAILS OF TREATMENT OF CONCRETE SURFACES

Large areas of the wood forms were covered with an acid preparation which crumbled the cement on the surface, thus exposing the aggregate and contrasting with the untreated surface. Portions of the concrete were decorated by ornament made by tacking thick paper silhouettes to the inside of the concrete forms. Many surfaces are to receive future elaborate decoration in coin gold and gold mosaic, and the columns are to be covered with a gold mosaic with fillets of fine brass. Panels between columns are to have bas-relief ornamental figures of the apostles and prophets

PILGRIMAGE PLAY THEATRE HOLLYWOOD, CALIFORNIA WILLIAM LEE WOOLLETT, ARCHITECT



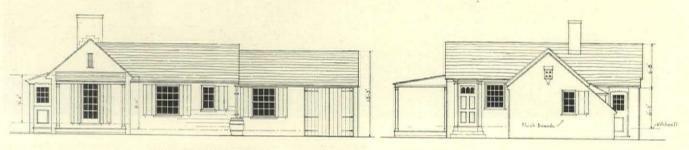




Amphitheatre: Floors, concrete. Doors, wood of builtup 4 x 4's mitred and locked over each other. Hinges and lighting fixtures, wrought iron. Museum under rear of amphitheatre to be treated in the style of an old Italian monastery with mosaic decorations

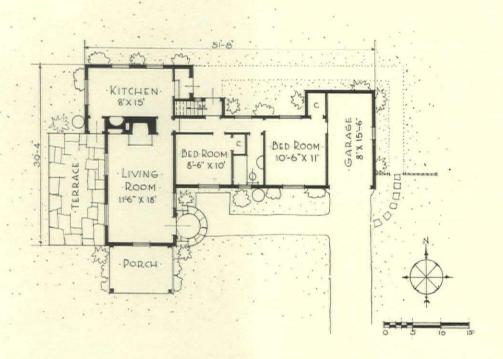


VAN ANDA



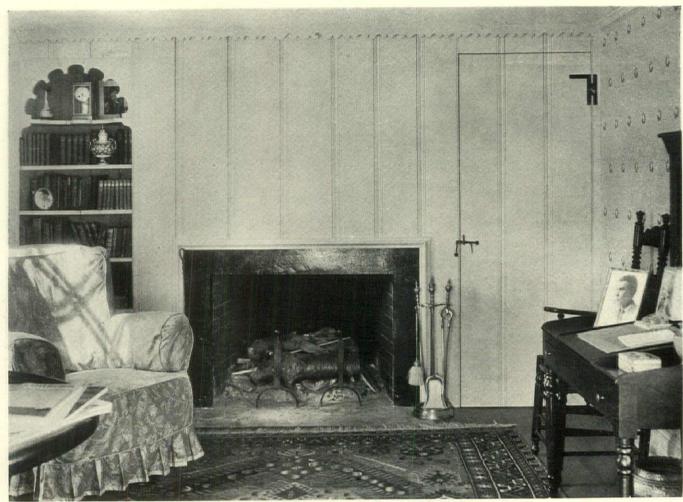
SOUTH ELEVATION

EAST ELEVATION



HOUSE OF MRS. BERTHA COZZENS, KENT, CONNECTICUT

GEORGE H. VAN ANDA, DESIGNER.



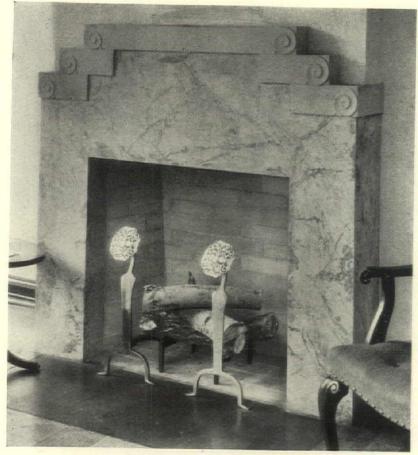
VAN ANDA

EXTERIOR: Frame construction. Roof shingles, deep gray and laid $5^{1/2}$ " to the weather. Side wall shingles, cerulean blue, laid 9" to the weather. Shutters, blue-green. Entrance door, painted gray-blue.

INTERIOR: Fireplace, brick with cement finish painted black. Living room walls, white pine panelling painted cream. Floors infliving room, 12" and 14" white pine painted brown. 15,500 cu.ft.



HOUSE OF MRS. BERTHA COZZENS GEORGE H. VAN ANDA, DESIGNER



T W O F I R E P L A C E S

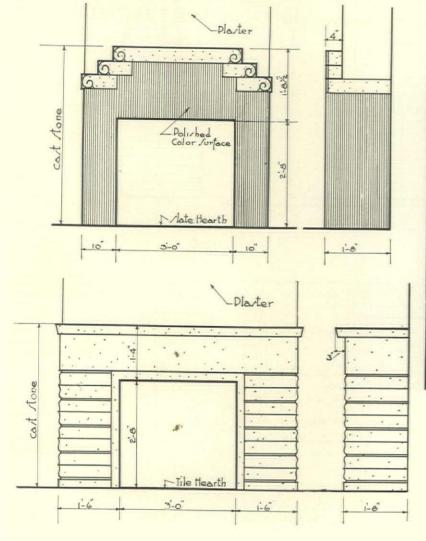
BEAUX ARTS APARTMENTS NEW YORK

KENNETH MURCHISON AND RAYMOND HOOD,

GODLEY AND FOUILHOUX,

ARCHITECTS

VAN ANDA

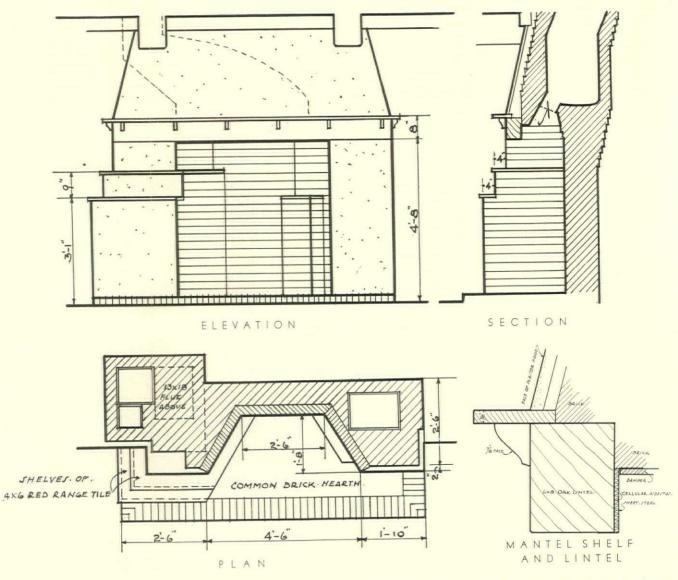




AT TOP: Imitation marble of the Sienna character. Horizontal decorative elements at top, stone finish, buff color

ABOVE: Imitation stone, buff color. Executed by Jacobson & Company from drawings by Raymond Hood, Godley and Fouilhoux





DINING ROOM MANTEL * RESIDENCE OF CHARLES WESLEY DUNN SOUTH NORWALK, CONNECTICUT — FRANK J. FORSTER, ARCHITECT

American Architect Reference Data

NUMBER ONE—AUGUST, 1932

OIL BURNING EQUIPMENT

TAYLOR, ROGERS & BLISS, INC., CONSULTANTS

A Guide to the Selection and Use of Oil Burning and Accessory Equipment

The information contained herein has been prepared to assist architects in the selection of oil heating equipment for any building or project. The first four pages analyze oil heating devices to develop the points which architects should consider in making comparisons prior to selection. The remaining pages are devoted to the presentation of equipment offered by specific manufacturers. The factual data offered therein have been carefully related to this analysis.

HE oil burner industry has reached a point of stabilization and development of its equipment which enables architects to accept such equipment as of proven worth and of known performance characteristics. The industry has acquired a background of experience, testing and perfection of mechanical oil burners, burner-boiler and burner-furnace combinations, and automatic control and safety appliances which is more than adequate to prove the reliability of the devices now offered.

REQUIREMENTS FOR SATISFACTORY USE

ONSIDERING oil burners as independent units, not sold with a boiler or furnace for which they are especially designed, it is important to appreciate the fact that they represent but one element in a satisfactory heating system. The oil burner provides heat which the boiler or furnace must assimilate and make useful. It creates products of combustion which the chimney or flue must remove. The oil burner has no effect whatever upon the performance of radiators, pipe system, valves, ducts or other means whereby heat is distributed throughout the building.

For satisfactory operation, the entire heating system should be properly balanced. If any other element is inadequate for its purpose, the oil burner can not be held responsible.

Proper balance requires first that the burner be suited

to the boiler or furnace in which it is used. It also requires that the chimney provide adequate draft. It must also be appreciated that oil burners are mechanical devices and that, as such, they must have occasional attention to keep them in operating condition. They require periodic oiling and cleaning. Their elements are adjustable to meet varying conditions of service. If these adjustments are tampered with by incompetent persons, satisfactory operation may cease. These factors are not detrimental to oil burners; they merely recognize that conditions beyond the control of the manufacturer may affect oil burner performance.

It is unsound to look upon oil burners as cure-alls for defective heating plants, or as responsible for the performance of other elements in the heating system. It is important to appreciate that no matter how well-made the equipment may be, it must be correctly installed, intelligently used, and properly maintained. Much importance attaches to the responsibility of the dealer or local installation and service agency.

TYPE OF HEATING PLANT

S INCE oil burners merely supply the heat which the boiler or furnace must convert for useful purposes, it is essential that these two elements of the heating system be adapted to work satisfactorily together. An ideal condition exists where the oil burner is designed for a specific boiler or furnace, or vice versa. But it is not essential that boiler-burner combinations be purchased if care is exercised in selecting a type of burner adapted to the boiler or furnace in which it is to be used. It should be understood that the average domestic boiler or furnace can be fitted with any of the basic types of oil burners, with satisfactory operating results if the burner is of proper capacity. In boilers of unusual shape or size more careful selection of the burner is advisable. Factors to be considered are:

1. The size and shape of the combustion chamber in the boiler or furnace should be such as to provide adequate heat absorbing surfaces, realizing that burners provide maximum heat flow while in operation and no heat when shut off. Large heat absorption areas and long gas travel are now provided in modern boilers designed especially for oil fuel.

2. This requires that the oil burner be capable of producing a flame of such size and shape as to utilize fully the heat absorbing surfaces of the boiler or furnace.

3. The draft and capacity of the chimney must be adequate to remove products of combustion. The draft must also be uniform to maintain equable operating conditions at all times. This may be accomplished by installing an automatic draft regulator. Also, it is essential that the boiler or furnace room be equipped with intake vents of area equivalent to the area of the chimney

to supply the required volume of air.

Heating efficiency is determined by the burner only to the point of securing complete combustion of the oil fuel with the minimum quantity of air. This can be checked by a flue gas analysis showing a CO₂ content of from 10 to 13 per cent. The boiler or furnace contributes to efficiency by its ability to absorb the heat produced. The overall efficiency thus depends more on the design of the boiler or furnace than upon the inherent characteristics of the oil burner.

MECHANICAL FEATURES

HEN comparing the relative merits of competing oil burners, the following points should be considered:

1. Quality of materials and construction. Evidenced by simplicity and sturdiness of design, precision manufacture of elements, type of bearings, assembly of units, character of finish, and type of materials employed in all essential operating parts.

2. Method of atomization. Before proper combustion can take place oil must be finely divided (atomized) or converted into vapor (gasified), and mixed with an adequate volume of air. When comparing units of different types the atomizing method employed should be considered in relation to the size and shape of the combustion chamber, draft conditions and load.

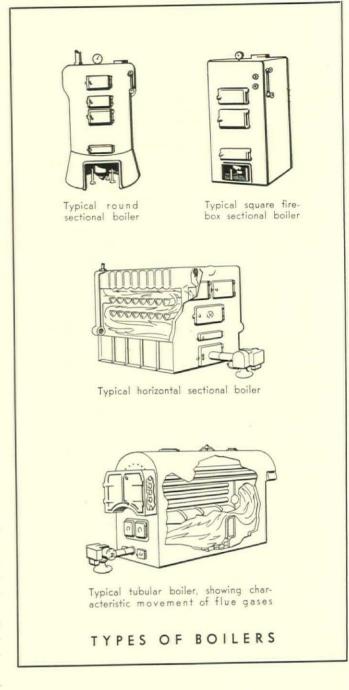
3. Adjustments. Necessary adjustments to secure proper balance of air and oil should be free of disturbance by the action of the mechanism, and so far as possible, protected against tampering by unskilled persons.

4. Ease of maintenance, cleaning, servicing. Parts requiring periodic cleaning should be easily removed or exposed, and easily returned to place without impairing proper adjustment. Preferably design should be such that only competent service men can clean, oil and readjust burner.

5. Ignition. Customary methods employ gas or electricity, or both. Simplicity and cost of installation and operation should be considered in making comparisons.

6. Protective devices. Protective and safety devices vary in nature with the character of the oil burning mechanism and boiler or furnace. Provision should be made to shut down operation when (a) oil does not ignite, (b) pressure or temperature of boiler or furnace becomes abnormal, or (c) when water level drops in steam boilers. If electric supply should fail, the mechanism should repeat its starting cycle automatically or should require manual resetting.

7. Quietness of operation. Involves mounting of

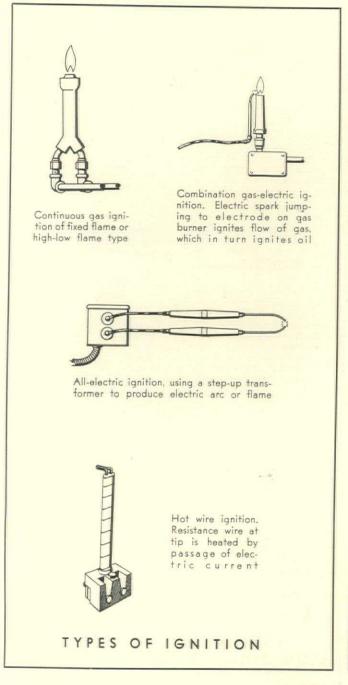


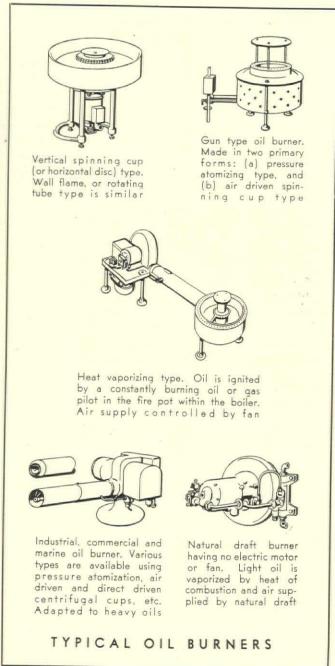
equipment, quietness of fan, motor, pump, belts, couplings and other moving parts. Sound produced by combustion varies according to type, capacity and setting, although under normal conditions this source is negligible. It should be noted that occasionally conditions are encountered where the acoustical properties of the boiler room or of the structure above magnify or aid in the transmission of sounds not audible in normal installations.

GRADE OF OIL

OMMERCIAL Standard, CS12-29, published by the United States Department of Commerce, Bureau of Standards, gives the recognized specification for six grades of fuel oil, ranging from No. 1, a volatile dis-

AMERICAN ARCHITECT REFERENCE DATA ON OIL BURNING EQUIPMENT





tillate, to No. 6, which is a heavy viscous fuel requiring preheating for proper atomization. In general oils Nos. 1, 2, 3 and 4 are used for domestic burners, and oils Nos. 3, 4, 5 and 6 are used for commercial and industrial burners.

In some localities there is a price differential between the several grades and there is an apparent, though not significant, difference in the B. T. U. content between any two adjacent grades. The variation in both cost and B. T. U. content between the lightest grades and the heaviest grades is material, however, and should be taken into consideration for large commercial and industrial installations.

Under actual operating conditions there is little advantage between the various grades of oil which a given oil burner is designed to handle, for if the lighter oils,

Nos. 1 and 2, happen to be slightly more expensive, they usually burn more cleanly. The variations in performance and price tend to balance each other so closely that arguments in favor of one grade of oil over another are less significant than is commonly appreciated.

One important rule should be followed: Use the grade of oil for which the oil burner is listed by the Underwriters Laboratories, or a lighter grade. That is, if an oil burner is listed to burn No. 3 oil, use No. 3, 2 or 1.

When an oil burner will handle more than one grade of oil, a change in the supply from one grade to another usually requires resetting and readjustment. With certain types of oil burners, notably the rotating cup type, these adjustments merely involve a change in air or oil volume, while most pressure atomizing units require a substitution of a different size atomizing nozzle.

LOAD OR CAPACITY

RELIABLE formulae for determining required capacity for a given boiler or heating load will be found in the American Society of Heating & Ventilating Engineers Guide. Ratings offered by manufacturers should be checked against these formulae when making comparisons to be sure that ratings are all on equivalent bases.

In using these formulae keep in mind that domestic oil burners are designed for intermittent operation. Continuous operation should be required only during the heating season when the entire plant must be working at full capacity, unless the burner is designed for a continuous load over reasonably long periods. Nevertheless, it is better for the boiler or furnace to be oversize in relation to the burner than vice versa.

As between small domestic installations and larger commercial and industrial installations consuming many thousands of gallons of oil a year, the variations in B. T. U. content and cost of the heavier fuel oils make the quantity of oil burned an important factor in the selection of the type of burner to be used. In large installations preheating equipment and the use of oil grades Nos. 5 and 6 develop important economies.

ACCESSORY EQUIPMENT

EXCEPT for the storage tank, it has become customary for oil burner manufacturers to supply the necessary automatic controls and safety devices as part of the burner equipment; hence in making selections the relative quality and character of these accessories should be studied.

OIL STORAGE TANKS

(Underwriters label tanks with approximate dimensions and weights)

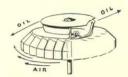
Capacity	Diameter	Length		Weight
Gal.	In.	Ft.	In.	Lbs.
275 (oval)	28x42	5	6	400
275	35	5	6	500
550	48	6	0	800
1000	48	10	10	1250
1500	48	15	10	1900
2000	65	11	10	2000
2500	65	14	10	2380
3000	65	17	8	2800
4000	72	18	8	4775
5000	72	23	8	6000

Storage Tank

Local regulations usually govern placing of storage tanks, whether within the building or buried outside and whether elevated to permit gravity feed or buried to prevent gravity flow. Size of tank should be governed largely by quantity of oil consumed in relation to frequency of filling service and difference in oil cost due to small or large purchases.

Tank Gauge

A desirable but not essential accessory is a tank gauge which will accurately register within the building the vol-



Vertical spinning cup or disc. Oil flows into a cup revolving at high speed, from which it is thrown centrifugally in a horizontal direction



Rotating tube. Streams of oil from rotating tubes are atomized by impact and heat at perimeter of specially designed hearth

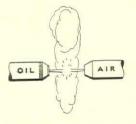


Horizontal spinning cup. Oil drops onto the interior of a conical shaped centrifugal cup which may be air-driven by vanes or direct-driven by motor. Oil tends to fly off rim of cup in vertical plane, but air projects flame horizontally

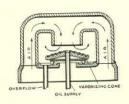




Pressure atomization method. Oil is forced under relatively high pressure (from 30 to 100 lbs. or more) through an atomizing nozzle, where usually slots or riflings produce a rotating movement



Impact atomization. Stream of oil and stream of air of approximately equal pressure are brought into opposition. Air used for atomization is augmented by a secondary supply



Heat vaporizing method. Employing a vaporization chamber in which air passes over surface of oil

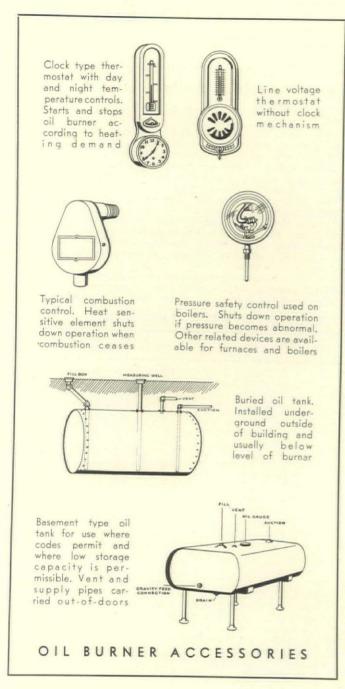
TYPICAL METHODS OF ATOMIZING OR VAPORIZING OIL

ume of fuel oil in the storage reservoir. The other method of measuring depth of oil through the test well tends to admit foreign matter and, if neglected, may result in shortage of oil.

Automatic Controls

Except in the larger industrial applications, oil burner systems function far more satisfactorily if fully automatic in operation. For all domestic and most building installations an accurate thermostat is a prerequisite. On hot water systems a hydrostat should be installed to maintain water temperature above a desirable minimum and below boiling point.

On all steam boilers it is highly desirable to install an automatic water level valve, or low water cutoff or both for maximum safety, because the infrequent attention required by oil burners may cause the owner to



neglect to maintain the required water level.

In warm air furnaces a maximum temperature control or airstat should be installed over the dome of the combustion chamber in the warm air passage to stop burner operation if excessive heat develops due to insufficient circulation of air through ducts. This will prevent burning out the furnace.

An important recent development is the low limit control which serves to correct a condition known as "Cold 70° F." The control supplies heat intermittently to keep radiators warm even when the thermostat does not call for heat in volume, thus maintaining gravity circulation of air in a room and preventing its stratification.

Other devices classified as safety controls or used to establish the operating cycle of the burner mechanism are ordinarily parts of the burner installation.

ECONOMIC FACTORS

HERE the purchase of oil heating equipment is governed by economic considerations a comparative study of cost should embrace the following points:

- 1. Cost of fuel. Based on grade purchased, delivery charges and quantity purchased on each order. Also governed by quantity of fuel required per heating season, which is affected by the B. T. U. content of the fuel and the operating efficiency of the heating plant.
- 2. Secondary fuel costs. With gas burners, oil burners and automatic stokers add cost of gas or electric pilot, electricity consumed by motor and controls.
- 3. Initial cost of installation. Embracing cost of storage space, burner or stoker mechanism and controls, and installation. If special boiler is employed, cost of this boiler above minimum unit should be considered part of investment.
- 4. Service, depreciation, etc., including interest on investment above minimum installation, annual depreciation charges (investment divided by years of useful life), service charges and periodic inspection, maintenance and cleaning of burner, stoker, storage tanks, etc.
- 5. Labor and space saved. In comparing oil or gas fuels against coal or coke deduct value of fuel storage space within building, cost or value of labor involved in manual firing and ash removal. In new buildings credit oil or gas burners with savings in excavation and basement construction required for fuel storage space.

Where all factors affecting initial and operating costs are thus considered, a fair comparison can be developed. Additional factors not purely economic in nature are uniformity of heating, cleanliness, freedom from constant supervision and attention.

PERFORMANCE AND ACCEPTANCE

Underwriters Laboratories

T is essential that all apparatus should bear the label of or be listed by the Underwriters Laboratories, but it should be remembered that Underwriters Laboratories' listing only covers fire safety and does not reflect relative quality or performance above a required minimum of safety.

Method of Verifying Selection

In addition to the comparative study of oil burning equipment above outlined, the architect should be governed by the three following factors:

- 1. The reputation and standing of the manufacturer and the performance history behind its product.
- 2. The stability, financial responsibility and service record of the local service agency installing and maintaining the oil heating equipment under consideration.
- 3. The experience of local users, including not only the performance of the oil burning equipment but also the service rendered by the local agency.

The foregoing analysis was prepared in consultation with the Oil Heating Institute.

OIL BURNERS that Fit The Boiler



Model "W-I" and "W-I1/2": Horizontal, direct motor driven rotary cup type burner for small round or square boilers. Gas ignition.



Model "R": Wall-wiping flame rotary burner for round or square boilers and warm air furnaces. Gas or electric ignition.



Model "P": Pressure atomizing burner for rectangular firebox, sectional or tubular boilers or furpaces. Continuous electric ignition.

A Complete Line of PETRO & NOKOL Oil Burners PETRO NOKO | Each Designed for Specific Types of Domestic, Commercial, and Industrial Boilers and Furnaces

The Result of a Quarter Century of Experience

THE Petroleum Heat and Power Company recognized early in its 29 years of experience that no one type of burner meets every oil heating requirement in an equally satisfactory way, or solves every oil burner problem. For boilers and furnaces vary widely. Some are round, some square, some long, some short. Some have long gas travel, some short travel. There are different types of boilers designed for different fuels. Chimney and draft conditions vary too. All these factors have a bearing upon the type of oil burner equipment required for completely satisfactory operation.

To meet these conditions, over which the oil burner manufacturer has no control, the Petroleum Heat and Power Company has produced a complete line of oil burning equipment, embracing every type of burner experience has proven is needed to obtain reliable operation and high operating efficiency, in every type of domestic,

to obtain reliable operation and high operating efficiency, in every type of domestic,

to obtain reliable operation and high operating emiciency, in every type of domestic, commercial and industrial boiler or furnace.

The recommendation of a Petro & Nokol representative hence can obviously be relied upon as an impartial, unbiased analysis of the specific requirements of each heating system and operating condition which should govern the selection of equipment.

TYPES AND RECOMMENDED APPLICATIONS

		-		a . o. 1		Price Range and
Ī	Model No.	Type	Listed for Oil No.	Gals, Oil per Hr.	Ignition	Applications
	W-1	Horizontal Direct Motor Driven Rotary Cup Type Burner	3	.5 to 1.5 1.0 to 3.0	Gas Gas	New, low cost, rotary cup type burner for very small round or square boilers. Also for process steam and hot water service.
	R	Wall-wiping Flame Rotary Type Burner	2	1.0 to 3.7	Gas or Elec.	Minimum cost, fully automatic burner for small round or square boilers and warm air furnaces.
	P-1 P-1½ P-2	Pressure Atomizing Gun Type Burner	3	1.3 to 3.0 2.0 to 5.0 3.0 to 7.5	Continu- ous Elec.	Low cost, quality built burner for rectangular fire- box, sectional or tubular, boilers or furnaces.
	W-2 W-3 W-4 W-5 W-6 W-7	Horizontal Direct Motor Driven Rotary Cup Type Burner	No. 5 Oil without preheating No. 6 Oil preheated	1.5 to 6.0 5.0 to 20.0 15.0 to 25.0 20.0 to 30.0 25.0 to 45.0 25.0 to 60.0	Gas or Elec.	Manual, semi- automatic, or full automatic heavy duty burner for large Industrial and Commercial installations where heavy oil is avail- able.
	Н	Air Turbine Driven Rotary Cup Type Burner	No. 5 Oil without preheating No. 6 Oil preheated	15.0 to 75.0	Manual or Elec-Gas	multiple burner installations up to
	М	Mechanical Atomizing Type Burner	No. 5 Oil without preheating No. 6 Oil	Up to 125.0	Manual	anv capacity.





The Petro Automatic Boiler for domestic steam or hot water heating is a burner and boiler especially combined for highest operating efficiency—a complete unit ready to be connected to piping. Made in six sizes for either oil or gas.

preheated



AMERICAN ARCHITECT REFERENCE DATA ON OIL HEATING EQUIPMENT

Features of Design and Construction

The limitations of space here prohibit any attempt to describe the mechanical features of the complete line of Petro & Nokol equipment. Specific literature describing each burner will be gladly provided if it is desired.

The accompanying table, however, summarizes the various models and types of Petro & Nokol oil burners and the services for which they were primarily designed.

Petro & Nokol oil burners and the service for which they were primarily designed. There is a model for every type of heating plant—for every grade of oil—for every price range. Yet the most inexpensive Petro & Nokol burner welcomes the most critical examination. Large production only make the property demands. be thoroughly engineered and properly built and tested to meet the service demands for which it is designed, at reasonable cost to the consumer.

Control and Safety Devices

All domestic and the smaller industrial burners are fully automatic in operation.

All automatic burners are equipped with complete automatic control devices protecting both the burner and the boiler or furnace from abnormal operating conditions. Special controls and protective devices can be supplied to meet unusual operation conditions.

Petro Automatic Boiler—For Oil or Gas

In addition to the oil burners listed in the accompanying table, Petro offers a series of domestic steam and hot water boilers containing built-in Petro oil burners or gas burners, in 6 sizes for from 285 to 1200 square feet of steam radiation, with corresponding capacities for water radiation. Conversion from oil burner to gas burner or vice versa is easily made by mere substitution of the desired burner assembly. Fuel consumption is exceptionally low because of the perfect co-ordination made possible by building burner and boiler for each other. Units are encased in heavily insulated attractively finished cabinets of superior appearance. in heavily insulated, attractively finished cabinets of superior appearance. Yet the cost of this fine equipment completely installed is commonly no greater

than the cost of other boilers when equipped with an oil burner. Distribution—Service—Undivided Responsibility

As an early pioneer in the oil burner business, the Petroleum Heat and Power Company years ago saw the advisability of assuming full responsibility for the satisfactory operation of an oil burner system and hence combined the sale and installation of equipment with a fuel oil service.

Today the Petroleum Heat and Power Company offers a complete service to purchasers of oil burner equipment that can only mean complete satisfaction.

Throughout the Atlantic seaboard territory and in many of the more important mid-western centers, this company functions truly as a Public Service enterprise and offers an undivided responsibility embracing the installation, servicing, provision of proper fuel oil, which insures satisfaction with Petro & Nokol equipment. Through experienced distributors in other sections of the country, a factory field engineering organization is available at all times for survey, and conference in all things related to the use of oil as a fuel.

Performance and Acceptance

The present Petroleum Heat & Power Company organization has been built up through the merging or acquisition of several important companies so that the parentage of the Petroleum Heat and Power Company extends back to 1903—to the development of the first modern industrial oil burner. In the intervening years more than 80,000 installations have been made from coast to coast. Petro & Nokol oil burners today are found in practically every type of building from the 52-story Metropolitan Life Insurance Building and the Ritz-Carlton Hotel in New York, to modest residences in suburban and rural districts.

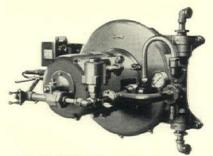
Prominent Petro & Nokol Installations

Metropolitan Life Insurance Company
Kitz Carlton Hotel New York City
Equitable Building New York City
Riverside Memorial Church
Cornell Medical Centre
Mark Hopkins Hotel
26 Broadway
American Central Life Insurance Company
Pacific Telephone & Telegraph Building
Sinclair Building
University of Toledo
Lake Placid ArenaLake Placid, N. Y
All Petro & Nokol burners are approved and listed by the Underwriters Labora-
tories, as well as by all other Government, State and Municipal authorities.
tories, as wen as by an other dovernment, State and Municipal authorities.

Engineering Counsel and Conference

Architects are invited to inquire for detailed specifications and complete data on Petro & Nokol burners or the new Petro Automatic Boiler, and to take advantage of and employ the complete engineering service offered by the company for the planning of oil burning systems and the proper selection of equipment.

PETRO-NOKOI



Model "W": Horizontal, direct motor driven rotary cup type burner for large commercial and industrial installations with heavy oil. Gas-electric ignition.



Model "H": Air turbine driven rotary cup burner for heavy duty. multiple burner installation. Air and oil supplied from central fan and pump set. Manual ignition.



Model "H" Fan and Pump Set: For supplying low-pressure air and oil to Model "H" and "M" burners and air registers. stalled in duplicate to provide stand-by power source.

PETROLEUM HEAT AND POWER COMPANY

FACTORIES: Stamford, Conn.; Chicago, III.; San Francisco, Cal.

BRANCH OFFICES: New York, Boston, Providence, Philadelphia, Baltimore, Washington, Newark, Portland, Me., Detroit, Los Angeles, Tacoma, Portland, Ore.

THE ELECTROL HEATING UNIT

... The Reasons For Its Superiority

The Electrol Heating Unit is a complete oil burning and steam making unit. It is something far more than the mere combination of an oil burner and a boiler. Every Electrol Heating Unit is designed and built as a complete unit—and each unit is constructed in proportion to the designed load. It is manufactured by Electrol Incorporated, one of the pioneers in the oil burning industry with 14 years continuous experience in the field.

High Efficiency

In tests, the Electrol Heating Unit has shown an over-all efficiency of better than 80%. A 12.6% C02, with a stack temperature of less than 400° F. has been obtained at rated capacity. Because it is built as a complete unit—requiring no adjustments or changes when installed—these high efficiencies obtain in the field as well as in the laboratory.

Unusual Quietness

Acoustical experts of the Johns-Manville Co., working in collaboration with Electrol engineers, have achieved an unusual degree of quietness in operation through the liberal use of Johns-Manville sounds absorbing and sound insulating materials.

Induced Draft

The fan for supplying air for combustion is attached to the discharge end of the boiler, drawing the air through instead of pushing it in. Insures clean fire on cold start and positive control of secondary air. Precludes all possibility of puff backs and eliminates uncertainties of chimney drafts.

Low Heat Loss

Boiler is of copper bearing steel with seamless fire tubes. Joints electrically welded. Constructed to prevent air and gas leaks. Built in accordance with A. S. M. E. specifications for working pressures up to 100 lbs. and tested to 150 lbs. hydrostatic pressure.

Cylindrical combustion chamber, lined with refractory, is located in center of boiler proper and is entirely surrounded by water. Combustion gases travel the complete length of the boiler three times through correctly proportioned flues. This, combined with the three-shell construction of the boiler and the insulating material, insures high efficiency and low heat loss.

Quick Steaming

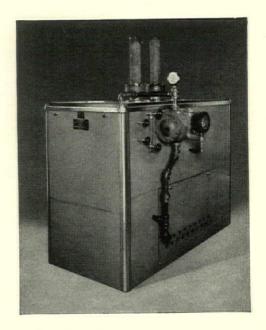
The unit has an ample steam dome. Quick steaming, resulting from the concentration of heat upon a small volume of water, distributes pressure throughout all pipes and radiators and prevents the condition of some radiators still being cold when the thermostat cuts off. Unit operates fewer hours per day with consequent fuel economy. 99% dry steam produced at steam delivery outlets between boiler proper and outer shell.

Low Water Line

The unit has an exceptionally low water line—42 in.—allowing correct pitch of return lines, particularly in low basements.

Clean Operation

Complete fuel combustion eliminates soot. Rapid circulation of water prevents formation of scale and blistering of tubes and crown sheets. Return inlets located so as to eliminate all sludge and foreign matter entering boiler proper.



Quick, Economical Hot Water

The water-back end of the combustion chamber is designed to contain a domestic hot water heating coil. Coil is submerged in boiler water and is also heated by combustion gases providing rapid, low cost domestic hot water.

Other Features

Mechanical atomization. Continuous electric ignition, plus Electrol principle of low velocity rotating air. Pressure operated and magnetic cut-off valve of Electrol design prevents afterdrip of oil. High voltage controls used throughout. Safety control is the famous Electrol Master Control.

Sizes and Capacities

Unit	Rating Net	Capacity	Lbs. Oil	Over	all Dimens	ions
Number		Water	per hour	L	W	H
5	500 sq. ft.	800 sq. ft.	9 - 121/2	241/4"	241/2"	50"
10	1000 sq. ft.	1675 sq. ft.	12 - 18.2	361/4"	241/2"	50"
15	1500 sq. ft.	2500 sq. ft.	17.5 - 28	507%"	241/2"	50"

Service and Distribution

The Electrol Heating Unit is sold and installed through branch offices at St. Louis, Boston, Chicago, East Orange, N. J., and Seattle, and through hundreds of qualified dealers located in almost every state. Each branch office maintains skilled engineers available for consultation at all times, as well as factory trained service and installation men and travelling field men serving dealers and customers.

Quality and Attractiveness

Electrol Heating Units are built to quality specifications throughout and are designed for lasting trouble-free service. Each unit is neatly encased in an attractive enamelled cover offered in a variety of colors. Prices vary according to local conditions but we are prepared to furnish complete quotations on any job on short notice.

For further information write to

ELECTROL INCORPORATED

World's Largest Manufacturer of All-Electric Oil Burners

Main Office: 227 East 45th St., New York, N. Y.

Presenting the New

GENERAL SELECTRIC OIL FURNACE

All-automatic unit—burner, boiler, controls and hot water heater—coordinated in design, and sealed in steel.

OT an attachment, not a collection of parts, the new General Electric Oil Furnace coordinates burner, boiler, controls and domestic hot water heater in one complete, sealed unit.

The G-E Oil Furnace will serve hot water, steam, vapor, and (with an additional unit, the G-E Air Conditioner) warm air systems . . . maximum boiler output 1070 square feet of equivalent steam radiation . . . sufficient hot water for any reasonable domestic demands.

More effective combustion

By a new principle of "impact-expansion atomization" oil is now effectively atomized . . and by "progressive combustion" (a slow flame) oil is burned cleanly, quietly, and completely. No "blow torch" action. Complete combustion without soot is assured. No. 3 fuel oil used. Electric ignition.

Complete "sealed in steel" unit

No oily parts project into the room. No soot, odors, vapors, or roar, since the G-E Oil Furnace is completely enclosed, sealed in steel, and the mechanism is actually under partial vacuum, even when shut down. Consequently no odors ever can escape from the furnace.

Coordinated design

All parts are designed for coordination and all parts are of G-E manufacture.



High temperature metal parts nickel chromium steel. . . G-E Industrial Type Motor . . . large bearing areas automatically oiled . . . no gears or belts . . . air cooled burner nozzle . . . steel boiler tested to 18 times maximum operating steam pressure.

Controls built in . . . no extras

Price includes G-E Thermal Control with G-E Telechron clock (sep-

arate day and night settings)....
High water temperature (or steam pressure) cut-off.... Low water cut-off.... Flame detector (flame established in 4 seconds)...
Overload relay... Safety door cut-out... Domestic hot water control... Oil tank screen valve and anti-siphon device.

No adjustments necessary

Combustion rate needs no changing the year round. . . Chimney draft variations do not affect burner performance . . . all mechanism enclosed and sealed to prevent tampering.

Ease of service

Burner, controls, every mechanical part, even the refactory, can be removed and replaced with new parts if necessary, within a few minutes. No loose electrical connections . . . all plug-in type.

Installation under supervision of G-E factory-trained men. No installations made where dealer cannot give service promptly.

All installations to date show savings

21 carefully checked installations in actual home service show 14% to 53% fuel savings, over previous types of heating, including oil. For complete data, etc. address General Electric Company, Air Conditioning Department, 120 Broadway, New York, N. Y.



OIL BURNERS

Proved by IO years. of dependable service

Two models are offered for domestic and other moderate size heating plants, in addition to heavy duty industrial burners. Model D, of DeLuxe construction and finish, employs the exclusive Wayne vertical design and is made in four sizes handling from 2 to 22½ gallons of oil per hour. Model S, a Domestic Oil Burner with horizontal mounting, is made in four sizes, burning from 1 to 20 gallons of oil per hour. Wayne Oil Burners will fit any make of boiler or heating plant, since all parts of the burner are outside the fire box.

PRESSURE ATOMIZATION

In both types, the oil is atomized under pump pressure of 100 lbs. or more, as required. Integral pump of rotary gear type draws fuel from the storage tank and returns surplus oil to tank. Three screens, two in advance of pump and one at the firing head, filter the oil through areas substantially in excess of underwriters requirements. Interchangeable spray tips adjust the capacity to load and grade of oil.

IGNITION

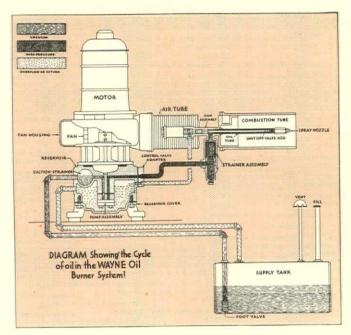
All electric, intermittent type, is standard.

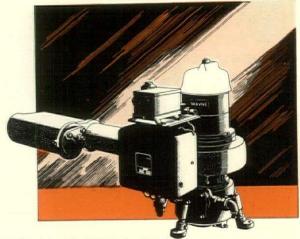
FIRING HEAD

Of special patented design to assure complete atomization of oil and proper blending of air and oil mist. Pressure operated valve shuts off oil at atomizing tip immediately when burner stops. Air is introduced in correct volume under low velocity to prevent roaring of flame. Air volume is adjustable. Entire firing assembly easily removed for inspection.

FLAME AND COMBUSTION CHAMBER

Because of the design of the firing head, the air enters the combustion chamber in a round whirling ball, rotating in the opposite direction to the oil spray, thoroughly blending the two. The result produced is a floating mass of quiet orange flame. The combustion chamber is formed of fire brick to fit the boiler or furnace.





ASSEMBLY ON SINGLE SHAFT

Motor, blower and oil pump are direct-connected in line, without gears or belts. Motor in Model D is of vertical type, slow speed (1725 R.P.M.), standard make. Air fan is a balanced Sturtevant unit mounted in a housing designed to eliminate friction loss and noise. Pump is over-size, with a capacity 5 to 10 times normal requirements. It is immersed in the oil reservoir formed by the base of the burner mechanism, assuring lubrication and maintaining prime at all times.

prime at all times.
In Model S the units are mounted horizontally, and are of substantially the same type.

BURNS NO. 3 OIL OR LIGHTER

Model D is listed by Underwriters Laboratories to burn No. 3 oil. Model S is listed to burn No. 3 oil. Wayne also manufactures industrial type Burners—Models No. O5 and No. S5, designed to burn the heaviest grade of fuel oils.

AUTOMATIC CONTROLS AND SAFETY DEVICES

Standard equipment includes thermostat (without clock) and all necessary controls to make burner completely automatic. Controls are of low voltage, closed circuit type. Operation centers in a relay panel. Normally the thermostat starts burner through its firing cycle and stops it. Combustion safety control stops cycle if ignition does not take place or combustion ceases for any cause. Boiler or furnace auxiliary control prevents overheating.

CHROMIUM PLATED HOUSINGS AND TRIM

The DeLuxe Model D is of superior construction and finish. Motor hood, fan housing, air tube and trim are chromium plated; balance of parts in black enamel. Model S burners are also finished in standard chormium plate and black enamel.

SERVICE AND DISTRIBUTION

Wayne Oil Burners are nationally distributed in 600 cities through qualified Wayne dealers, each of whom is required to complete a thorough course of instruction at the factory. Dealers render complete local service on every Wayne installation.

SIZES AND CAPACITIES

Model No.	Туре	Max. Gats. Oil per hr.	Equivalent Steam	Radiation Water
GI	Gravity	2	500	750
SI	Horizontal Atom.	3	1,000	1,675
82	Horizontal Atom.	6	2,000	3,350
S2 S5	Horizontal Atom.	20	8,400	13,400
D3	Vertical Atom.	51/2	1,850	3,200
D4	Vertical Atom.	10	3,500	5,500
D5	Vertical Atom.	12	4,200	7,000
D6	Vertical Atom.	221/2	9,000	14,400
OF	Sninner	25	10.000	16,000

PRICE RANGE

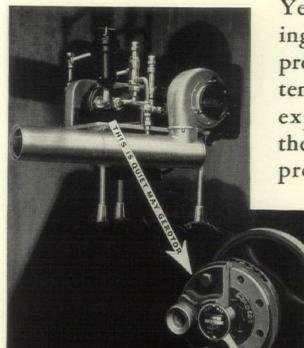
Wayne Oil Burners are sold complete with installation tank, and all necessary controls. Prices are thus variable according to location and condition. For relative purposes only, the price range of Wayne Oil Burners without tank, etc., may be indicated by the following Model G-I, \$80.00; Models S-I and S-2, \$250.00; Model D, \$300.00 to \$600.00.

PRODUCT OF

WAYNE OIL BURNER CORPORATION

FORT WAYNE, INDIANA

Our hats are off to the Editors of the American Architect and Taylor, Rogers & Bliss, Inc. who have so ably presented this exposition on "The Selection and Use of Oil Burners."



Years of experience in the Oil Heating Industry gained in oil burner production, installation and maintenance together with exhaustive experimental research leading to the solution by us of mechanical problems that have been baffling

scientists and engineers for over 150 years, brings the QUIET MAY Automatic Oil Burner to you with all that has proven best in domestic and industrial oil burning practice plus—three great new exclusive

QUIET MAY features. (Patented and patents pending.)

1. The QUIET MAY GEROTOR PUMP

(The biggest news since the invention of the oil burner)

2. The QUIET MAY Sapphire Jewelled Atomizer

(Another link in lifetime service)

3. The QUIET MAY Regulating Valve

(Known as the QUIET MAY "Traffic Cop")

Three outstanding accomplishments that put QUIET MAY 17 years ahead of the field.

The futility of here setting forth complete specifications and description covering these revolutionary and outstanding QUIET MAY features is obvious.

The QUIET MAY Architect's Manual, just off the press, will be promptly sent you upon request.

MAY OIL BURNER CORPORATION Baltimore, Md.

FOR AUGUST 1932

Perfecting Oil Burner Installations

MINNEAPOLIS-HONEYWELL AUTOMATIC CONTROL DEVICES ADD TO THE COMFORT, CONVENIENCE, SAFETY AND ECONOMY OF OIL BURNING INSTALLATIONS

INNEAPOLIS-HONEYWELL Automatic Controls in a wide variety of forms are already standard equipment on the majority of recognized domestic and commercial oil burners. The automatic control and protective devices thus employed serve to direct the operation of the oil burner and to prevent its operation under abnormal conditions.

In addition to these elementary units Minneapolis-Honeywell manufactures a wide range of auxiliary controls which may be used to enhance the convenience, comfort and economy of oil burner installations, to contribute additional safety under special operating conditions, and to control precisely the distribution of heat throughout the building or system.

THE ALL ELECTRIC CLOCK THERMOSTAT

Where oil burning devices employ low voltage thermostats and control equipment, enhanced convenience and economy can be secured by specifying the new Minneapolis-Honeywell Electric Clock Thermostat. This unit provides not only a thermostat sensitive to the slightest changes in room temperatures, but an accurate time piece as well, the clock movement being regulated by the A.C. impulses from the power plant. Extremely sensitive; can be set to operate on a differential of 2° F. Automatically controls day and night heating levels. Available with low limit cutout which automatically cuts Low Limit Control out of operation when room temperature rises higher than thermostat setting. Also available with weekend shutoff which automatically continues the low night temperature through weekend period or over holidays when day temperature is not needed.

SUMMER-WINTER CONTROL SYSTEM

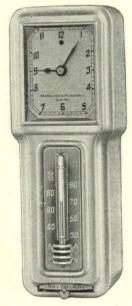
The Minneapolis-Honeywell Summer-Winter Control System enables the home owner to utilize his burner throughout the twelve months of the year to provide a constant automatic supply of domestic hot water. It is applicable to all steam, vapor and hot water heating systems, and embraces a complete set of controls that prevent the distribution of heat through the building when not required, while





Minneapolis-Honeywell Motorized Butterfly Valve and related controls offer precise regulation of heat distribution. The Modustats shown at left provide thermostatic control of individual radiators. Low-Limit Control, an effective means of preventing "Cold 70° F."





Minneapolis-Honeywell All-Electric Clock Thermostat

providing a constant supply of domestic hot water through occasional operation of the oil burner. The system is completely automatic, and the advantage of summer and winter operation of the burner, instead of only the winter months, is immediately apparent. Complete details for any type of installation supplied on request.

LOW LIMIT CONTROLS FOR "COLD 70°"

When radiators cool off the air tends to become stratified, producing a condition of discomfort even with the thermometer on the thermostat at 70° or at the required setting. This condition is particularly noticeable on mild days when the oil burner is off for comparatively long periods.

Minneapolis-Honeywell Low Limit Controls correct this condition by re-establishing air circulation through the intermittent operation of the oil burner even when heat is not demanded by the thermostat. The radiators are thus kept slightly warm, re-establishing gravity circulation of the air. Adaptable to steam, hot water, vapor or warm air heating systems.

MODUTROL SYSTEM FOR CONTROLLED HEAT DISTRIBUTION

A variety of units, including the Minneapolis-Honeywell Modutrol (for unit ventilators, concealed cabinet radiators and warm air heating systems); motorized valves (for zone control of steam and hot water supply mains); and Modustats (for the individual thermostatic control of radiators) provide means for the accurate and wholly automatic control of temperatures throughout all parts of a heating system of any type. Appropriate units added to automatic oil burning equipment provide truly automatic heat in the full sense of the phrase. Complete data supplied on request.

OTHER DEVICES AND ENGINEERING SERVICES

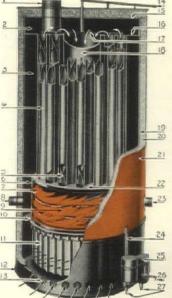
Minneapolis-Honeywell Regulator Company manufactures 422 automatic temperature control and protective devices, including limit controls, damper motors and regulators, unit heater and zone control systems, gas and oil burner controls, relays, mercury switches, and related devices. Complete engineering service is available to architects for the proper application of these products to the problems at hand.

MINNEAPOLIS—HONEYWELL CONTROL SYSTEMS

BRANCH AND DISTRIBUTING OFFICES: New York - Boston - Hartford - New Haven - Providence - Philadelphia - Baltimore - Washington Buffalo - Syracuse - Rochester - Pittsburgh - Cleveland - Detroit - Chicago - Milwaukee - Indianapolis - Cincinnati - St. Louis - Kansas City Denver - Salt Lake City - San Francisco - Los Angeles - Portland - Seattle. CANADA: Minneapolis-Honeywell Regulator Co., Limited, Toronto and Montreal. EXPORT: New York City. CABLE ADDRESS: "Laboramus"

SIMPLIFIED AUTOMATIC OIL BURNING

BOILER UNITS, "WEATHER CONTROL WATER HEATERS AND RANGES



-boiler outlet
-heat chamber
-water chamber
-boiler tubes
-heat deflectors
-water leg
-combustion

-combustion
chamber
-boiler return
-gyrating flame
-lower boiler i
-gyro-Flame
burner

burner
—asing base
—air intake
—flue deflector lever
—removable heat
chamber head
—upper boiler head
—deflector apitator
—return flue
—boiler shell
—insulation

-boiler shell
-insulation
-outer casing
-crown sheet
-boiler inlet
-wiring conduit
-M-W control
-feed line rod
-control support
leveling screws



-W AUTOMATIC BOILER UNITS

for steam and hot-water heating. Built, shipped, installed as complete, matched entities, Burner element: Famous M-W Gyro-Flame Burner.

bearing steel head bearing steel shell sss steel boiler tubes -M-W patented to Control thermostatic

5-M. W patented thermostatic Control
Control
G-galvanized copper bearing steel head
7-burner control rod housing
8-heavy burner support easting
9-M. W patented oil burner
10-burner safety tube
11-M. W oil-burner control
12-oil line scraper rod
13-oil feed pipe
14-heavy cast-iron base
15-cast-iron flue collar
15-cast-iron flue collar
16-cast-iron flue collar
16-day and tube scraper handle
18-galvanized inlet
18-heavy steel outer casing
20-flame and burner inspection
door



Domestic and commercial types. Two sizes. Continuous, economical supply of hot water.



"AUTOMATIC WEATHER CONTROL UNITS"

ound and quare types. armth, humid-leation, cool-ig, forced air

The complete elimination of motors and other mechanical operating details, the use of natural draft and the carbureting principle of vaporizing oil, and the integral design of oil burner and heater element are the three distinguishing features of Motor Wheel Boiler Units, "Weather Control Units," Hot Water Heaters and Ranges. The burners are made exclusively for the heating equipment in which they are used, and the heating units are designed exclusively for the burners, bringing about a balanced combination of known operating efficiency.

NATURAL DRAFT PRINCIPLE OF COMBUSTION

In all five types of units described below, the oil burners employ natural draft to vaporize the correct quantity of No. 1 fuel oil and to produce a clear flame of known intensity. The light oil is vaporized much as gasoline is vaporized in an automobile carburetor. An oil burning or gas pilot ignites the vapor produced. No electrical connections are required other than for the electrical thermostatic controls. Gravity feed eliminates the need for pumps and the use of natural draft eliminates blowers, fans and motors.

M-W BOILER UNITS FOR STEAM HEATING (Automatic)

Boiler and burner are combined into a single matched and balanced unit designed, built, shipped and installed as an entity. The burner element is the M-W Gyro-Flame Burner of special design which causes the air drawn in by natural draft to acquire a vigorous rotary movement as it vaporizes the oil in the vaporizing chamber. Combustion takes place above the burner unit in a series of gyrating flashes where the heat units immediately enter the vertical tubes of the boiler unit above. Here the gyrating principle is further sustained by spiral-shaped elements in the tubes causing the heat units to wipe all parts of the tube surface, for rapid transfer to the surrounding water. The spiral tube deflector can be mechanically agitated from outside the boiler casing to keep the fire tubes clean. Two sizes of M-W boiler units for steam heating are made as shown in the table below.

M-W BOILER UNITS FOR HOT WATER HEATING (Automatic)
Substantially the same in design and construction as the M-W Boiler Units for ste heating, employing the same Gyro-Flame Burner and a similar vertical tube boiler. Si and capacities for both steam and hot water units are shown in the following table:

No. Model	Type	Operating Range in Equivalent Steam or Hot Water Radiation	Maximum Oil Consumption Gallons per hour	Minimum Draft Required at Boiler
400-S	Steam	100 to 425 sg. ft.	1	.06''
400-W	Water	100 to 680 sq. ft.	î	.06''
800-S	Steam	425 to 850 sq. ft.	2	.08''
800-W	Water	680 to 1360 sq. ft.	2	.08''

M-W WEATHER CONTROL UNIT
The M-W Weather Control Unit is a complete self-contained unit with an integral
M-W oil burner, for warm air heating in winter and cooling by means of circulating
air in summer. Each unit is equipped with a humidifier of adequate capacity and with
a motor-driven blower for forced air circulation. Like the M-W boiler units for steam
and hot water heating, the burner and furnace are integrally designed. The burner is of
natural draft, vaporizing type, burning No. 1 fuel oil, entirely automatic in operation.
Two models are offered as follows:

Model No.	Maximum Oil Consumed Gal. Per Hour	Maximum Heat Delivered Per Hour	
307 308	1 11/2	87,700 b. t. u.'s 134,500 b. t. u.'s	

M-W AUTOMATIC OIL BURNING WATER HEATER
A self-contained automatic oil burning water heater for domestic and small commercial hot water supply employing a natural draft, vaporizing type oil burner of special design in a vertical fire tube water heating element integrally designed. Burns No. 1 fuel oil. Made in two sizes as follows:

Model No.	Capacity in Gals. Hot Water Per Hour	Max. Gals. Oil Per Hour
26 66	25 55	.22

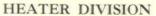
For larger commercial hot water supplies, the M-W Boiler Units for hot water heating, Models 400 and 800, offer correspondingly increased capacities.

Models 400 and 800, offer correspondingly increased of M-W OIL BURNING RANGE
Cooking ranges utilizing No. 1 fuel oil in a specially designed self-contained, natural draft burner. For restaurants, hotels, lunch rooms and similar commercial cooking purposes. Made in five models and two sizes. Extremely economical to operate.

APPROVED DESIGN
All M-W Oil Burning Units are listed as standard by the Underwriters Laboratories and are equipped with the necessary electrical controls for fully automatic operation (except the oil burning ranges which are equipped for manual control).

Send for descriptive folders.

M-W OIL-BURNING RANGES Two types—for homes, restaurants, hotels, lunch rooms, roadside stands, clubs, yachts, etc.





MOTOR WHEEL CORPORATION LANSING **MICHIGAN**

Silent Glow Rotary Oil Burner

SILENT GLOW OIL BURNERS

In Types to Meet Every Heating Need

available colors and chromium.

The three basic types of oil burners manufactured by the Silent Glow Oil Burner Corporation are designed to meet every type of boiler or furnace requirement through a wide range of capacities from threequarters of a gallon of oil per hour to 65 gallons per hour. The major charac-

teristics of the ten models and sizes offered are summarized in the table below.

churches, schools, small apartment buildings and larger homes requiring the equivalent of 3,000 square feet of steam radiation or less. This is a deluxe model of superior construction throughout finished in chromium plate and vitreous enamel. Horizontal rotary burn-

SILENT GLOW MODEL G

SILENT GLOW MODEL 1000

A simplified pressure atomizing gun-type burner

for domestic applications requiring equivalent steam

radiation of 1,000 feet or less. Exposed metal parts

finished in cadmium plating and black lacquer. Also

A pressure atomizing burner especially adapted for

SILENT GLOW MIDWEST OIL BURNERS

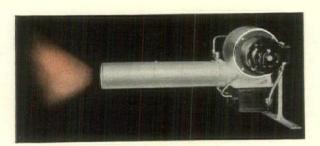
ers manufactured in six sizes handling the heavier oils up to No. 5 with-out pre-heating. In all models oil is atomized through a centrifugal atomizing cup revolving at 3,450 R. P. M. An aluminum fan mounted on the spinner shaft forces approximately 30% of the primary air through the atomizing cup with the oil, while the remainder is introduced for combustion around the outside of the atomizing cup which is thus cooled and protected against carbonizing.

AUTOMATIC CONTROLS All units, except when de-

All units, except when designed for manual or semi-automatic operation, are equipped with standard con-trols of listed type. All models are listed as stand-

ard by the Underwriters

Laboratories.



Above-Silent Glow Model 1000

Right-Silent Glow Model G

Model	No.	Type	Oil Grade	Gals. Oil Per Hour	lgnition	Applications
The same of the sa	120000000000000000000000000000000000000	Vertical Rotary		3/4 to 11/4 1 to 10	Gas Pilot or High Tension Electric	Wall flame rotary burner for domestic round or square ver tical boilers and warm air fur naces.
Silent Model		Gun Pressure	3	1 1/3 to 3½	Electric	For vertical or horizontal sectional or tubular boilers and warm air furnaces of all type within capacity range.
Silent Model		Gun Pressure	3	1¾ to 10	High Tension Electric	De luxe unit for all types of boilers, or furnaces within ca- pacity range.
	st 106 208 311	Horizontal Rotary Cup	3 4 5 5	1/3 to 2½ 1 to 7 4 to 25 15 to 65	Expanding Gas Pilot	For domestic and commercia applications in all types of boil ers within capacity range. De signed especially for handling heavier oils.

SILENT GLOW ROTARY OIL BURNER

This wall flame rotary burner is designed for small domestic installations where the equivalent steam radiation does not exceed 3,250 square feet. The oil is mixed with a controlled volume of air and thrown from rotating head over a hearth place against specially designed refractory grilles where it burns with a gaseous blue flame.

DISTRIBUTION AND SERVICE

Branch offices are maintained at Boston, Mass., Chicago, Ill., and St. Paul, Minn., through which regional distributors and agencies are supervised. All Silent Glow representatives maintain factory trained men. Branch offices offer engineering services to architects upon request.

Silent Glow Mid-West Oil Burners

AMERICAN ARCHITECT

SILENT GLOW OIL BURNER CORP.

HARTFORD, CONNECTICUT

THE READERS Have a Word to Say

MORE ABOUT WORLD'S LARGEST ROOFS

Editor, AMERICAN ARCHITECT:

HEN I read the caption under the picture on page 29 of your May issue, "Detail of Travel and Transport Building, which is 125 feet high and 200 feet across. This is the largest unobstructed area ever enclosed beneath a roof," I took it to be one of those pardonable slips which are so obvious that they are scarcely worth comment; but when your correspondent, Mr. Harry Bogner, on page 96 of your July issue, finds it necessary to point to Breslau and to Leipsic. Germany, for examples of larger areas, I feel impelled to ask, why go so far abroad?

It would seem that the unobstructed area under the roof of The Travel and Transport Building is about 31,400 sq. ft. This may be compared with the following

approximate areas:

8th Coast Artillery Armory, New York City. 145,000 sq. ft.
Atlantic City Convention Hall. 144,000 " "
University of Minnesota Field House 90,000 " "
Chicago Stadium. 77,000 " "

Other buildings in this country with unobstructed areas exceeding 31,400 sq. ft. might also be cited. It may be that your caption writer intended to apply his statement to dome roofs only, but even this would not make it correct, as Mr. Bogner has shown.—Gavin Hadden, Civil Engineer, New York.

HOW TO MAKE A LIVING OUT OF ARCHITECTURE

Editor, AMERICAN ARCHITECT:

N the July issue of your magazine I read an article entitled "How to make a living out of Architecture," but do not consider that any satisfactory solution was offered. So much has been said and written on this subject that I wish to call attention to some very simple facts.

In general people make their living in one of two ways: either by giving services for which they are paid, as professional men, craftsmen, etc., or in a business, where profits are made from such transactions as sales

of goods, securities, etc.

It is impossible for any professional man to make as much as a successful business man, as he is paid for services, and cannot, so to speak, make a clean-up on a transaction which may be made in an hour. However, if he conducts his business properly, he is fairly remunerated for work done, and does not assume the risk taken by the business man. Fortunes are made by taking risks, and for each one there are a large number of unheard-of failures. As the professional man does not take risks, he should not expect a large profit.

It is ridiculous to compare the earnings of an architect with those of a successful manufacturer. The manufacturer deals with the money of stockholders, and may fail both for himself and them. The architect can lose

nothing beyond office expenses.

In general an architect should have three qualifications: Ability to do the work given him, ability to get the work, common sense or judgment.

If he does not have No. 1, it will be found out either in an architectural school, or in an office where he is employed, and his career in the profession will end, unless he becomes what might be classed as an architectural broker; that is, a man who simply runs an office, and employs capable men to do his work.

Failing in No. 2, he may rise to be a partner in a firm, due to his ability in No. 1 and No. 3. Qualification No. 1 can not be given by a school, it may merely be highly trained and developed, whereas No. 2 and No. 3 are born in the man, and can only be developed by business experience. I am ready to admit that a certain amount of business training might be of use to the architect who starts out for himself, but doubtful if it should be included in an architectural school, as they cannot cover everything, and many graduates never practice independently.

The average man lacking in No. 1 does not get very far, and turns to some other way of making a living, without much damage done. Unfortunately, in all work, the number of men employed has to be many times greater than the number of employers. Many men are better off on a salary, and misfortunes arise from men lacking in qualifications No. 2 and No. 3

attempting to go in business for themselves.

I think there are three simple "dont's" which would save endless trouble for the man starting for himself.

1. Do not start work for any man unless you think he can finance the building, or at least expects to pay you for the drawings. Endless work has been done for people who expect to get someone else to finance the project after drawings have been made, and who have no thought of paying for the drawings if it does not go ahead. If you do work of this sort, you are gambling, and should be prepared to lose, and not cry about it.

2. Do not start any work without being sure that the client knows what your charges are to be, and agrees to them, irrespective of whether the building is built or not. A contract is best, but in any case a letter should be written advising him. Failure to do this has led to endless trouble, especially with people who did not know they were to pay unless the building was built.

3. Do not lead the client to think he can get more than his money will buy, and refuse to make drawings for a more expensive building than he is willing to pay for. Many architects have made drawings for buildings which they knew would exceed the stated limit, with the feeling that the client might become carried away with their beauty, and build in the end. This may work occasionally, but usually ends disastrously.

If these rules were followed, less work might be done, but there would be fewer uncollectable bills. There is no point in doing work which is either not paid for, or

for which the client gets nothing for his money.

An architect is employed by his client, and is supposed to be working in the interest of the man who employs him. He should not advise his client to erect a building which will not be a paying investment, or to build a house beyond his means, in order to get a job, any more than a surgeon should recommend an unnecessary operation for a fee, or a broker sell something unwise for his customer, for the sake of a commission.

It has been thoroughly proved that when an architect charges the recommended commission, and pays the average for draftsmen, office rent, etc., there should be a fair profit and return for his work; he should not ex-

pect more; he takes no risks of financial loss.

Endless articles have been written on office systems, some of which would add so much to the clerical overhead, that they are comparable to certain departments in the government, where the expense of collecting a tax may be greater than the tax collected. Accurate books should be kept, and drafting time should not be wasted. A good bookkeeper costs less than a good draftsman. An architect is better trained as a draftsman, and his time is worth more on his board than over the books.

A budding architect, who has nothing to lose but his own time can take chances making drawings without being sure of pay, as he may as well do that as sit in his office, but it is poor business to employ men to work

on any such project.

In normal times a man on salary in an architect's office is paid about the same as the average man of equal ability in some other business, and the average architect I believe receives about the same as the average man in some other professions. It is my belief that all professions are overcrowded at the bottom.—Edward F. Hoffman, Jr., A. I. A., Philadelphia, Pa.

GOVERNMENT AID SUGGESTED TO REPLACE OBSOLETE BUILDINGS

Editor, AMERICAN ARCHITECT:

OLLOWING is the copy of a letter mailed May 20 and acknowledged by the President and Senator Robinson of Arkansas; also copy to Senator K. D. Mc-Kellar and Speaker Garner. The President, through Lawrence Richey, Secretary, promises to bring this to the attention of the Secretary of Commerce, who is looking after the program laid out by the President.

Subject: Employment and Return of Trade Based on a National State and Municipal Condemnation Measure or Law Regarding the Replacement of Dangerous Build-

ings:

Cities and towns through the United States have obsolete buildings which have been paid for many times over. As a rule, these buildings are dangerous to life and are fire hazards, unsanitary, and unsightly in their community. These buildings, as they now exist, are direct violations of existing Building Codes.

Now, why not a measure to condemn these buildings through the proper channels, and refinance their replacement through government loan aid or some other method considered safe and sound? By so doing, thousands of cities and towns throughout the nation will become in time places of beauty instead of a series of ugly makeshift buildings. Should this suggestion prove feasible, it should cause a resumption of the building

industry. We of this field can go into the market for purchases of material and supplies including the employment of all classes of labor which will, in turn, revive shipping, manufacturing and trade in general. Our own potential buying power of the general necessities of living will augment the trade of those not directly connected with building, thereby affecting the products of raw material and farm products and instigating a general resumption of business.

No human or machine can endure where circulation is denied. This, I claim, is the situation of America's greatest industry—the building trades—its circulative powers are cut off and have been this way for the past three years and it now is at its lowest ebb. It will, I am sure, provide a train of thought on a matter heretofore neglected. Many people were under the impression that the reconstruction measure would be beneficial to building, but are very much disappointed.

Trusting that you will see in this note, respectfully submitted for your consideration, a possibility of general relief, I am—J. J. Broadwell, Architect, Jackson, Tenn.

SUBLETTING OF GOVERNMENT CONTRACTS

Editor, AMERICAN ARCHITECT:

HE manner in which numerous sub-contracts are let by contractors on government work is distressing. Many government contracts are let to firms who make a practice of following up government work and when awarded a contract sublet practically the whole thing after combing the country for sub-bids lower than those upon which the original bid was based. This means that much of the sub-work is done at a loss to the sub-contractors who possibly made a mistake or were not familiar with government work—and the profits from such transactions go to the general contractor.

If the names of the various sub-contractors and the amounts of their bids were submitted in the original proposal and a requirement that these subs be adhered to, it would put an end to a practice which appears very unfair. I believe it would also place more work with contractors living in the immediate localities where the work is to be done, which would appear proper.

The above is but one of the objectionable practices of government contractors permitted under their contracts. Shouldn't we do something about it?—Frank H. Struble,

Architect, Salem, Oregon.

Editor's Note: A bill has been introduced in Congress to remedy this condition. The Huddleston plan, briefly summarized on page 40 of the July issue and intended to eliminate "shopping," has been adopted by the Boston Building Congress.

· FIREPLACE BUT NO CHIMNEY

Editor, AMERICAN ARCHITECT:

VISITING the Architectural League, I had the pleasure of inspecting the many creditable designs submitted for "A Small Suburban Library." I should like to draw the attention of the committee to an important omission in the winning design—the plan calls for a fireplace in the reading room, but the chimney is omitted on the elevation. I did not submit any design and have no personal interest in the selection.—Charles E. Hodges, Architect, New York.



WOULDN'T THIS MAKE YOU BUY A NEW HOME, TOO?"

"JUST THINK—a home that's really cool and comfortable all summer long—and is kept that way by the same equipment that heats, humidifies and ventilates in winter! No more stifling, sleepless nights—no more wilting, breathless days, regardless of how hot the weather is outside! That's what I want and that's why I bought a new home now.

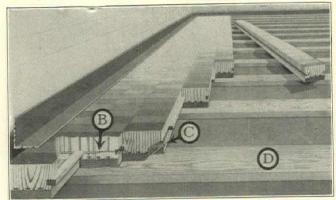
"Sure, building prices and materials have been really cheap for some time, but that wasn't enough to clinch the sale with me. And to think that I only have to pay a little more than the cost of ordinary heating equipment for a home equipped with a Sirocco Conditioner. Wouldn't that make you want to buy a new home, too?"

The American Blower Corporation is one of the world's oldest and largest manufacturers of air conditioning equipment. It is the policy of the American Blower Corporation to collaborate with architects and consulting engineers in the design and application of air conditioning equipment, and to distribute its products through the established channels of the contracting trade. Send for architects' bulletin No. 1127.

AMERICAN BLOWER CORPORATION, DETROIT, MICHIGAN CANADIAN SIROCCO CO., LIMITED, WINDSOR, ONTARIO BRANCH OFFICES IN ALL PRINCIPAL CITIES



THE MOST **Practical** FLOOR FOR GYMNASIUMS AND SCHOOL SHOPS



BLOXONEND the Original Strip Type Block Flooring

Years Service Proves that BLOXONEND Construction Principles are Correct!

B Lateral Nailing

> C Toe Nailing

D (x 4 in. Strips BLOXONEND—the original strip type block flooring has behind it a 16-year record of satisfactory performance. Kiln-dried blocks of selected Yellow Pine are securely dovetailed endwise onto substantial baseboards that are inflexible enough to carry over all uneven slabs or sub-floors. This guarantees the degree of smoothness in the finished floor that is expected of the accurately milled composite strips of BLOXONEND.

In gymnasiums and auditoriums where utmost resilience and foot comfort are essential, BLOXONEND is laid over and toe-nailed to floor strips with no fill between. The tensile strength of BLOXONEND—which is equal to a good inch floor—makes it possible to bridge these voids and obtain the necessary resilience. Special nails for lateral nailing come positioned in counter-sunk bores ready for driving.

A floor of BLOXONEND is handsome (natural color), inherently non-slip and non-splinter and remains smooth so long as the building stands. Its remarkable resilience (due to laying over strips with voids between) eliminates heel bruises and shin splints which injuries are usually caused by hard, unyielding floors. Write for free sample and descriptive booklet.

500 Schools Use Genuine Bloxonend

CARTER BLOXONEND FLOORING CO.

General Offices, Kansas City, Mo.



Found in the U. S. Patent Office

(Continued from page 25)

"Thin pieces of paper are placed on opposite sides of the wire screen frame, and the frame, after the paper has been thus placed, is brought up to the mouth and the performer sings, speaks or hums through the paper. The sound of the voice is first split up through the fine pores in the paper, striking the front side of the wire screen and causing vibrations therein, then passing through the holes to the rear side of the wire screen, again causing vibrations therein, so that the sound of the voice is magnified. Any tone, tune or the sound of any instrument or the phonograph can be imitated thereby. The effect of these vibrations on the nerves is soothing and quieting. It is also useful in talking to deaf persons, as the sound can be heard by them much better than the ordinary voice."

These little touches make a house a home and remove the discomforts. Flies are one cause of discomfort. Suppose when showing a prospective buyer through the new house you came to the dining room and could point to a little machine plugged into the electric light socket.

"Oh, Mr. Smithers, what is that—a motion picture

machine?" exclaims the eager little woman.

"That, Mrs. Blivens," is the reply, "is the patented stereopticon fly catching machine." You thereupon press a button, the light is turned on, projecting a picture of a jar of honey on the white wall opposite. If there happens to be a fly in the room at the moment, he flies over and barges into the picture in the expectation of a meal. He is then, of course, caught upon the wall which you have thoughtfully coated with a sticky substance.

And so one might go on, adding to each room in the house those little features which our inventors have so thoughtfully provided. Just go down to the Patent Office and you can find all the ideas you want. Of course, you may have to pay the inventor a royalty for using his idea, but what of that? Surely, you would not have genius go unrewarded.

7 Jobs and 21 Active Prospects

(Continued from page 15)

greater interest in the exhibition and providing new attractions has resulted in serious consideration being given to a plan for including a display showing the possibilities of reconditioning buildings. Such expansion of the exhibition would be timely and should prove an invaluable medium for increasing modernization work and clearing it through architects.

Although the exhibition was only opened in May of this year, the interest aroused has shown the advisability

of devoting additional space to the display.

The headquarters of a broad-gauge reliable building material dealer is a logical place for holding such exhibitions. Care should be exercised in displaying the type of houses and providing information of the kind in demand by the buying and building public of today. It is a merchandising problem and must be recognized as such. The idea has possibilities that can be made available to every locality in the United States at the present time.

NEW MATERIALS & EQUIPMENT

BRIEF REVIEWS THAT MAKE IT EASY TO KEEP IN TOUCH WITH THE PROGRESS MADE BY PRODUCERS



Nailcrete Nailable Cinder Blocks

The Nailcrete Corporation, New York, has placed on the market hollow cinder blocks using asbestos in combination with cement and either sand or cinders as a nailable, fireproof unit. The blocks are steam treated and stated to effect a saving in plaster. When used to back up brick, stone or other exterior finish, furring is declared to be optional. Blocks are 8x8x16 inches in dimensions.

New Oil Fired Steel Heating Boiler

87M A new oil fired steel heating boiler has been placed on the market by the Bass Foundry and Machine Co., Fort Wayne, Ind. It is of all welded steel construction and is intended to develop the maximum efficiency of the gun type oil burner.

Ice Used in Room Cooler

88M The Chicago Pump Company, Chicago, has placed on the market a new room cooler which uses ice as a refrigerant. It is called the "Northern-Breeze"; warm air is cooled, dehumidified and washed as it passes through a special unit cooler. It is portable, electrically operated and runs from eight to fifteen hours on 300 lbs. of ice. Dimensions, 30" wide, 22" deep, 50" high.

Rising Stem Bronze Gate Valve

89M A new rising stem bronze gate valve has been introduced by the Kennedy Valve Manufacturing Company, Elmira, N. Y. It is for 125 lb. steam pressure and 175 lb. water pressure.

Automatic Storage Water Heater

90M An automatic storage water heater made of monel metal and stated to withstand a hydrostatic pressure of 400 pounds has been placed on the market by the Whitehead Metal Products Company, Inc., New York. It comes in six sizes with respective capacities of 20, 25, 30, 40, 50 and 60 gallons. The heater is automatic and is equipped with snap action thermostat to prevent overheating, and has an automatic safety pilot.

Westinghouse Water Heater

91M A new line of water heaters has been introduced by the Westinghouse Mfg. Co., East Pittsburgh, Pa. They are finished in a white cordovan, grey-trimmed exterior. Two types are in the line—the automatic, single heater tank and the adapt-o-matic two heater tank. An adjustable thermostat allowing for a temperature range of from 130 degrees to 180 degrees has been installed. Made in 10, 30, 50 and 80 gallon capacities.

New Duplex Thermostat

92M A new Duplex thermostat has been placed on the market by the Barber-Colman Company, Rockford, Ill. It is suitable either for general use as a two-temperature thermostat or for applications requiring control of double range circuits. The instrument is essentially two room type thermostat units mounted side by side and individually adjusted to any range between 60 degrees and 80 degrees by means of a lever and scale at the bottom of each unit. A manual or automatic switch may be used to change the thermostat at morning or evening, placing the proper unit in control of the heating equipment.

Acidproof Sinks with Integral Drainboards

93M A new line of acidproof sinks with integral drainboards has been introduced by the United States Stoneware Co., New York. The sinks are made of chemical stoneware and are guaranteed acid, alkali and corrosion proof all the way through. They are molded in one piece. Finished with a dark brown glaze to insure easy cleaning.

General Electric Introduces Oil Burning Furnace

94M A new type of oil burning furnace utilizing the heavy and less costly domestic fuel oils has been developed by the General Electric Company, Schenectady, N. Y. The new unit, completely assembled at the factory, is completely automatic; the entire apparatus is enclosed in steel. Supplies hot water in summer. A new principle of combustion is used, called progressive impact atomization. It is declared to be unusually economical in operation, according to a number of tests made last year in actual installations.

New Finish for Exterior Painting

95M The Paint and Varnish Division of E. I. du Pont de Nemours and Company, Wilmington, Del., announces Dulux White, a new finish for exterior painting. The vehicle is a synthetic oil product new in the painting industry. Sets quickly.

To Get More Information, Use Post Card on "Catalog Insert" Preceding

New Night Light

P6M The development of a night light for use in lighting stairways, stair landings, corridors, and hospitals has been announced by Curtis Lighting, Inc., Chicago. The unit consists of a box that will fit into a shallow partition 3" deep. The cover has a glass window through which light is directed onto the floor adjacent to the unit. A shutter controls the amount of light. Cover is installed flush with the wall. It is known as "Glo-Ray."

Copper Radiators

97M A new line of copper radiators for domestic, industrial and general heating purposes has been placed on the market by the Long Manufacturing Co., Detroit, a subsidiary of the Borg-Warner Corp. The new heating unit operates on low steam pressure. Most of the models are of the built-in-wall type.

New Paging System

98M A direct paging system for factories, offices, stores, garages, hotels, theaters, railway stations, hospitals, etc. has been announced by the Stromberg-Carlson Telephone Manufacturing Company, Rochester, New York. The equipment consists of microphone, amplifier and loud speakers. With the microphone at the telephone switchboard the operator can reach anyone in the plant.

Rustproof Paint

99M A new type of rustproof paint has been placed on the market by the Skybryte Company, Cleveland, Ohio. It is called "Rust-tox" and is claimed to be not only rustproof but, when used over rusted surfaces, to prevent further rusting. The product is colorless and transparent, though it may be pigmented if desired, and is a good vehicle for aluminum flakes. It may be brushed or sprayed on at any temperature above 35 degrees F. Resists acid fumes, smoke, salt air and oxygen.

Room Cooling Cabinet

100M An ice storage cabinet with an electric blower which circulates cooled air into the room has been placed on the market by the Modine Manufacturing Company, Racine, Wis. The device is called "Ice-Fan"; it draws air from the room, passes it through the ice-charged cooler where it is cooled, and delivers it to the room. It is also claimed to dehumidify.

Period Collection of Salubra Wall Coverings

101M Frederick Blank & Co., manufacturers of Salubra wall covering, have introduced a new period collection of designs suitable for colonial work. This collection was developed from original sources. Some of the designs are exact reproductions of originals, others are interpretations embodying characteristic motifs of the various periods.

Insulating Paint

102M A paint that is an insulator declared to stop 1,600 volts of AC current has been placed on the market by the Eastern Mabelite Corporation, New York. The paint is stated to be acid resisting, heat resisting and to have remarkable abrasive qualities. It is also said to be a positive stop to electrolysis and corrosion.

Concealing Bolt and Screw Heads

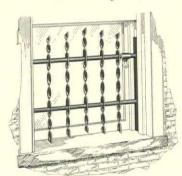
103M A new device called the "Crowner" has been placed on the market by the Rawlplug Company, Inc., New York, for the purpose of covering and concealing the heads of bolts and screws, thus sealing them against tampering. The device is a flat washer with multiple points projecting at right angles in such a manner as to give the appearance of a crown. The crowner is placed on the shank of the screw or bolt, which is then driven home. A special tool is placed over the projecting points and tapped with a hammer, which draws the points together over the center of the washer to form a smooth, hemispherical cap which conceals the screw or bolt head. The device is made of rustproof metal to match any desired finish.

Protection Against Pilot Failure

104M A development in the automatic control field is a device which provides instant and positive protection against the escape of unburned gas or oil in the event of flame or pilot failure. It is called the Protectoglow and is made by the Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., being entirely electric and without moving parts. A feature is that it can handle installations where conventional controls are inadequate. It operates through a tube which acts as an electrical relay and is capable of operating on an electric current passed through the flame; should the flame fail, the circuit through the flame is broken, instantly shutting off the gas or oil flow.

New Window Guard

105M A window guard that does not damage woodwork or paint, that cannot be removed unless



unlocked with a key, and that does away with bolts, screws, etc., is called the "Shur-Loc" window guard and has been placed on the market by the Shur-Loc Window Guard Corp., New York. The guard is placed directly below the upper window sash, permitting the upper win-

dow to be lowered but a few inches, but not interfering with the operation of the lower sash.

To Get More Information, Use Post Card on "Catalog Insert" Preceding

SMITH & WESSON Flush Valve

Guarantee

Smith & Wesson Flush Valves are guaranteed to be made of first-class material, free from defects in workmanship, and to give a dependable flush at all times when properly installed.

Smith & Wesson will furnish new valves in exchange for any which may prove to be defective within five years of the purchase date.

SMITH & WESSON SPRINGFIELD, MASS.

Through Europe on a Bicycle

(Continued from page 13)

all at the table when we asked him for a speech. "I greet you" he said with the utmost good humor, "not as the crazy looking Frenchman which I overheard you calling me on the road this morning, but as a perfectly sane American citizen!" He was a great artist and had an unusually clear perception of the underlying essentials of beauty in nature and in architecture.

UR route took us to Paris, through the forests of Fontainbleau and Compeigne, down the valley of the Loire with its inimitable chateaux, and back through the picturesque hill towns of Normandy. At Caen we noticed signs of preparations for a celebration. The next day was a national fete day, the anniversary of the Republic. In the evening the fun began by the firing of cannon from the old fortress of William the Conquerer; the illumination of houses with lanterns and the display of French, Russian and even American flags. There was also a procession by a motley throng. All this fired our patriotism and we decided to have a procession of our own. So we purchased flags and lanterns, two of the boys obtained tin flutes and, with the Stars and Stripes and a big French flag in front, we paraded the streets of the dirty old town to the astonishment of the inhabitants.

This trip through France proved such a success that a few years later I decided to take another. This time there were four in our party and we again used bicycles, going to England first. Upon landing in Liverpool I found a telegram asking me to come to London to be an usher at the wedding of a friend. I departed hurriedly in my bicycle togs, and when I arrived found that the affair was to be a formal one with some of the English nobility present! However, I repaired to the Jewish quarter and rented the necessary clothes. So much do clothes that one habitually wears become a part of one's self that these rented garments seemed hardly attached to my body during the ceremony—and this feeling was augmented when my ill-fitting hat almost fell off while I was walking from the church to the carriage!

When returning north I stopped at Oxford, registered at a hotel for the night and settled myself at a table in the dining room. Presently a tall, athletic looking man came in, warmed his hands at the open fire and glanced around as if to decide where he would sit. Then he came to my table and asked if he might sit with me. He was cordial, talkative and interesting, and had an unmistakable English accent. But I could not put these two together and place his nationality. Finally I asked him, whereupon he laughingly said, "Well, I am an Englishman, but I was a cowboy on your western plains for two years and it took the edge off me!"

Starting from Liverpool our route took us first through Port Sunlight, then to Chester, and on to Oxford, Cambridge and London.

Not a paragraph, not a chapter, but a whole book one should have to describe a city like London, which for generations has been the abode of aspiring English writers, philosophers, painters, poets and statesmen. I will not attempt it here but proceed to relate some experiences which happened to us in Southern France.

One warm morning in Auxerre I started to sketch a church while sitting on a doorstep, full in the hot sun. Presently the blinds of a nearby window were opened and a woman peered out, asking whether it was not too hot to be doing that sort of thing and offering to have her two boys hold an umbrella over me while I worked. Soon they tired, however, and then the man of the house came out and disappeared down the street. Presently he returned. He was carrying two long poles, a ladder and a piece of sail cloth. These were placed up against the house and an awning built over my head! As I finished my sketch I overturned an ink bottle. The woman across the street brought water, soap and a towel with which to wash my hands, while he who had built the awning asked me to remain and partake of wine.

But it was not all like that. Mr. Pennell had excited the venturesome spirit in two of us to climb high in the mountains to La Chaise Dieu, which translated reads, The Chair of God. Peasants we met on the way asked us whether we were trying to ride up to the stars—push our way to them would have been putting it better, so steep was the ascent.

At noon we entered a village where we were such curiosities that children screamed with delight at the sight of us and rushed to tell their parents of the strange apparitions. The woman in the cafe who took our order walked backward so that she would not for a moment lose so strange a sight.

THE village church had a charming interior and we decided to sketch it. The curé came in, uncovered some furniture for us, and then departed leaving us alone. Time wore on. Suddenly I realized that someone had entered the church and was standing behind me. I turned and looked into the eyes of a gendarme. He asked for my passport and also asked many other questions. Finally, when my answers did not seem to be satisfactory, he ordered me to go with him to the station. There messengers were sent out for the rest of the town guards. When they arrived a most important parley was held. Half of them thought I was a German spy and should be detained for the night. The other half were for letting me go.

They were about evenly divided, so I saw that the psychological moment for saying something in my own defense was at hand. My French was terrible but I tried to tell them this: That I was travelling through France making sketches of its important buildings, that I had honored their town by including their church among the number, that I knew that these formalities were required by their duty, but if there was nothing more required, I would have the honor of bidding them good-day. Then I made a move toward the door. No one tried to stop me. I moved closer to it, bowed low, bade them good-day, opened the door—and went out!

My companion was packing up our things. When we went to get our wheels, mine, which I had locked, was there but his was gone! We could look down the street to the public square and noticed a large crowd gathered there. We promptly pushed our way through it and in its center found his wheel, with a Frenchman trying to

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Steuben Architectural Glass in intaglio, designed by Raymond Hood, Architect, New York, N. Y., for elevator cabs of the Daily News Building, New York, N. Y.

Steuben ARCHITECTURAL GLASS ride it! Needless to say we got out of that town as fast as we knew how.

At dusk we reached La Chaise Dieu. As we wound our way through the streets we were followed by children and also by a man who evinced unusual interest. Upon registering at the inn and ordering our dinner, the latter did likewise and secured a table close to ours. During the meal we noticed that if he were chewing his food when either of us spoke he would immediately stop chewing. The act of chewing, we reflected, interferes with hearing, so we knew that we were being shadowed. As we arose to leave the room he also arose, and as we were going out he placed his hand upon the shoulder of my friend and said in the strangest English I have ever heard, "I beg your pardon, gentlemen, but I have read English from books and teach English in the village school, but this is the first time

in my life that I have ever heard English spoken!"

He did not want us to go to bed and in the morning was waiting on the doorstep. He conducted us to the village church and insisted that the curé get all his special treasures to show us. When it was time to leave he accompanied us to the outskirts of the town and as we rode away—on a straight coast of nearly a mile—we could look back up the hill and see him watching until he was a mere speck in the distance!

After visiting Venice—going by rail—our trip ended with the resolve that we would soon do it again—and I for one did. So anxious was I to go again and that in some kind of company, that I loaned a fellow draftsman the wherewithal to go with me, giving him ten years in which to repay it. He took all of that for I still have his promissory notes! But then I had another glorious trip—and so did he!

How To Make the Front Page

(Continued from page 33)

let us say, "It is a fallacy to assume that the employment of an architect is merely an added expense to the home builder," the article might have been arranged with this lead: "Local home builders who are engaging in their first building experience this year, which promises to establish a record for Blanktown, need to be reminded that the employment of an architect is a vital step,' said Mr. Christopher Wren D'Espouy, prominent local architect and director of the Blankville Chapter of the American Institute of Architects, who has recently returned from the Institute convention"—etc., etc.,—far into the night. This method gives the desired local angle, and also a local name. Names are the joy of an editor's heart; the more correctly spelled names he can get in an edition, the warmer his little heart glows.

NEWSPAPER reader in Kalamazoo gets very little kick out of reading about the honor awards in Philadelphia, numerous learned gentlemen to the contrary notwithstanding. However, if it were proposed to establish a system of honor awards in Kalamazoo, an incidental discussion of the way the system works in Philadelphia would be correct. It may possibly cover you with modest confusion to learn that your home town newspaper is more interested in you than in some plutocratic designer of skyscrapers who has the poor taste to live in some other town, but such is indeed the fact.

While I know only enough about the newspaper business to realize how very little that is, still it is possible that some of the things that have been profanely pointed out to me by more experienced journalists may be of use to architects who are engaging in the perfectly laudable enterprise of interpreting the profession to the public. I might call these suggestions: The Ten Commandments for the Architectural Publicist.

1. Give the building page editor a break. He will be much more inclined to slip in some of the promotion articles if you will see that he gets the routine news promptly and correctly. Remember you can get this information by telephoning your colleagues; he can't.

2. See that he has on file photographs of the leading architects of your town, and especially of the officers of your professional society. Most architects seem to have

a haunting fear that if they give a newspaper man their photograph he will enter it in a bathing beauty contest. This seldom happens.

3. Don't try to get the building industry entirely reformed this week; the papers will be coming out next week, too. In other words, don't try to tell it all in one long article; short artic'es will have more chance of conforming to the mechanical exigencies of the paper.

4. Don't call names; lumber dealers advertise; you

5. Remember the local angle; almost any subject that occurs in the architectural field has some local application, or can be fitted to a local situation.

6. Every paper needs short fillers for its building pages, and "half a stickful" is better than no mention. Most articles submitted to newspapers are too long and must be cut. Do your own cutting on the long ones, and supply plenty of short fillers, too.

7. Be sure that illustrations submitted for newspaper reproduction will reproduce. Pen and ink is the best medium. If you must use water color drawings, have the renderer be careful with the yellows, which print black, and the blues, which usually print out. Black and white and sepia washes are always preferable to water color.

8. If you submit cuts to the paper, be sure that they are the right kind. Most newspapers use 60-screen cuts; find out what your paper uses.

9. If an architect's name is on a drawing to be reproduced, it should always be placed where it will not be trimmed off. Newspapers in order to get the building itself as large as possible in the cut, will always trim off most of the surroundings and sky. If your name is at the bottom of the drawing, it will probably disappear; put it as close to the building as possible.

10. Play fair with the papers; if there are competing papers, release it to both of them at the same time, with the release date marked on the copy or illustration. If one is a morning and the other an evening paper, alternate, giving each the first opportunity in turn. And finally, and first and foremost, don't high-hat editors or reporters. If they call you up at ungodly hours to ask you why Frank Lloyd Wright thinks the Chicago Fair will be a "Babylonian orgy of architecture." try to tell them. I did. See these grey hairs?

PERSONALS

RICHARD J. NEUTRA has been engaged by the University of Southern California, Los Angeles, to give a graduate course in architectural design.

WALTER JOHN SKINNER, architect, formerly with Muirhead Shops, interior decorators, has opened an office at 952 Main Street, Bridgeport, Conn., for the practice of architecture and interior decoration. He desires manufacturers' catalogs.

J. YANNOPOULOS-CASSARIS, Rue Lycabettus 21, Athens, Greece, is interested in American building materials and wishes to get in touch with those exporting building materials to Greece.

FRANCISCO LEVY, architect, has moved from New York City to Lares, Puerto Rico. He would like to receive manufacturers' catalogs and samples.

STURGIS ASSOCIATES, Inc., has been organized for the practice of architecture as successor to the Office of R. Clipston Sturgis with offices continued at 120 Boylston Street, Boston. The organization is composed of William Stanley Parker, William B. Coffin, William Adams, S. Winthrop St. Clair, and Alanson H. Sturgis. R. Clipston Sturgis will maintain an association with the new organization as consultant.

OLLIVIER J. VINOUR, A. I. A., has opened a special consulting department at 915 Glennwood Ave., S. E. Atlanta, Ga. He desires manufacturers' catalogs and samples.

D. BURR DU BOIS has opened an office for the practice of architecture at 1134 North First Avenue, Tuscon, Arizona, with the mailing address of P. O. Box 2601, Tuscon.

LOUIS C. TIFFANY will, as president and art director of Louis C. Tiffany Studios Corporation, continue his activities in the field formerly covered by Tiffany Studios. His address is 46 West 23rd Street, New York.

ROBERT AND COMPANY, architects and engineers, Bona Allen Building, Atlanta, Ga., announce the appointment of J. Warren Armistead, Jr., A. I. A., as head of their architectural department.

HUDSON & HAMMOND, architects, have dissolved partnership. Mr. Hudson will continue his office at the present address, 760 Empire Building, Seattle, and H. G. Hammond will establish new offices at 4507 West Trenton Street, Seattle.

SKETCHES of modern homes were displayed for two days in the windows of the Rike-Kumler Department tore by members of the Dayton Chapter, A. I. A. The houses ranged in cost from \$4,000 to \$6,500, there being given the name of the architect, nature of materials suggested and estimated costs. No other articles were displayed in the main street window of the store. A number of inquiries resulted.



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It is at Portland, Oregon, and belongs to Harry A. Herzog, who designed it, lives in it, and painted it five years ago with Cabot's DOUBLE-WHITE. He writes as follows:

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STRENGTH OF LIGHT I-BEAMS. Report of an investigation conducted by the Engineering Experiment Station of the University of Illinois in cooperation with the Jones and Laughlin Steel Corporation. By Milo S. Ketchum and Jasper O. Draffin. Published by the University of Illinois, Urbana, Ill. Price, 25 cents.

DURABILITY OF SLATES FOR ROOFING. Bulletin No. 12 published by the Department of Scientific and Industrial Research, 16 Old Queen Street, Westminster, S. W. 1., London. Obtainable in the United States at the British Library of Information, 270 Madison Avenue, New York. Price 4d net.

SCHOOL OF CITY PLANNING and City Planning as a Professional Career. By Henry V. Hubbard and Howard K. Menhinick. Description of course at Harvard University. Published by the University at Cambridge, Mass.

SCHOOL OF LANDSCAPE ARCHITECTURE. Discussion of course offered at Harvard University, Cambridge, Mass.

· DEATH OF DR. GEORGE K. BURGESS

R. GEORGE K. BURGESS, for nine years director of the Bureau of Standards, died July 2. He entered government service over twenty-five years ago as assistant physicist. He was in the front rank of metallurgists and his work in this field during the world war won him nation-wide recognition. Born in Newton, Mass., 1874, he graduated in 1896 from the Massachusetts Institute of Technology with the degree of B.S. His Sc. D. was received from the University of Paris. On returning to this country, Dr. Burgess taught physics at the Massachusetts Institute of Technology and later at the University of Michigan. His experiments with the late Dr. C. W. Waidner blossomed into the Waidner-Burgess standard of light by which the illumination of lighting equipment could be measured with exactness. His work in pyrometry laid the foundation for the now widespread use of high temperature measurements by American industry.

Dr. Burgess served as an expert on the International Aircraft Board of the Allies and later became a member of the National Advisory Committee on Aeronautics. He was the author of a number of books. In 1927 he was a delegate to the International Conference on Weights and Measures in Paris and two years later went to Tokio as a delegate to the World Engineering Conference.

Stock Plans for Brick Houses

RITICISM has frequently been directed against the Common Brick Manufacturers' Association because of its making available stock plans. An explanation is printed in the May-June issue of the Association's organ, "Building Economy." This explanation has much to commend it for, unfortunately, there is altogether too much truth in the statements made. It reads, in part, as follows:

"The weakness in the architect's position is that, generally speaking, he has made no serious attempt to sell himself, his services and his profession, to the builders of small homes. He has yet to convince this type of prospect that his services are worth the fee he asks. And that the building contractor isn't capable of doing the job as well.

"Small home builders as a rule do not bother about architects. They haven't been impressed, educated, if you will, to the need of one. Their meager knowledge of construction is culled from the magazines. Their ideas of design, and frequently their choice of plan and type of home, come from the same source. And they place a child-like trust in the contractor.

"The architect has willfully and flagrantly neglected this field. In our own case a plan service became an imperative part of our promotional effort. House plans were necessary if small brick houses were to be built. And the architects weren't worrying about whether they were being built at all, much less whether they were being built of brick.

"It is encouraging to note that in many cities today the local institutes are busying themselves in an effort to sell architecture to the public. It is equally unfortunate that they were half a century late in beginning. And incidentally through their own bureau the national organization is offering a service of better than the average stock plans.

"The small house field is becoming increasingly important. Upon it right now depends largely the revival of the construction industry. When the architect comes to realize its possibilities there will be less building of houses haphazardly by so-called jerry builders, more of real architecture in this type of home and, let's hope, no need for the objectionable stock house plan.

"A forward step in this direction is provided by the recommendations of the committee on design of the President's Conference on Home Building and Home Ownership which found that the average small home is defective in design and too frequently poorly built. The committee made some very pertinent suggestions regarding design, construction and the responsibilities of architects, especially in the small home field. The architects have the solution of the stock plan problem in their own hands.

THE Ion Lewis Scholarship in Architecture, offered by the University of Oregon, was this year awarded to Henry Abbott Lawrence.

ORE than 20% of American homes will be mechanically cooled within the next five years, according to C. H. Landwehr, president of the Holland Furnace Company.

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What Architects Are Talking About

(Continued from page 35)

will be called upon to decide whether cooperation between individual business concerns in an industry looking toward stability, based upon reasonable prices, violates the Sherman Anti-Trust Law or the Clayton Act. There are many who feel that it should be illegal to sell below the cost of production and particularly for the purpose of injuring a competitor, and that more flexibility be incorporated in existing laws to apply in times of depression or national emergencies."

HAVE always felt that a well designed house of the same area and general specifications was worth a larger loan than a similar house without these qualifications because the former is more salable than the latter, and salability is one of the biggest factors to consider in appraisals, and if a house is salable, it reduces the possibility of foreclosure tremendously." That is the opinion of Frederick R. Peake, vice president and manager of the Community Building and Loan Association, Berkeley, Cal.

ARBLE and other stones are exported from Italy principally to the United States, France, Germany, Great Britain and Belgium. According to "The Italian Exporter," nearly 200,000 tons of rough marble were exported in 1929 as compared with 115,000 tons in 1931. Approximately 72,000 tons of building stone were shipped in 1929 and 45,000 in 1931. Slate fell off about 3,000 tons in 1931 as compared with 1929, which totaled a little over 9,000 tons.

CLOUGH WILLIAMS-ELLIS, F. R. I. B. A., will give a series of lectures in the United States this coming fall, according to the Institute of International Education, New York, which is arranging his speaking tour. The lectures will discuss the function of architecture and the importance of design in civilization.

THOSE who claimed that the new Class 2 construction in the new New York City building code was unsafe were confounded at a fire test recently conducted.

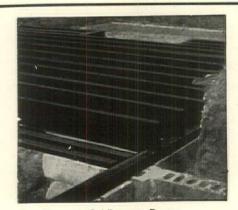
This class permits light steel joist construction in Class 2 buildings.

PREDETERMINATION of the prevailing rate of wages to be paid on all government construction work is provided for in the Metcalf Bill, which has passed both Senate and House of Representatives. The main purposes of the bill are to guarantee to mechanics on Federal public works payment of prevailing wages as provided for in the Davis-Bacon Act; to predetermine the prevailing wage so that the contractor may be able to bid with an intelligent understanding of what his labor cost will be; to penalize the contractor who pays less than the prevailing wage or who causes mechanics to refund part of their wages, and to require the government to pay prevailing wages on all construction work performed by the government with hired labor.

HE 1932 Paris Prize Competition offered annually by the Society of Beaux-Arts Architects was won by Richard H. Granelli, a draftsman with Schultze & Weaver. Medals were awarded to Max Abramovitz, New York (who was selected as alternate) and to Theobold Holsopple, Washington, D. C. The fourth finalist was Maurice Kleinman, Chicago. The competition was for an opera house to serve the national capital and to be situated in a public park.

EDERAL construction of post offices in towns of over 2,500 is proposed by the Registered Architects of Oregon. According to the plan, the building would house all activities of the Federal service. It is pointed out that where an annual rental of \$600 is paid, a \$15,000 building could be afforded on the basis of 3% interest, 2% amortization and 1% repairs, the building being completely amortized in fifty years.

A STUDY of style changes was recommended to the Porcelain Enamel Institute by R. Guy Cowan, who pointed out the necessity for cooperating with the makers of linoleum and kitchen furniture. He said that the designers and makers of women's costumes have been cooperating for years, as when a new color or style in



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Plants—Carbondale, III., Grenada, Miss., Louisville; Ky., North Little Rock, Ark., Montgomery, Ala. Marine Ways—Paducah, Ky. dresses comes out, at the same time are offered for sale all the accessories that go to make up the modern costume ensemble—shoes, hats, jewelry, stockings, etc. "So I suggest that individually or as a group you work with the other fellows to present the kitchen as an ensemble."

S TUDY of the physical and chemical characteristics of Pennsylvania building stones and Pennsylvania slate is being undertaken by research workers under the Greater Pennsylvania Council, a state planning organization, Harrisburg, Pa. The chairman of the technical advisory committee is William A. Hamor, Mellon Institute of Industrial Research, Pittsburgh.

THE Forty-eighth Annual Exhibition of the Architectural League of New York will be held at the 57th Street Galleries February 17 to March 11, 1933. The final date for reception of exhibits will be February 6. Arthur Loomis Harmon is chairman of the committee in charge.

A N exhibition of the summer work of members of the Architectural League of New York will be held at League headquarters beginning October 6. Work will consist of sketches in black and white or color, photographs or work in the crafts. Leon V. Solon is chairman of the committee in charge.

A LIST of architects to be suggested for consideration in church work is being assembled by the Bureau of Architecture of the Methodist Episcopal Church. Architects who wish to have their name placed on this list should address the director of the bureau, Rev. E. M. Conover, 1701 Arch Street, Philadelphia. Ten cents should be enclosed with the request for blanks. Only architects who have practiced for at least five years should apply.

THE Ninth Paris Prize in Sculpture of the Beaux-Arts Institute of Design, New York, was awarded to George J. Sklar. Ray Wever and Gabriel Kohn tied for second place. Fourth place went to Walter Yoffe, fifth place to Otto G. Dallmann, sixth place to Charles O'Donnell.

A SOVIET "radio city" is planned and the Russian government expects to inaugurate a world wide contest for the best design for the radio center. There will be 43 studios for broadcasting in addition to studios equipped for television.

FFICERS of the American Society for Testing Materials have been elected as follows: President, Cloyd M. Chapman, consulting engineer; vice president, William H. Bassett, metallurgical manager, the American Brass Co.

A N interim revision of the National Electrical Code, covering non-metallic surface extensions, has been adopted by the American Standards Association, New York City.

THE Associated General Contractors of America has gone on record as recommending the "One Price System" to reduce price padding and bid peddling.



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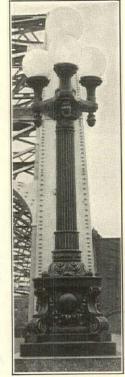
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How To Design Stone Lintels

(Continued from page 29)

141/4" should be used. If selected stone is used with the bed horizontal, the depth may be reduced to 12". Note that the weight of the lintel itself has been deducted in the tabular values and need not be considered.

Since a wall will arch over an opening if the height of masonry above the lintel is more than one half the length of the span, the load carried by the lintel, in that case, is the weight of the triangular section of the wall resting on it. The effect on the lintel, however, is somewhat more than the same load uniformly distributed, because of its triangular distribution. The equivalent uniformly distributed load is about equal to the weight of a wall one-third as high as the length of the lintel.

The depths of lintels required in such cases, where arching occurs, can be read at once from Table V without calculating the loads. The table is based on brick masonry weighing 120 lbs. per cubic foot. When arch action is not certain, the load carried should be estimated and the lintel selected from Tables I, II or III.

Stone lintels are used commonly in connection with steel lintels and cracks frequently result from a lack of understanding of how stone and steel act in combination. In fact, it is almost impossible to divide the load. Either the stone carries the entire load and the steel lintel acts merely as a form or centering, or the load is carried by the steel and the stone cracks, if it is in one piece, or opens at the joints, if it is in several pieces. The latter is a safer arrangement, as most of the settlement occurs during building, while the mortar is soft and the opening of the joints do not show as cracks.

HIS will be made clear by considering the simple case shown in Fig. 1. It is obvious that whatever deflection there is, must be equal in the stone and steel lintels. It can easily be shown from the characteristics of the materials and the laws of mechanics that the stress in the steel is about five and one half times that in the stone irrespective of the load or span, if the stone is Indiana limestone. Other stones would not differ much from this. Therefore, when the stress in the stone is just sufficient to crack it, say 1000 lbs, per sq. in., the stress in the steel will be 5500 lbs., or less than a third of the usual working stress. It is evident that if the steel has been designed for a fibre stress of 18,000 lbs., the stone will crack long before the steel has reached that load. A stone lintel of this type should have sufficient depth to carry the entire load, the steel lintel acting merely as a form for a few courses of brickwork.

If the stone facing is carried on the steel, as shown in Fig. 2, the stone should always be jointed to allow for a slight settlement and the steel lintel in this case should be designed for not more than three-quarters of its safe structural load. The deflection of 1/30 of an inch per foot of span, usually allowed in structural steel design, does not apply to steel members carrying stone facings. This limit is only safe for plastered ceilings.

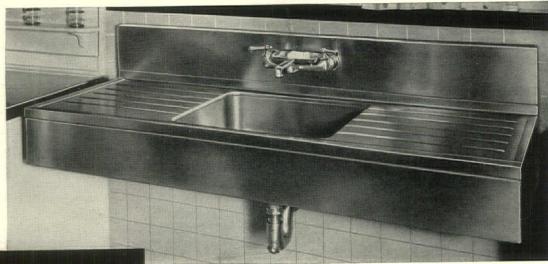
Architectural design sometimes requires a lintel or transom to be in one piece and at the same time limits the depth to a size that will not of itself safely carry the superimposed load and its own weight. A common case of this is the architrave above the columns of a portico with a pediment or attic wall above it. If the span between the columns is too wide for the depth of the architrave acting as a lintel, it appears to be a simple solution to put in a steel beam to "help" carry the load. This is impossible, unless the steel is made very strong.

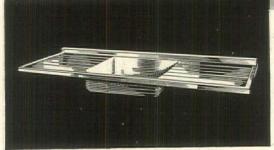
S an example, suppose a limestone lintel has a span of 16'-0" and a depth of 20" and the load carried, including the weight of the lintel, is 1200 lbs. per lineal foot. A 12"B25 lbs. would safely carry the load, from the standpoint of the steel, but the deflection would cause the stone to crack. To carry the stone without stressing it beyond a safe limit, the beam must be a 20"B 88 lbs. The best procedure in this case is to joint the stone and hang the blocks from the steel. If the lintel must be in one piece, a size must be selected that will at least carry its own weight and the steel and superimposed masonry be so designed and set that none of the weight will come on the stone lintel. This requires care in detailing and supervision but can usually be accomplished by leaving a space between the stone lintel and the steel and an open joint above the lintel to be pointed only after all the load has been applied and the steel member is fully stressed. The safest plan is to leave pockets for the bearings of the lintel and slip it into place after all other work is built, if feasible.

It is a fallacy to try to make steel and stonework act together. It is uneconomical and frequently disastrous as well.



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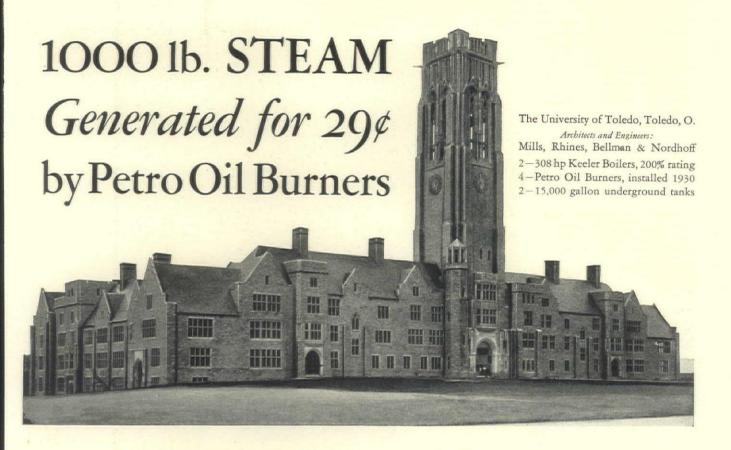


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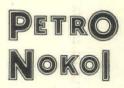
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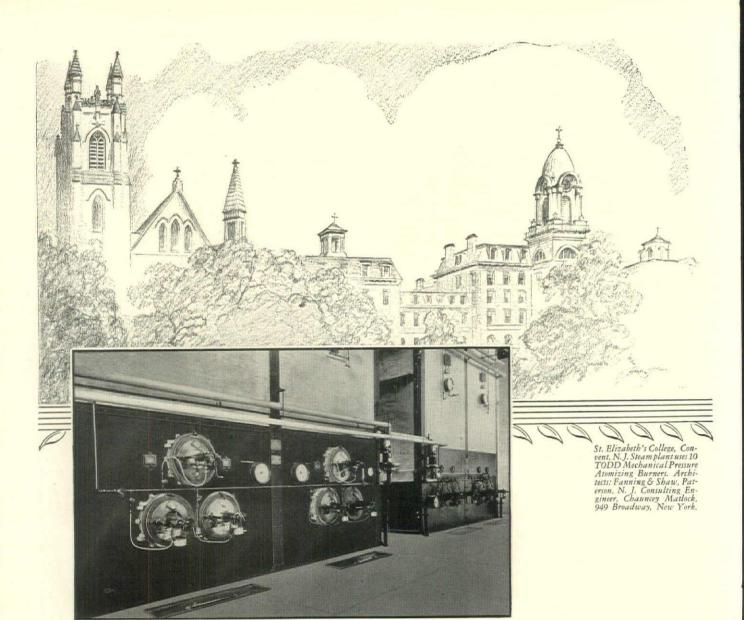
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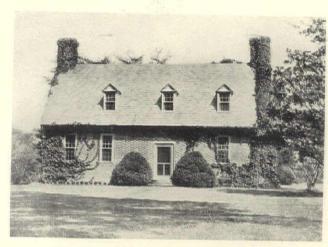
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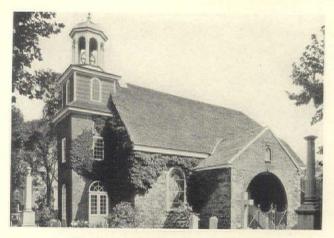


Thoroughgood House. From "Domestic Colonial Architecture of Tidewater Virginia"

DOMESTIC COLONIAL ARCHITECTURE OF TIDEWATER VIRGINIA

By Thomas Tileston Waterman and John A. Barrows. Published by Charles Scribner's Sons, New York. Illustrated; indexed; 191 pages; size 11 x 14; price \$15

FIFTEEN houses are described and illustrated by photographs and measured drawings contained in this book devoted to a little-known section of Virginia. The text is adequate in its enumeration of colors and materials; the drawings are well made. Some reproductions of old prints are given. Printing is good and the whole forms an excellent record of the houses illustrated.



Old Swedes Church, Wilmington. From "Early Architecture of Delaware"

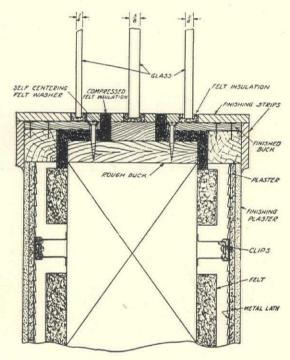
EARLY ARCHITECTURE OF DELAWARE

By George Fletcher Bennett. Published by Historical Press, Wilmington, Del. Illustrated; indexed; 213 pages; size $9\frac{1}{2} \times 12\frac{1}{2}$; price \$15.00

A COMPREHENSIVE study of early Delaware architecture, being a collection of photographs and detailed drawings showing the influence of successive Dutch, Swedish and English colonization. The buildings

illustrated cover a long period of time—1660 to 1840—and a wide range of style and type. Many of the buildings have never before been illustrated. Much space is devoted to the reproduction of details of the smaller dwellings and domestic buildings. The text is historically informative.

A feature of the book is a number of full sized details of mouldings. The book is well printed and the drawings and reproductions are all excellent.



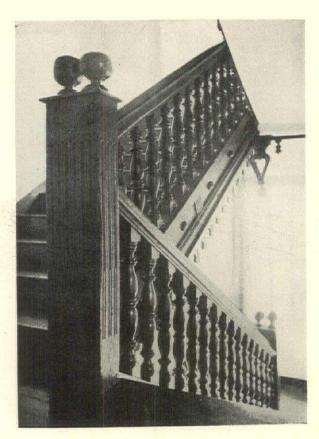
Details of Construction of N. B. C. Chicago Studios. From "Architectural Acoustics"

ARCHITECTURAL ACOUSTICS

By Verne O. Knudsen, Ph.D. Published by John Wiley & Sons, New York. Illustrated; indexed; 617 pages; size 6 x 9; price \$6.50

BOOK intended to convey the pertinent facts about acoustics to architects and others interested in building. The book is divided into three parts. In the first part, the author sets forth the fundamentals of architectural acoustics, beginning with elementary facts and developing from these the formulae and principles which should guide all good design. The second part tabulates and describes the physical properties of materials and types of construction which are basic in the control of sound in building. The third part works out in detail problems of acoustical designing in all types of buildings in which acoustics should be considered.

There are numerous tables on sound-absorptive materials, new data on the effects of the shape of an auditorium, etc. The author is associate professor of physics, University of California. In the appendix is a list of definitions of terms used in acoustics.



Double newels in a house at Deddington, Oxon. Early seventeenth century. From "Modern Practical Stairbuilding and Handrailing"

MODERN PRACTICAL STAIRBUILDING AND HANDRAILING

By George Ellis. Published by J. B. Lippincott Company, Philadelphia. Illustrated; indexed; 242 text pages, 108 plates: size 71/2 x 101/2; price \$7.50

BOOK which is fully illustrated by working drawings and diagrams, and photographic reproductions of old and modern types of stairs. Intended for the use of architects, builders, workmen and others interested in stairs. Gives a full description of the methods of constructing and erecting various types of wood stairs for residences, stores, railway stations, etc., with examples of iron, stone, concrete and marble staircases, all kinds of curved, moulded and shaped steps including directions for taking dimensions, setting-out, planning, fixing and finishing, construction of various types of wood soffits, etc. A comprehensive and authoritative treatise on this subject, well illustrated by drawings and photographs.

HOUSE DESIGN, CONSTRUCTION AND EQUIPMENT

Edited by John M. Gries and James Ford. Published by the President's Conference on Home Building and Home Ownership, Washington, D. C. Illustrated; indexed; 325 pages; size 6 x 9; price \$1.15

BEING the reports of the committees on design, construction and fundamental equipment of houses, as presented at the recent President's Conference on Home Building and Home Ownership. The book covers design, construction, heating, ventilating and air conditioning, plumbing and sanitation, electric wiring and lighting,



House designed by Dwight James Baum. From "House Design, Construction and Equipment"

refrigeration, etc. It is well edited, informative and authoritative.



House in Holland, A. P. Smits, architect. From "Het Eigen Huis"

HET EIGEN HUIS

By J. P. Fokker. Published by Kosmos, Amsterdam, Holland. Illustrated; 96 pages; size $71/2 \times 101/4$; price \$1.96

PLANS and pictures of the exteriors of modern Holland residences together with descriptive text in Dutch. An interesting collection of work of a type unfamiliar to architects practicing in the United States. Most of the houses illustrated are moderate-sized work.

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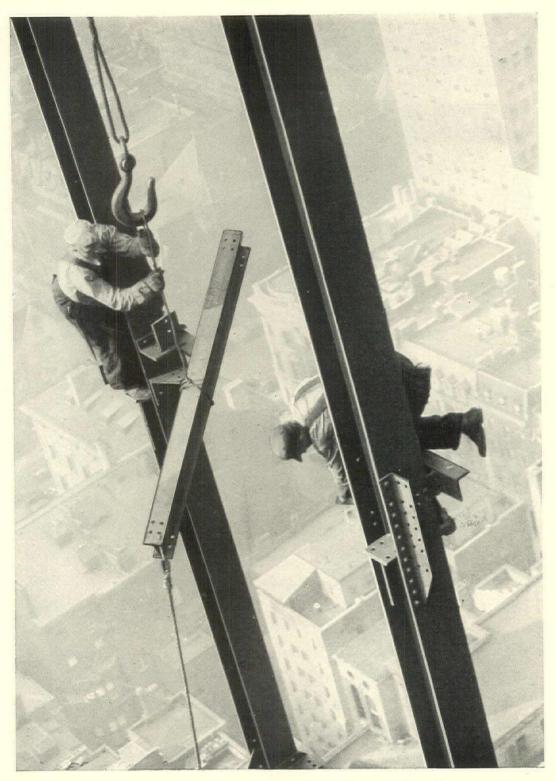
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A mediaeval church at Coleshill, England, is the subject of this month's cover by Morris Jackson. Coleshill is about 108 miles from London and possesses many architectural gems steeped in romantic history and tradition. Mr. Jackson came to Philadelphia from Cheshire,

England, and worked in architectural offices while studying design at the T Square Atelier. He went to New York to continue the study of architecture at New York University, where he is now assistant instructor in water color. His work has been exhibited in many parts of the country

AMERICAN ARCHITECT

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SEPTEMBER 1932

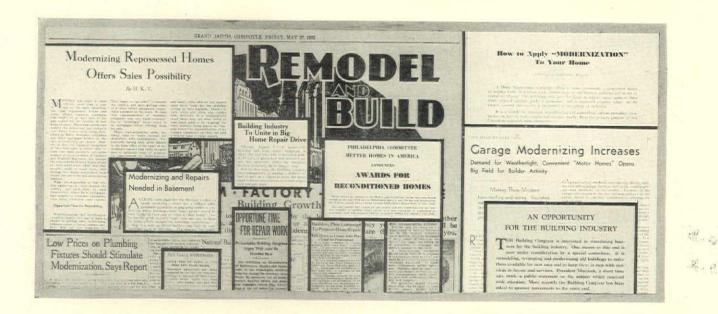
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"PROWS"



Today's Market

BY BENJAMIN F. BETTS, A.I.A.

ODERNIZATION of obsolete buildings in most communities today offers the most promising field for architectural service. For some time well-handled campaigns have brought this activity to the attention of the public. It is a field in which architects have not been as active as they could have been. And it offers an opportunity which should not be idly passed by.

New buildings, due to lack of available financing, are few. It is problematical when this situation will change to any noticeable degree. Public works projects, if they find their way into the offices of private practitioners, mean work for a few offices. Reclaiming of blighted areas is something for the future and likewise probably means a few jobs for a few offices. Large scale housing developments would appear to come in the same category.

But there exist in this country today thousands of obsolete buildings that can be modernized; reclaimed to meet new tenant demands; altered to meet changed neighborhood requirements; that with expert study can become assets rather than liabilities. Good business men who own such properties are quick to act on this suggestion when the idea is properly presented to them. Not all obsolete buildings are worth reclaiming. But the knowledge and advice of an expert to determine the economic soundness of reclaiming or demolishing existing structures is of value to owners, and they should be willing to pay for it.

OR the rank and file of architects, modernization of obsolete buildings of all kinds is today's big market for architectural service. It is a field that practicing architects will do well to cultivate. This work does not "walk" into the office. Architects must go out after it.



The site chosen for demonstrating the value of modernizing

250,000 People Saw Modernizing Demonstrated

Detroit Building Congress Uses Busy Corner to Show What Can Be Done

BY G. FRANK CORDNER, A.I.A.

N old house moved to the heart of the business section of Detroit and modernized in full view of the public is believed to be a new idea to stimulate the public's interest in reclaiming obsolete buildings. Approximately 10,000 people visited the project when it was opened on July 1, 1932. It is estimated that 250,000 people have by this time seen the modernized house. The idea was carried forward under the direction of the Detroit Building Congress and without raising a special fund for the purpose.

The idea originated in the mind of a newspaper man, who believed that modernization work could be stimulated by a dramatic, spectacular appeal to the public. It was this man's idea that an old run-down house be set up and modernized in one of the City Parks where it would attract the attention of thousands of Men-in-the-Street, not to mention the ladies.

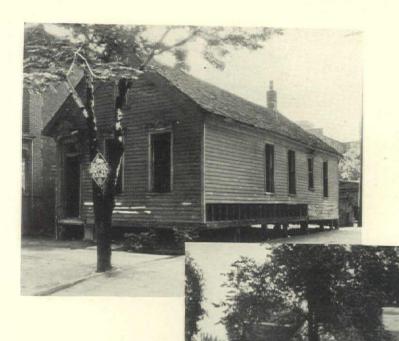
The officers of the Detroit Chapter, A. I. A., and the Michigan Society of Architects made investigations to determine the feasibility of the project and its cost. It was found that there were no funds to carry out the project, and it became temporarily dormant. About this time, W. G. Malcomson, A. I. A., president of the Detroit Building Congress, arrived home from a sojourn in the South and decided that the idea should be made a reality.

An aggressive member of the Detroit Real Estate Board solicited producers of building materials, equipment and furnishings to exhibit their wares in the remodeled house and to make a cash donation with permission granted them to display a sign on their wares. As soon as the success of his work was assured, the presidents of the two local architectural organizations subdivided the work, placing a volunteer architect in charge of each branch, such as moving the house, design, masonry, carpentry, and so forth.

In the meantime, representatives of the Building Congress called personally on each of the nine members of the City Council to ask for the almost impossible—the use of a City Park for a limited time. Members of the Council saw the good to be derived and granted the use of the Woodward Avenue (main street) frontage of Grand Circus Park, in the heart of the downtown district and surrounded by hotels, department stores, shops and theaters.

From the Department of Buildings a list of condemned buildings was obtained and later on, a free building permit. A sixty-year-old cottage in a dilapidated condition was selected and the estate which owned it donated it to the cause. Under supervision of a squad of architects, it was cut into three sections and between midnight and dawn, it was loaded and trucked two miles through the city to its destination. The last section was placed in position about 4 A.M.

The last of the architects on the job decided that it was too late or maybe too early to go home so he tacked a rough sign on a nearby tree reading, "T. C. Hughes, Architect, is at Room 212, Hotel Tuller, if wanted," meaning that if any of the workmen assembling the house needed him he could be reached there. Much to



THE OLD HOUSE at the left, under the direction of a squad of architects, was moved to Grand Circus Park in the heart of Detroit's business section. THE RECONDITIONED HOUSE is shown below. Every branch of the building industry in that city contributed to modernizing this house in full view of thousands of people

his astonishment a telephone call about nine that morning awakened him from a sound sleep; the speaker said that he had noticed the sign on the tree and was contemplating some remodeling and wanted plans right away. Needless to say, Mr. Hughes embraced the opportunity, ceased his cussing and went ahead with the job immediately.

As reconstruction of the house proceeded, thousands of people watched it with intense interest, asking many questions. A professional publicity man organized the handling of news. The local newspapers and radio stations were generous in publicizing the work.

The Police Department assigned patrolmen to guard the house day and night and the Department of Parks and Boulevards maintained special landscaping of the site. The Public Lighting Commission gave free current to light the building during the evenings and the Public Welfare Commission sent men to help around the premises. The Detroit Board of Commerce loaned the services of its secretary. A landscape architect and a mechanical engineer gladly gave their services. These gentlemen, as well as all the architects in charge of the various branches of the work, had to "beg" all the material they needed and in addition they personally supervised its installation, which, in some cases, meant manual labor for them as well. One architect wielded a mason's trowel and the landscape architect pushed wheelbarrows, raked crushed stone and got up early to water the shrubs to make sure they would "take." Others made showcards by the mile and tacked or riveted them in place. One

architect gave his time for three weeks as superintendent and many others served several days each. An interior decorator took complete charge of the decoration and furnishing of the house.

When opened, the house gave every appearance of being ready to live in, even to furniture, although there was no basement, heating system or piping of any sort. To operate the project during the show period, another staff of volunteer men, mostly architects but with material salesmen and others also aiding, was mustered. Open hours were set at from 9 A. M. to 9 P. M. Each day was divided into three shifts of four hours each with a different man on duty each period. These men acted as information attendants and were provided with data, costs and other information that the public was likely to request.

Outside on the lawn a large sign read

MODERNIZED

STIMULATE EMPLOYMENT FOR WORKMEN by the DETROIT BUILDING CONGRESS

and told its story to the pedestrians, street car riders, automobilists and bus patrons. The attendants used no high pressure methods but were asked many questions. Circulars bearing on one side the story of "WHY THIS HOUSE IS HERE" and a complete list of the firms and organizations which participated in the enterprise were available to all visitors. (Continued on page 98)



A street in Garmisch, typical of the leisurely Alpine village with its inevitable fountain, trough for laundering and second story balconies

In the Land of William Tell

By ALBERT M. STERLING

WITZERLAND is a country," once said a friend to me, "so neat that they take it in every night, scrub it and polish it, and set it out fresh every morning"—an hyperbolic burst of enthusiasm largely justified by the appearance of the little Federation.

Nature contributes most to this sense of cleanliness. The air is so free from dust that the skies are always a vivid blue, reflected in cerulean lakes. The first forms a back drop for the snow-crowned crests, whose inverted pictures quiver on the surfaces of the waters.

But the Swiss themselves, as an integral feature of their frugality, are perhaps the neatest race on earth. In the cities, sidewalks and thresholds smell of soap and water every morning. The little street cars are painted with glistening white enamel, trimmed with baby blue and gold—immaculate as a bathroom.

Even remote mountain highways are patroled by men who gather the droppings of domestic animals. In some districts even the fallen leaves on forest floors are garnered every autumn and stuffed in huge sacks to furnish beddings for cattle, and these selfsame cattle, with their melodious bells, are groomed as carefully as a polo pony. And even the youngsters in their blue pinafores seem always just to have escaped from a recent scrubbing.

Fortunate is he who shall visit Switzerland in the month of May. Then is she decked in such a wealth of bloom and color that the eye is dazzled and the senses sunk in wonder at so much irresistible beauty.

Deep valleys are carpeted with a luscious green, blending into the darker shade of the tall spruce which creeps up toward the perpendicular rocks and the eternal crests. High sloping fields are filled with myriads of crocus, lavender and white—which force their buds through the lingering snows of the departing winter. So thick are they that it is impossible to avoid crushing them in climbing upward.

Above Montreux, that paradisal town on Lake Leman, the high hills are masses of fragrant narcissus, more thickly crowded than any daisy field of ours. Streets and boulevards are lined with closely planted flower-



A FAMOUS OLD CHALET

Near Seelisberg stands the Treib Inn on the shores of Lake Lucerne, whose shimmering waters reflect the brilliant orange and yellow painted decoration of what looks more like a magnified toy than an hospitable inn. The intricacy of the carved details recalls that the Swiss are a nation of wood carvers



A farmhouse at Wilderswil near the beginning of the valley of the Lauterbrunnen, which leads up to the eternal snows of the Jungfrau. Wisteria is everywhere, the forget-me-not and primrose are roadside weeds, bluebells grow in tangles

ing chestnut trees—wisteria is everywhere, climbing over the dwellings, trellises and pergolas. The forget-me-not and primrose are roadside weeds—bluebells grow in tangles, and every field tree is a mass of bloom, for the thrifty Swiss plant fruit trees at random about their domains.

In the deeper valleys, from toward the tops of encompassing walls, veils of white water fall perpendicularly a thousand feet and more, or are blown into spray by vagrant breezes. Everywhere is languor, warmth and beauty, complemented by the human element, for these are a gracious, wholesome, delightful people, hospitable and spontaneously social.

To complete the charm which Nature has bestowed upon these scenes, there are the chalets, the characteristic homes of the dwellers in the Alps—with red geraniums on window-sills, casements open all day to the fragrant wind, white curtains fluttering, and, inevitably, the bedding being aired (the Swiss sleep under feathers as well as upon them).

Except in villages and along the highways which wander up from the bottoms of the valleys, these dwellings are scattered at random over the high, sloping fields. They are connected with each other and with the roads by narrow foothpaths and long flights of steps paved with flat stones. These paths are enclosed by low pal-

ings and wander from one chalet to another for miles, directly under their wide spreading eaves. A wanderer in these happy valleys on a sunny day finds all the people afield. I've seen a plot, the size of a small city lot, with the entire family of five at work in it planting "spuds," a little tot of six dropping potatoes into the prepared holes, others spading, covering and raking the brown earth.

Windows and doors are open, the dwellings abandoned to the warm air. From schoolhouses comes a babble of childish voices, for these pupils all study their lessons at the top of their voices.

There are no beasts of burden in these high valleys. Everything is carried on the back in baskets of various sizes, shaped more or less like inverted, truncated cones, little and big, for children, men and women. Along the paths are tripods of poles, with a cross piece at a convenient height upon which the bottom of the baskets may rest without the supporting strap being removed from the shoulders.

The chalet, which is usually designated as a shepherd's hut, is, as a rule, built of wood. The walls are thick, sometimes of logs, to withstand the rigors of the long winters, or they are sided with wide spruce boards, unplaned and unpainted, applied both horizontally and vertically. This spruce weathers to a mellow, warm brown,

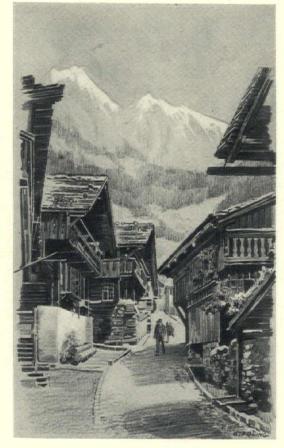


Even in Kreuz there are apartment houses. The heavy overhang at the eaves shelters carefully piled firewood for the use of the tenants. Bedding hangs out of windows for airing even as it does in countries less noted for neatness

which increases the sense of comfort and shelter engendered by the chalet's most typical feature, the wide projecting eaves. The purpose of these huge eaves is an aid to comfort, to keep the drip from the deep melting snows of winter away from the wooden walls and shelter from the burning sun of summer, for these valleys are sometimes very warm.

Some are huge structures capable of housing several families, or rather a group of families, father and mother and the married children with their flocks. Across the broad front, above the second story windows, are sometimes inscriptions beautifully painted in German black letters and rubricated decoratively. I remember one in the Grindelwald which read, in two long lines: "Built in the year of our Lord, 1797, by Heinrich Schmidt. May God bless all those who may live in this dwelling."

Many chalets are covered with intricate carving, for, as may be remembered, the Swiss are a nation of wood carvers; or shingles are laid in geometrical patterns. Occasionally, in addition to carving, the walls are polychromed in conventional designs. There is one on the Vierwald Statter Sea, perhaps the most famous of the decorated type, which looks more like a magnified toy than the inn that it is. Beneath the eaves are always great piles of fire wood, fuel for the porcelain stoves which generate comfort during the long days and nights of winter. True to the national characteristic, these are sometimes arranged so neatly that one would (Continued on page 96)



Brienz, in the Bernese Oberland, quiet, peaceful, everywhere inviting the artist

The Business Outlook Is Brighter

BY JAMES DALTON

Editor of MOTOR and an Outstanding Authority on Practical Economics

Business in the next four months should show an upward trend over that of the first half of 1932. Recovery will be slow but the Reconstruction Finance Corporation and the Home Loan Banks will gradually exert a stimulating influence on the construction industry as well as business in general

HILE it would be foolhardy to paint, at this time, too roseate a picture of the possibilities for an early ending of our precipitate slide down the toboggan of depression we can at least congratulate ourselves upon the fact that the outlook is distinctly brighter. For the first time in three years there is a really substantial foundation for hope if not complete confidence.

After wandering aimlessly in an economic wilderness for 36 months the American people have begun blazing a definite trail which ultimately will lead to safety. They have come down to sound fundamentals and are making comparisons with last week or last month instead of with 1928 or 1929. They are living in the present instead of in the past and are turning their faces to the future.

A return of confidence at a time when industry and trade are at the lowest levels in years probably is the most remarkable phenomenon of the entire depression. It is not based upon fictitious or fallacious palliatives but rather upon the firm determination of the rank and file to end their retreat and begin a counter attack which will lead ultimately to recovery.

CONCERTED ACTION IS NEEDED

E have had periodical outbursts of conversation and forecast about this or that industry leading the way out of the slough. These verbal barrages usually have been accompanied by tin cup appeals to "buy our products and put men back to work," with attempts to wrap selfish motives in patriotic mantles. Fortunately we are finding now a more general acceptance of economic fundamentals.

Concerted action on all fronts is necessary to success although it is not to be expected that all sectors will be active at the same time. The backbone of the offensive must be made up of a multitude of machine gun nests held by small manufacturers and modest merchants. They are the most mobile and they will be first to advance in the offensive drive.

Construction, automobiles and steel, in their wide ramifications, are the three great key industries. With the first two inactive the third is impotent. They cannot initiate a recovery because they and their big customers are dependent upon the buying impulse of count-

less individuals who are potential purchasers. A good many millions of Americans still have the ability to buy but the impulse has been arrested by fear of the future. If the confidence now gaining momentum does not prove premature they soon will begin to come into the market for the products of these key industries.

BUILDING INDUSTRY OUTLOOK IS GOOD

A LL trade and industry are inter-dependent. The sale of a Nebraska hog to a Chicago meat packer may mean the purchase from a Chicago mail order house of a tire made in Akron from rubber produced in the East Indies and cotton raised in Georgia.

Indications now are that the construction trades may be the first to fire a really big gun in the campaign for business recovery. The outlook is more favorable than it has been at any time since the retreat began. Large calibre ammunition has been supplied by the Federal relief and Home Loan Bank acts passed in the closing hours of the Congressional session and signed by the President. They cannot be expected to restore prosperity immediately but they will at least arrest the decline in building and public works.

It must be kept in mind, however, that it will take at least three months to make these new laws fully effective and by that time seasonal factors will have intervened to delay their operation still further. From the long term viewpoint, however, this may not be an unalloyed evil because it will make less probable the initiation of ill-advised and under-nourished projects.

Activities under both these laws will center, for the time being, around the Reconstruction Finance Corporation. Ultimately, the home loan bank law may exert a greater influence on recovery than the provisions of the relief act. This certainly is true in theory but how it will work out in practice remains to be seen. The purpose of this new financing system, in the language of President Hoover, "is both to meet the present emergency and to build up home ownership on more favorable terms than exist today."

Credit conditions for the last two years have curtailed the activities of building and loan associations, savings banks and other institutions making loans for home purposes to such an extent that they not only have been unable to extend credit for the purchase or construction of new homes but have been unable to renew existing mortgages with the result that there have been many thousands of foreclosures.

Institutions which deal in mortgages are eligible to subscribe for stock in the home loan banks and they may borrow from the banks upon their notes secured by sound mortgages on homes. The home loan banks will obtain funds by the sale of debentures and notes which will have back of them the obligations of the members and the mortgages pledged as collateral. The Reconstruction Finance Corporation will set up the necessary machinery and see that the banks function properly. A possible credit extension of more than \$10,000,000,000 is seen through the operation of the system.

GOOD DEMAND FOR HOUSES

CONSIDERABLE part of our unemployment is due to stagnation in residential construction," said President Hoover in his message approving the act. "There has been overbuilding in certain localities in boom years but there has been far less than normal construction of new homes for three years in pace with the increase in population and there is thus a shortage which will become apparent with the first stage of recovery.

"Nearly 200,000 new homes are erected annually in normal times which, with initial furnishings, contribute nearly \$2,000,000,000 to construction and other industrials."

"A survey by the Department of Commerce shows that there are localities in which there is today an immediate demand for homes amounting from \$300,000,000 to \$500,000,000 which could be undertaken at once if financing were available. Thus the institution should serve to immediately increase employment.

"In the long view we need at all times to encourage home ownership and for such encouragement it must be possible for home owners to obtain long term loans payable in installments."

Inasmuch as the loan banks are to be permanent rather than temporary institutions it is obvious that they may ultimately exert a profound influence upon residential construction, especially with moderate building costs and low land values. The chief present building shortage is in one and two family houses. This is a field in which architects, with reduced overhead and a saner estimate of the value of their professional services, should be able to find many commissions which will return a modest profit, and help stabilize real estate values.

RELIEF ACT WILL HELP

T is obvious, however, that inasmuch as the home loan banks will not be functioning efficiently for several months little in the way of early relief can be expected from their operations. More immediate stimulation will come from the relief act which will supply the Reconstruction Finance Corporation with \$1,500,000,000 for public construction, self-liquidating private loans and the financing of agriculture through credit corporations. This work will materially expand construction operations but much of it will be of such a character that it will require little architectural supervision.

To the Reconstruction Finance Corporation is left the responsibility of determining what self-liquidating proposals shall be approved and there may be difficulty in

defining the meaning of "self-liquidating." In some quarters it is claimed, for example, that highways should be classed as self-liquidating because of the revenue collected from gasoline and other motor vehicle taxes. This question must be settled authoritatively before it can be determined how much money will find its way into road construction. In any event there is now available \$136,000,000 for Federal-aid highway construction.

In general, the intention of Congress and President Hoover seems to have been to confine the use of construction funds chiefly to toll bridges, water works, tunnels, hydro-electric plants, etc. A project of this character is the Hoover Dam which has given employment to thousands of men and orders for materials, equipment and supplies to many industries in all parts of the country. The Federal Government will be compensated for its cost by revenue from the sale of the power developed.

Examples of operations contemplated under the relief act are a tunnel under the Hudson River connecting Weehawken, N. J., with New York, a tri-borough bridge in New York, a costly toll bridge in Louisiana, delayed because of inability to raise funds, several large projects in California and other states.

More important from the viewpoint of architects is the proposal to employ \$100,000,000 for the erection of model, multi-family, low rental residential buildings in the slum areas of the lower East side in New York and the older sections of the Bronx. This project would be undertaken by the New York State Board of Housing and it has been delayed heretofore by the shortage of mortgage money.

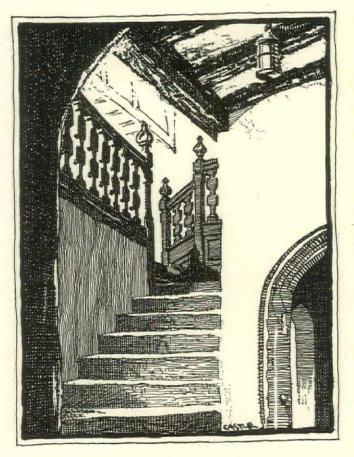
SLOW BUT SURE RECOVERY

EW YORK apparently is the only state at present qualified to apply for a loan through a legally organized Housing Board but other states are speeding the work of setting up similar machinery. The list includes Illinois, New Jersey, Pennsylvania, Massachusetts and Ohio. They will be delayed by the necessity of obtaining legislative authorization.

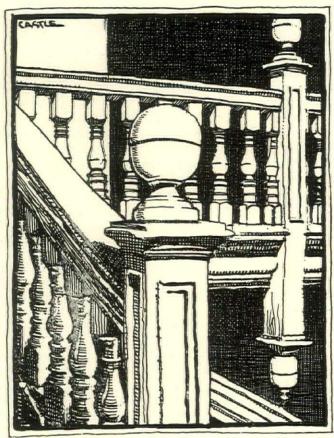
Construction industries will benefit ultimately from the provision of the relief act appropriating \$186,224,000 for public building and waterway improvement "when the condition of the treasury permits." A considerable portion of the \$300,000,000 made available for advances to the states for unemployment relief also will go for highway and street construction and public works. These operations will be pushed as rapidly as possible. It is proposed to spend \$123,000,000 for Federal buildings in the fiscal year which began July 1.

Without stimulation of any kind it is probable that construction projects of all kinds, including buildings, public works and highways, would amount to about \$500,000,000 in the second half of this year but it is more than likely that the effect of the relief legislation will be to raise contract values for the six months to \$1,000,000,000 or more.

While this will be a poor showing, even in comparison with so lean a year as 1931, it will reveal an upward trend from the bottom levels reached in the first half of 1932. Evidence is accumulating, in fact, that the worst is over for the construction trades. When business recovery begins convalescence will be painfully slow but it will demonstrate that faith in the future of the United States has again been justified.







CHELVEY COURT, SOMERSET

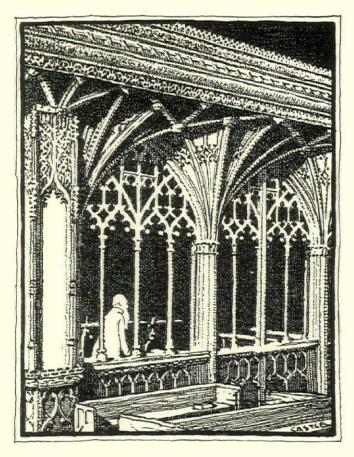
Early English Details in Wood

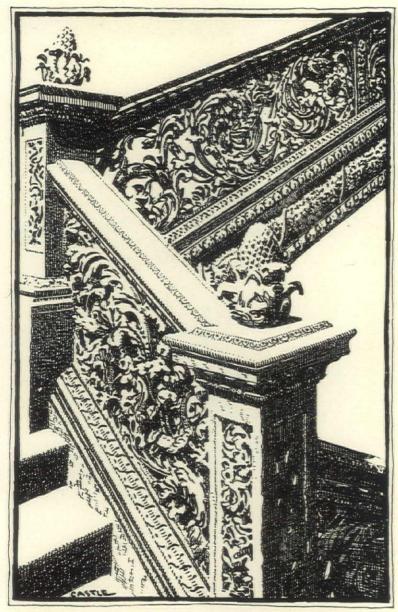
PEN AND INK DRAWINGS

BY SYDNEY CASTLE

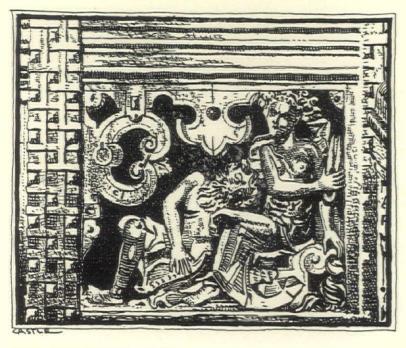
Sydney Castle is an English architect whose pen and ink drawings have won for him an enviable reputation in his own country and abroad. His first pen and ink drawings were exhibited at the Royal Academy in 1901. He visited the United States in 1926 and lectured on the subject of Tudor architecture before various A. I. A. chapters. He has written several books, "Domestic Gothic" being perhaps the best known

15TH CENTURY SCREEN, DUNCHIDEOCK, DEVONSHIRE





CASSIOBURY, HERTS. LATE 17TH CENTURY.
SAID TO BE THE STAIRCASE MASTERPIECE
OF GRINLING GIBBONS



REREDOS CARVING IN WALNUT, TRINITY COLLEGE CHAPEL, OXFORD...GRINLING GIBBONS

CASTLE



BALUSTERS AT CHESHUNT

EARLY 17TH CENTURY STAIRCASE PANEL, RAWDON HOUSE, HODDESDON

Whence Comes This Modernism



OST stimulative to the genius productive of recent architectural work abroad has been the driving power of a rigid demand for economy. This requirement has occasioned the architectural housecleaning which foreign modernism expresses. Unfortunately the adaptation of modernism in America has been without so definite a premise. The movement for modernism has come to us with much of the nature of opportune selection characteristic of our architecture through the past three generations.

Post-war Europe has passed sufficiently far beyond the meager work of the period 1920-1924—a superficial revolt expressed in bizarre form-to find the new manner supported by sane and capable men, accepting the discard of the costly costume of the past as appropriate to new needs and new methods in structure. It is fascinating to watch the rapidity with which, once the modern viewpoint is taken, the artist finds a quickening of his imagination in the composition of simple geometric forms, essentially free from ornament.

A more fitting frankness and a more convincing architectural meaning seem to appear at once with the freeing of architecture from the long accumulated encrustation of historic detail. Buildings emerge clearer, cleaner, and more understandable to the layman; expressing by this directness a greater fitness to the character of our epoch, which is one that seeks to approach its problems

in a less devious manner and to adjust them according to facts made available by present day research. To a degree this process would seem to take from the architect a few of the robes of pageantry to which he has clung. even as it takes from architecture certain cherished costumes.

The modernist's choice of the machine as a figurative example of his inspiration has not been a fortunate one, although it has been relatively correct. The machine as a picture appears without artistry-cold and forbidding -yet its success results from fitness to purpose, sound economy made possible by excellence of material, and by scientific intelligence tested through prolonged experimentation. These qualities are constructive and architectural.

The reinforced concrete innovations of France and the common brick studies of Holland and Germany were developed as solutions of the industrial problems of those nations prior to the World War, yet a searching analysis of solutions for greater convenience, lesser space, and with minimum cost remained to be brought forward under the post-war financial depression. "From this time we go forward to an architecture which shall be the exact expression of our age," says M. Andre Lurcat, "from the beginning to the end of our work the law of economy is respected." He holds it a violation of aesthetics for architecture to wilfully pass beyond



BY WM. WARD WATKIN Professor of Architecture The Rice Institute, Houston, Texas

A new frankness and a more convincing architectural meaning follow emancipation from historic detail, as in the brick and concrete work of Europe. The stair detail is from a school at Hilversum, Holland, W. M. Dudok, architect. Concrete and tile, ceiling detail, is from the Post and Telegraph Building, Rotterdam, J. Huisman, architect

the law of economy and finds in the simple material and simple construction resulting from present day economy in France a pleasing prospect for new beauty with fitness in architecture. This we can accept as a sane philosophy, recognizing without the extravagance of Le Corbusier that it will produce a greater fixedness of standards within which the zeal of competitive architectural genius shall produce beauty. The focusing of the vast genius existing today within a more direct range promises greater things than its fruitless dispersion has given us.

Economy in its application to architecture, in the sense of a scientific problem, has been too little studied. Economy has frequently meant only inferior material with the substitution of imitations of one type or another-and with the expression of inferiority made evident in the result. From the purely architectural viewpoint, with the acceptance of the problem in the manner of science, it should be but a definite problem, the elements of which are known and whose truthful solution becomes beautiful with the application of the architect's skill.

This reaches not alone into the choice of material of lowest cost with enduring quality or the omission to a point consistent with refinement of all varied form and ornament, but also in severe analysis of every plan requirement, seeking saneness in the use of space, with elimination of dimensions which are possessed of pomp rather than reason. Under these conditions design takes added interest.

This spirit of approach creates economy as a fascinating factor and it in no way denies the ultimate attainment of refinement and beauty within or without. What appeal to our people could be more true and timely than a conservative interpretation of this tenet of economy which the modernist holds! Have we not all listened for many years to the popular exaggeration of the architects' extravagance? Has not this extravagance in part, possibly in major part, been the unconscious outcome of a continued expansion of the "styles" with more and more careful study into an infinite range of historic example, the fitting nature of which has become increasingly doubtful?

Through this indirect manner the architect has too easily cultivated temperament, a quality setting him apart from, rather than in touch with, the scientific practice and reasoning of his age. Since temperament is a weak contender against logic, the art truly expressive of an age requires that its creators take their themes and material from their age, and not from the cemeteries of

With all the fantastic and ugly that modernism has offered as a solution, it also is offering an increasing number of examples of crystalline clearness and beauty. Germany and Holland in the past (Continued on page 88)

American Architect Survey Shows

Forecast of New Building and Modernizing Projects for the Period September, 1932, to September, 1933

Estimates and Forecast Figures Founded on Individual Reports Received by American Architect

assemates an	or count a 18		•	805	\$1027 Y. W.
	New Building	Contemplated	Modernizing	Contemplated	Forecast of Total
	Under Planning	New Building	Under Planning \$ 290,000	Modernizing \$ 47,000	\$ 4,437,000
Alabama		\$ 2,700,000	279,000	61,000	2,740,000
Arizona	1,600,000	800,000		99,000	8,544,000
Arkansas	1,900,000	6,400	145,000	8,292,000	158,880,000
California	47,400,000	96,700,000	6,488,000		
Colorado	2,800,000	2,600,000	1,101,000	1,266,000	7,767,000
Connecticut	9,400,000	13,900,000	1,009,000	4,052,000	28,361,000
Delaware	1,700,000	1,100,000	313,000	94,000	3,207,000
D. of C	27,400,000	9,800,000	6,520,000	838,000	44,558,000
Florida	2,300,000	2,700,000	840,000	1,647,000	7,487,000
Georgia	3,300,000	3,200,000	869,000	539,000	7,908,000
Idaho	500,000	700,000	106,000	42,000	1,348,000
Illinois	23,300,000	88,500,000	9,224,000	19,359,000	140,383,000
Indiana	3,600,000	14,400,000	717,000	2,337,000	21,054,000
Iowa	6,200,000	8,700,000	1,297,000	444,000	16,641,000
Kansas	1,700,000	8,900,000	82,000	238,000	10,920,000
Kentucky	2,300,000	2,900,000	1,046,000	214,000	5,560,000
Louisiana	4,900,000	3,600,000	219,000	604,000	9,323,000
Maine	1,600,000	2,600,000	80,000	60,000	4,340,000
Maryland	8,500,000	6,500,000	499,000	764,000	16,263,000
Massachusetts	18,500,000	89,000,000	3,961,000	7,985,000	119,446,000
Michigan	16,500,000	27,000,000	2,500,000	2,362,000	48,362,000
Minnesota	11,500,000	22,500,000	1,147,000	18,276,000	53,423,000
Mississippi	2,400,000	1,800,000	156,000	510,000	4,866,000
Missouri	22,800,000	16,500,000	2,015,000	884,000	42,199,000
Montana	2,100,000	1,200,000	103,000	51,000	3,454,000
Nebraska	1,100,000	2,300,000	40,000	492,000	3,932,000
Nevada	900,000	700,000	35,000	34,000	1,669,000
New Hampshire	1,100,000	9,300,000	126,000	31,000	10,557,000
	22,800,000	56,700,000	8,576,000	9,756,000	97,832,000
New Jersey New Mexico	700,000	1,800,000	32,000	15,000	2,547,000
	127,000,000	335,000,000	27,204,000	24,159,000	513,363,000
New York	2,900,000	5,800,000	95,000	131,000	8,926,000
No. Carolina	4,900,000	3,600,000	81,000	37,000	8,618,000
No. Dakota	22,100,000	47,600,000	3,787,000	8,472,000	81,959,000
Ohio	2,700,000	3,600,000	192,000	603,000	7,095,000
Oklahoma	3,200,000	9,400,000	580,000	333,000	13,513,000
Oregon	32,000,000	74,500,000	9,138,000	7,398,000	123,036,000
Pennsylvania	1,100,000	4,800,000	985,000	2,102,000	8,987,000
Rhode Island	300,000	3,200,000	31,000	24,000	3,555,000
So. Carolina		3,400,000	66,000	29,000	3,895,000
So. Dakota	400,000		482,000	544,000	9,526,000
Tennessee	4,600,000	3,900,000	802,000	1,097,000	27,499,000
Texas	11,700,000	13,900,000		657,000	3,732,000
Utah	800,000	2,200,000	75,000	33,000	2,161,000
Vermont	700,000	1,400,000	28,000		5,373,000
Virginia	1,100,000	3,900,000	88,000	285,000	16,641,000
Washington	2,900,000	11,600,000	403,000	1,738,000	
West Virginia	1,100,000	3,700,000	144,000	210,000	5,154,000
Wisconsin	6,700,000	9,300,000	812,000	4,595,000	21,407,000
Wyoming	400,000	900,000	30,000	28,000	1,358,000
AND		01.048.000.000	002 020 000	01.22.060.000	¢1 752 906 000
TOTAL U. S	\$478,800,000	\$1,047,200,000	\$93,938,000	\$133,868,000	\$1,753,806,000

First Signs of Building Recovery

Forecast of New Building and Modernizing Encouraging to Architects

BY C. STANLEY TAYLOR

- N August 15th, 1932, AMERICAN ARCHITECT concluded an extensive survey which had the following objectives:
- 1. To determine approximately how much actual new building work architects have on their boards at the present time.
- 2. To determine approximately how much modernizing work architects have on their boards now.
- To measure the new building projects which architects feel might proceed within the next few months, particularly if financing were available.
- 4. To measure the quantity of modernizing work which architects feel might proceed within the next few months, particularly if necessary financing were available for such projects.
- 5. To study the trend of business conditions in order to determine how they might affect the building industry and consequently the business of the architect during the next year.
- To provide data on which might be based a tentative forecast of building activity for the year commencing September 1, 1932.

Approximately 2,200 individual reports were received from architects in the course of this survey. Of these, as might be anticipated, there were quite a number of architects who reported no business at present or in the near future. Others reported that business was temporarily suspended. At the time of closing the survey on August 15th, however, 1,636 reports had been received giving actual figures of work on the boards or in

New Building Work, Actual and Contemplated, Reported by 1,636 Architects

From Individual Reports to AMERICAN ARCHITECT in a Survey Completed August 15, 1932

(Small fi	igures at	left	denote	number	of	projects)
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		ion rigares ar ferr d		, projects j	TO TO	I DOOD
TYPE OF BUILDING		Under Planning	Co	Contemplated		AL PROBABLE 1932 to Sept. 1933
Automotive	111	\$ 3,291,282	178	\$ 17,573,472	289	\$ 20,864,754
Apartment Buildings	118	15,940,500	515	113,318,500	633	129,259,000
Apartment Hotels	10	2,215,000	58	23,831,500	68	26,046,500
Banks	19	9,516,000	41	2,771,000	60	12,287,000
Clubs & Fraternal	59	4,760,500	117	8,840,200	176	13,600,700
Community & Memorial	53	7,982,600	97	10,531,000	150	18,513,600
Churches	148	10,168,000	399	30,195,500	547	40,363,500
Dwellings (Below \$20,000)	1,145	10,171,500	3,429	26,822,700	4,574	36,994,200
Dwellings (\$20,000-\$50,000)	169	4,752,000	471	11,922,500	640	16,644,500
Dwellings (Over \$50,000)	34	3,352,000	111	9,755,000	145	13,107,000
Hotels	24	4,490,000	130	43,923,000	154	48,413,000
Hospitals & Institutions	107	35,084,000	236	75,729,450	343	110,813,450
Industrial	94	6,220,700	159	28,132,000	253	34,352,700
Office Buildings	62	18,686,200	94	43,108,000	156	61,794,200
Public Buildings	165	90,492,500	117	54,332,900	282	144,825,400
Schools & Colleges	262	43,236,200	491	105,018,450	753	148,254,650
Stores (Retail & Dept.)	139	3,285,200	278	8,721,000	417	12,006,200
Theatres	40	4,039,000	88	14,658,000	128	18,697,000
Welfare Buildings	7	1,465,000	227	42,127,000	234	43,592,000
Transportation Buildings	6	10,475,000	23	73,382,000	29	83,857,000
Miscellaneous—others	163	9,999,900	255	145,449,750	418	155,449,650
TOTAL	2,935	\$299,623,082	7,514	\$890,142,922	10,449	\$1,189,766,004
1636 ARCHITECTS REPORT New Building Now Under Planning\$ 299,623,082						
		Contemplated 1	New Projects			890,142,922
TOTAL NEW WORK IN VIEW IN 1636 OFFICES Sept. 1932-1933\$1,189,766,004						

Modernizing Work, Actual and Contemplated, Reported by 1,636 Architects

From Individual Reports to AMERICAN ARCHITECT in a Survey Completed August 15, 1932

	1 31111	111 1190100			TOTAL	PROBABLE
TAIDE OF BUILDING	Now Under Planning		Contemplated		Sept. 19	932 to Sept. 1933
I I I I O I D O I I O I I I I I I I I I	33	\$ 235,200	45	\$ 1,089,500	78	\$ 1,324,700
Automotive	98	2,031,000	125	4,803,500	223	6,834,500
Apartment Buildings	5	309,000	11	671.500	16	980,500
Apartment Hotels	25	569,100	21	559,500	46	1,128,600
Banks	31	590,800	34	880,100	65	1,470,900
Clubs & Fraternal		71,500	19	818,500	23	890,000
Community & Memorial	57	1,620,400	89	3,850,900	146	5,471,300
Churches		1,291,905	215	1,044,246	505	2,336,151
Dwellings (Below \$20,000)	290		64	1,300,000	79	1,540,000
Dwellings (\$20,000-\$50,000).	15	240,000	7	248,000	22	618,700
Dwellings (Over \$50,000)	15 28	370,700 1,136,500	34	2,717,300	62	3,853,800
Hotels			61	3,055,464	200	9,091,909
Hospitals & Institutions	139	6,036,445	53	1,655,800	102	3,040,000
Industrial	49	1,384,200 1,661,600	37	1,883,000	73	3,544,600
Office Buildings	36		21	1,402,990	43	3,143,490
Public Buildings	22	1,740,500 4,389,450	102	7,179,200	200	11,568,650
Schools & Colleges	98		187	2,299,500	373	4,894,500
Stores (Retail & Dept.)	186	2,595,000 608,000	32	926,500	56	1,534,500
Theatres	24	99,250	109	2,435,000	117	2,534,250
Welfare Buildings	2	78,000	1	30,000	3	108,000
Transportation Buildings	71	892,200	78	1,028,750	149	1,920,950
Miscellaneous—others	/1	692,200	7.0	1.020,750		
TOTAL 1	,236	\$27,950,750	1,345	\$39,879,250	2,581	\$67,830,000
		Modernizing N	ow Under I	Planning		\$27,950,750
1636 ARCHITECTS REPORT	,	Contemplated N	Indernizing	Projects		39,879,250
1030 ARCHITECTS RELOKT		Contemplated 1	10der many			

TOTAL MODERNIZING IN VIEW in 1636 offices Sept. 1932-1933...\$67,830,000

prospect. The tabulations which appear on the preceding page and on this page represent a summary of the total amount of work reported under the various classifications by these 1,636 architects. Here it will be noted that in the 1,636 offices there is at present \$299,623,032 worth of new building work actually under way. The same offices reported \$890,142,922 worth in contemplated work dependent largely on some improvement in business conditions and on financing.

In the field of modernizing, the 1,636 offices reported a total of actual work to the amount of \$27,950,750 and contemplated modernizing projects to the amount of \$39,879,250. In other words, the total of actual and contemplated work in the 1,636 offices is a little over one and a quarter billion dollars of which about onefifth is in actual operation now and the balance is anticipated during the period ending September, 1933. On page 24 will be found a forecast of new building and modernizing projects for the period of the year between September, 1932, and September, 1933. It should be realized that these figures have been developed by establishing ratios in relation to reports actually received and by studying business conditions in the various states, together with national trends, thus firmly establishing for each state a series of factors from which the figures in the forecast tables were arbitrarily drawn.

Obviously this is a most difficult time at which to

attempt to forecast trends and probable activity in the fields of new building and modernizing because of the many changeable factors involved.

Recent developments of the Federal Home Financing program apparently will make available large amounts of money to be used immediately in discounting mortgages. Here new construction on the part of owners is definitely encouraged. Through the activities of the Reconstruction Committees in the various Federal Reserve Bank Districts some real mortgage finance programs have already been established. All interested bureaus are continuously stressing the importance of modernization work to aid the unemployment situation. There is a growing volume of such projects, as the owning public realizes that from every point of view now is the time to carry out improvements in buildings of every kind and to build new structures where financing is available.

Within the past few weeks a new note of confidence has been sweeping through the country affecting all lines. This is probably because the basic program of reconstruction has begun to function and to make itself felt.

We do not anticipate any decided improvement of conditions but all indications point to the fact that business in general will be better during the coming year, probably introducing a real return toward stability and consequently to better business for architects.

Should Jury Visit Building?

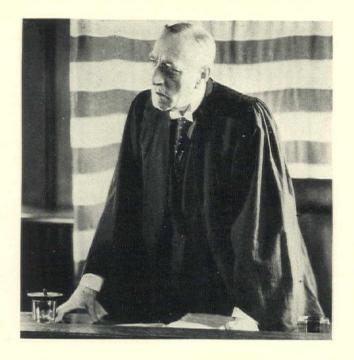
BY GEORGE F. KAISER, LL.B.

• WHAT HE DID: When an architect sued his client for fees he claimed were due for services performed under a written contract the client counterclaimed for damages he alleged were due from the architect because of negligence in obtaining bids and superintending construction. When the case came up for trial the client insisted that the jury should be permitted to view the building. The court declined his request and judgment was granted in the architect's favor against him. The client thereupon appealed.

WHY HE DID IT: The client contended that his request that the jury be permitted to view the building was a reasonable request, and when the court had denied

it he had been prejudiced.

WHY HE SHOULDN'T HAVE DONE IT: The client should have spared himself the trouble and expense of the appeal, for the higher court refused to disturb the judgment in the architect's favor, saying, "The view of the premises by the jury would have been of



doubtful propriety, for as urged by architect's counsel, the work was completed in 1927 and the case was not tried until 1931. There was considerable conflicting testimony as to whether the defects claimed originated when the building was completed, or whether they were the result of wear and tear since, so a view under the circumstances would have been more likely to be confusing than instructive to a jury."

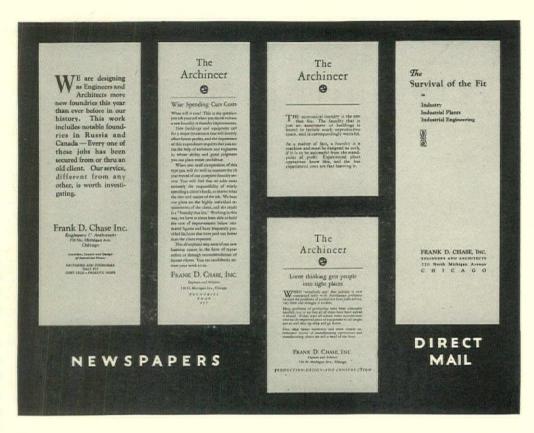
CAN BUILDER STOP WORK IF ARCHITECT IS FINANCIALLY INTERESTED?

· WHAT HE DID: An architect, John Doe, organized a company to build a local office building and, in order to get local capital to invest, he and his associates guaranteed to pay the company \$50,000 if the building cost exceeded a certain set figure. An agreement was signed between the company and a contractor in which Doe was named as architect. As the work went on it became apparent that there would be a large amount of extra work and numerous changes in the specifications, the price of such extra work and the determination of the amount due being a matter to be fixed by the architect according to the contract provisions. It was brought to the contractor's attention that the architect was not only a stockholder and a director in the building company but a guarantor that the price of the building would not exceed the set figure. The contractor consulted counsel, stopped work and demanded the sum of \$94,414.12, which he claimed was the balance due him for work, labor and services performed, and materials furnished, conceding, however, that he had been paid the sum of \$95,415.16. The architect advised the owners not to pay but to let the contractor sue.

WHY HE DID IT: The architect said that the contractor knew at the time the contract was entered into that he was a stockholder and a director of the owner company and that the contractor had no legal right to stop the work.

WHY HE SHOULDN'T HAVE DONE IT: The contractor sued and, much to the architect's surprise, the court gave judgment in the contractor's favor against the building company saying, "We conclude that the provisions of the contract providing for the fixing by the architect of the price of extra work and of determining the amount due for work under the contract as it progressed were invalidated by reason of the financial interest of the architect to reduce the cost of the building. With these provisions of the contract eliminated there was no method of determining what amounts were properly due as the work progressed nor what sums should be allowed and paid for extra work. Under these circumstances the contractor had the right to abandon performance of the contract as he did and seek the aid of the court for the purpose of determining the reasonable value of the labor performed and materials furnished by him in the construction of the building.

"The contractor was entitled under such circumstances to recover on a 'quantum meruit' for all labor performed and materials furnished in the construction of the building after due allowance had been made for all sums paid, for the contractor was entitled to deal with a disinterested and unbiased architect. That the architect in this case was not unbiased is self-evident for his stock in the owner company was affected by the cost of the building and on account of his guaranty he had a direct financial interest in keeping the costs down."



NEWPAPERS. Nothing smaller than two column width is used. Sincerity and fact are basis of copy

DIRECT MAIL. A dominant note is struck in the direct connection between economy in operating costs, plant layout and design

An Architect Who Has Advertised for

The Story of What He Did, Why He

An Interview by
Charles H. Bishop with
FRANK D. CHASE
President Frank D. Chase, Inc.,
Architects and Engineers, Chicago

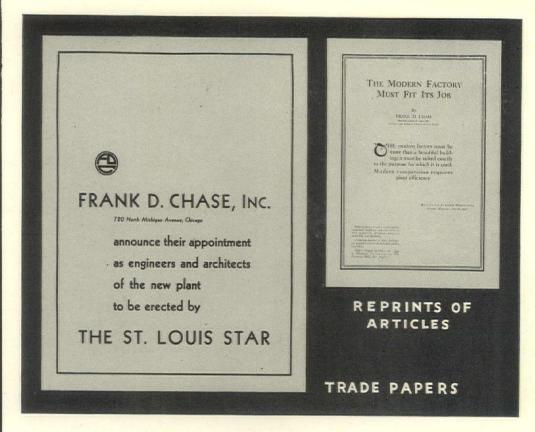
Twenty years ago Frank D. Chase took \$10,000, which he had saved, and invested it in advertising. Since then he has been a consistent user of paid advertising. Why he did it, how he does it and the results he obtains are worth the consideration of every serious minded architect

HAVE advertised as an architect because I believe that not only is it as legitimate for an architect to advertise as it is for anyone else in the world but because, primarily, I have always felt that I had a service to render which was needed and that the right clients would be just as much benefited and be as grateful for a contact with me as I would be for a contact with them. If the service which I have felt that I was peculiarly well qualified to render met the client's need, it was right for me to use legitimate means to bring about a contact which would be mutually beneficial. The architect should feel about his life work that he has a service to render and not a service to sell. "Proper advertising," says Mr. Chase, "enables the

individual architect to present his services to a great many more people or prospects than can be reached through individual solicitation or even by the valuable personal endorsement of his satisfied clients. Every architect can, in my judgment, advertise judicially and successfully if he employs the proper media and if his story is properly told. This applies to the architect who may specialize in a limited way in the design of houses and apartments as well as the large architectural firm whose work may be nation-wide and limited to large prospects."

The original advertising campaign was planned in detail long before it was actually placed in the few publications that eventually carried the copy. Understanding that a feeble effort would yield but a feeble response hardly calculated to attain the desired objective, actual advertising awaited the accumulation of the sum of \$10,000, which was accomplished in 1912. With that sum set aside from the results of previous professional activities Mr. Chase, in association with Mr. Robert E. Gaut, advertised over both signatures in a small number of general industrial publications.

The amount to be appropriated for advertising has been determined each year by a careful analysis of business conditions and consideration of past performance and future prospects. Past performance being a matter of record is, so to speak, a fixed quantity, but future performance is controlled by so many unforeseen elements that it has been found, by experience, advisable to avoid



REPRINTS OF ARTICLES.

Articles by Mr. Chase on pertinent subjects are reprinted from trade papers

TRADE PAPERS. Excellent results are almost always obtained by copy that emphasizes the buildings designed in the paper's field

20 Years Tells What He Has Learned

Did It and the Results Obtained

commitments over a long period. Flexibility is an important feature in advertising and affects both amount of expenditure and its direction, or better still, its target or objective. As much as \$35,000 has been spent annually for business paper, newspaper, direct mail and other forms of advertising.

Sincerity has been the keynote of Mr. Chase's advertising. Extravagant claims are never made. An appeal to clear thinking and facts have been presented in a conclusive manner. Mr. Chase states, "We have said time and time again in our advertising that 'we take most seriously the responsibility of spending a client's funds."

A keynote sounded over and over again in publication space and in direct mail has related to the direct connection between manufacturing costs and plant lay-out and design. Most manufacturers have their own engineering talent that is often called upon to undertake new construction. Advertising copy frequently brought out that apparent economies were not actual and that "our work includes much more than the mere designing of a building."

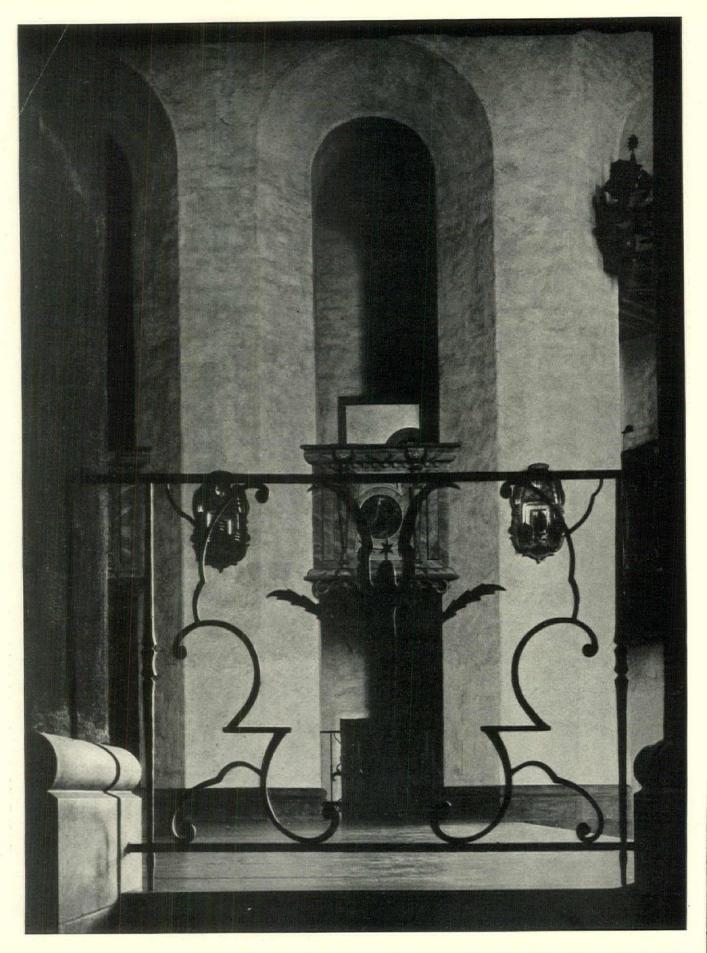
"Much of our copy," Mr. Chase states, "I wrote myself. Many of the ideas which have been expressed in our advertising originated in our own organization. On the other hand, we have employed, at different times, an advertising agency and we recommend this procedure for those whose advertising is sizable and who want and need the kind of help that can only be rendered by a specialist. Real attempts have always been made to cover the ground in a simple way in our copy and to make one word do the work of more. We have used black and white space inserts on special stock in color, and cover advertisements where the issue of a publication was timely and the copy appropriate."

According to Mr. Chase, "The margin of profit of the architect and engineer is an extremely small one, provided he renders adequate service for the fee received. This precludes the possibility of extensive advertising such as is done and can be done by others whose profits are larger. This means a careful determination of the amounts spent and the media used.

"Publications such as 'Factory,' reaching a cross-section of all industry, have been used when conditions were in our favor. In particular fields, 'The Iron Age,' 'Foundry,' 'Editor & Publisher' and similar class and industrial publications have, almost without exception, produced results beyond measure.

"From time to time, dependent on need for local work, relatively small space on the financial pages of local newspapers has been used. Copy has been brief—no effort being made to cover the same broad ground as in industrial publications—but in contrast it was used to emphasize, one at a time, the important features of the services offered."

Direct mail has occupied an important place in Mr. Chase's yearly plans. It is common for his folders, bulletins and other printed matter to (Cont'd on page 100)



SANCTUARY AND BAPTISTRY, HOGALIDS CHURCH, STOCKHOLM, SWEDEN
IVAR TENGBOM, ARCHITECT

Photographs by Sigurd Fischer



When Called as Expert Witness

. . . Don't Get Excited

. . . Be Sure You Understand Each Question

. . . Take Plenty of Time to Answer

T is well known that any person, such as an architect, who is especially capable in a particular profession or business is qualified to give expert testimony. Also, it is important to know that the distinction between an ordinary witness and an expert witness is that the former is not permitted to testify as to conclusions. In other words, conclusions are the essence of the jury's decision and only the jury may interpret and construe the testimony of an ordinary witness for the purpose of arriving at a final verdict.

For example, in a legal controversy involving a defective structure, an ordinary witness may testify regarding the grade of materials used in construction of a building, and he may express his opinion with respect to the quality of workmanship used in assembling the structure. But he is not permitted to conclude that the defects in the materials or the poor workmanship actually resulted in the building's being defective, or not in accordance with the terms of a building contract.

While an ordinary witness is restricted to commonplace testimony, an expert witness is permitted to give his conclusions. Moreover, for rendering expert testimony an architect may demand and receive special compensation, greatly in excess of that received by an ordinary witness.

On the other hand, an architect who is subpoenaed to appear as an ordinary witness and gives testimony not in the nature of expert testimony cannot recover for such services more compensation than specified in laws regulating payments to witnesses.

For this reason it is well established that an agreement or contract to pay an ordinary witness more than the statutory fees is invalid, if the witness is within the jurisdiction of the Court. In other words, if a witness lives outside the jurisdiction of the Court, as in a different county or state, he may not be subpoenaed to appear as a witness. If, however, he lives within the jurisdiction of the Court, a subpoena is valid, but he is not required to answer questions pertaining to or in the nature of expert testimony. (41 A. L. R. 1322; 34 A. L. R. 1529; 196 N. W. 869; 124 N. Y. S. 478).

However, a contract is valid by the terms of which a person agrees to pay an architect extra compensation to appear as an ordinary witness, if such architect is not within the jurisdiction of the Court, providing the architect is not influenced by this payment to give testimony favorable to the firm or person paying extra compensation. (237 S. W. 141; 14 Johns (N. Y.) 357.

Also, a contract is valid under which a person agrees

to pay an architect, or other person, for expert testimony, if the witness must necessarily prepare himself in some special manner to give the testimony. (2 A. L. R. 1526; 44 N. E. 141; 109 N. Y. S. 754).

These phases were settled long ago, because if it were possible for all witnesses to receive payment in accordance with the actual value of their time and services, every witness and juror would demand far greater compensation than the law provides.

CONTRACT FOR FEES AS EXPERT

S INCE a contract is valid by which a person agrees to pay extra compensation to an architect for appearing as an ordinary witness where such architect is not within the jurisdiction of the Court, the following form may be used:

"In consideration of (architect) appearing in Court at (city) on (date) to testify in the case of (name of litigants), I (name of person desiring services) agree to pay said (architect) all expenses incurred as a result of testifying in said Court, and in addition thereto the sum of \$..... for each day or fraction thereof said (architect) is caused to leave his regular place of business.

Dated, 19..., at, (city) (state) (person desiring services)

Very often, to the question "Who makes the best witness?", the answer supplied indicates that the majority of persons believe a good witness to be one who is capable of giving testimony in favor of one or the other litigant. However, all Courts have consistently held that the best witness is a person who gives truthful testimony and who cannot be confused during the cross-examination nor induced by lawyers to give answers which may lead the jury to believe other than the truth.

In order to avoid confusion during cross-examination it is necessary that the witness answer each question only after being certain that the exact meaning of the question is clearly understood. Obviously, irrespective of acts, language, or facial expressions of the cross-examining lawyer the witness should maintain a calm and indifferent attitude. It is certain that a hostile witness is prejudicial to the litigant for whom he apparently is in favor.

Under no circumstances should a witness permit him-

AS EXPERT WITNESS

an architect may demand greater compensation than as ordinary witness

CONTRACTS FOR EXTRA FEES

are valid unless the architect serves as an ordinary witness

TESTIMONY

pertaining to a verbal agreement will not be admitted if it contradicts a written contract

self to believe that he may not rightfully consume adequate time to weigh each question before giving an answer. The law always is in favor of a witness who takes sufficient time before giving an answer to be certain that the answer will be truthful and correct.

Moreover, a calm and indifferent witness lowers the morale and lessens the confidence of a cross-examining lawyer who may intend to resort to cunningness or bluster to obtain answers likely to influence a jury.

Frequently, I have observed that architects become impatient and nervous when compelled to answer questions that appear to be unimportant. It must be kept in mind that a common practice of cross-examining lawyers is to ask numerous unimportant questions to which either the word "no" or "yes" may be successively spoken. Then unexpectedly an important question is presented in an indifferent manner, to which if, through the combined habit of answering either negatively or affirmatively or as a result of impatience and carelessness, the witness gives an incorrect answer the effect on the jury is unfavorable to the witness.

WATCH FOR LAWYER'S TRICKS

N other instances an experienced cross-examining lawyer may ask many questions in a smooth low tone and suddenly he will shout a question which may be answered incorrectly, if the witness fails to maintain his calm and delay answering until he is certain of giving the correct answer.

Irrespective of the high degree of intelligence, and extensive experience as a witness, few persons are capable of giving false testimony without the lawyer who is cross-examining detecting the falsity. If the lawyer is proficient he is usually successful in conveying this information in varying degrees to the jury.

This is true because an architect who testifies truthfully realizes or visualizes at all times and under all circumstances the actual facts, whereas a person who endeavors to favor a litigant by giving false testimony

Ву

LEO T. PARKER

Attorney-at-Law, Cincinnati, Ohio

can only memorize the testimony which he *expects* or anticipates giving. Many questions pertaining to details quite beyond his expectations are directed by a shrewd lawyer and it is likely that the falsifier will flounder, particularly if the controversy relates to complicated procedure. Once a witness is "cornered," and finds it necessary to give contradictory testimony, his morale is broken and it is easy for an experienced lawyer to completely invalidate the testimony previously given.

Testimony is divided technically into several classes, but to the average architect it is unimportant except to know that no testimony is acceptable which is of such nature that it may without substantial foundation

influence the Court or a jury.

For instance, in one case it was disclosed that a property owner owed an architect \$500. The latter was compelled to file suit to collect the money. During the trial the property owner attempted to introduce testimony showing that on a certain night he had met a neighbor at the gate of the architect's home, that in answer to the neighbor's question the property owner had displayed \$500 and stated that he owed the architect this amount and that he was going in the house to pay him. When the neighbor walked away he observed the property owner enter the architect's home.

It is interesting to observe that the higher Court refused to admit this testimony, since its effect would be to influence the jury that the property owner had paid the architect when in fact no proof of payment was contained in the testimony. Incidentally it would be comparatively simple for any one to avoid paying

a debt by a similar plan.

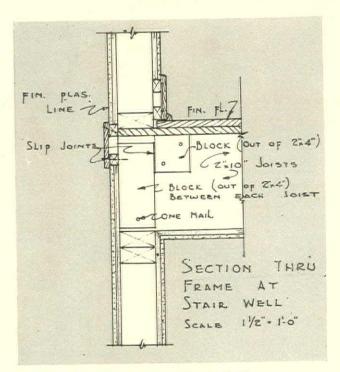
In another case it was shown that an architect and a contractor became engaged in an argument. The contractor struck the architect on the head with a blunt instrument and killed him. While running out of the building the contractor met a subcontractor who asked what was the matter. The contractor, being greatly excited, said: "I just killed Joe White."

In the subsequent trial the Court permitted the subcontractor to testify because the rule is established that a person usually will automatically state the truth at a time or within a few seconds after the occurrence of an exciting incident. However, ordinarily a Court will not receive testimony pertaining to a statement made by a person presently living. It is necessary to produce the witness and permit him to testify on the question involved. Obviously, this rule is proper because persons often make verbal statements or explanations to which they would not testify under oath.

Another well-settled point of the law is that the Courts will not accept testimony pertaining to a verbal agreement which contradicts a written contract.

For instance, although an owner makes a verbal promise, such as to pay an architect additional compensation, the latter cannot introduce testimony to prove the promise if it contradicts or tends to vary the meaning of an existing written contract.

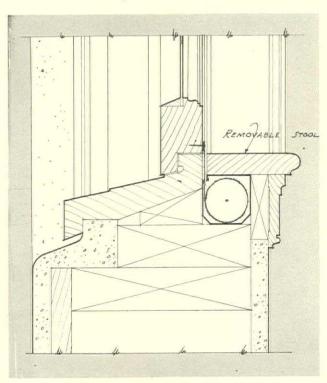
.. Things You Didn't



NEW METHOD OF INSTALLING ROLLER SCREENS

By Ross E. Bellah, Hollywood, California

To eliminate moving the screen each time the window is opened or closed the method shown below can be used. With a double-hung window the roller screen is installed at the sill (or head if desired) and then securely fastened to the sash. When the window is operated the screen is automatically drawn into place.

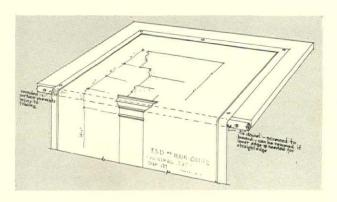


TO AVOID PLASTER CRACKS AT STAIR WELL

By Paul Hueber, architect Syracuse, New York

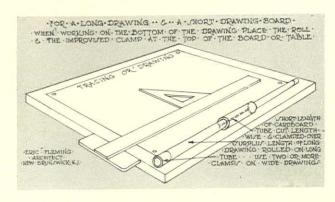
THE drawing at the left shows a way to take up the shrinkage in wood joists by means of a slip joint. When the joist shrinks, the vertical block with grain lengthwise does not shrink and as the plaster ground and lath are nailed to this piece and not to the joists, no buckling of the plaster can occur.

FOUR WAYS TO SIMPLIFY WORK ON LARGE DRAWINGS



By Walter J. McCoy New York

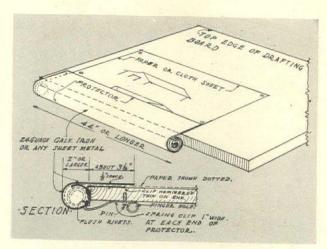
A WOODEN DOWEL, 3/4-inch diameter such as tracing cloth is rolled on, can be fastened to the front edge of the drawing board and long drawings allowed to hang over the edge. The draftsman can then work at the top of the sheet and can lean against the drawing without creasing or ruining the sheet in any way. The dowel will not be unsightly and can be left in place without impairing the usefulness of the board.



By Eric Fleming, architect and engineer New Brunswick, New Jersey

DRAFTING room convenience, when working on a particular corner of a large drawing, is shown in the accompanying illustration. The roll prevents damage to the drawing when one bends over it.

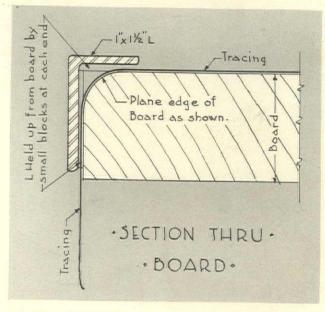
Learn in School...



By Leslie H. Lippiatt, architect Pasadena, California

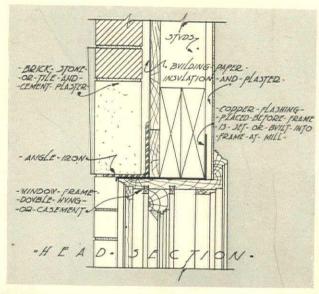
THE above sketch shows a device which is a backsaver for draftsmen working on large drawings. This protector is easily attached or removed. It slips on the lower edge of the board and when in place a drawing may be laid on the board and pushed into it.

The lower part of the drawing rolls up inside the protector. By inserting the thumb at the end of the protector, the sheet can be rolled up. The device can be made without the clips, in which case it is held in place by thumbtacks inserted through holes at each corner.



By Joseph W. Molitor Ossining, N. Y.

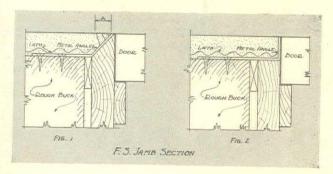
SMALL angle placed on the bottom edge of the drawing board will prove helpful to draftsmen who find it difficult to draw or letter on the top of a large tracing. The tracing may be moved down as far as desirable without danger of creasing or otherwise damaging the paper. The angle will also act as a ledge preventing pencils, scales, etc., from sliding to the floor when the board is set at an angle.



FLASHING DOUBLE-HUNG WINDOWS IN BRICK VENEER WALLS

By J. M. McCrary Birmingham, Alabama

THE advantage of the flashing method illustrated is that it is invisible and, since it is a combination of metal and plastic, allows for expansion and contraction without breaking the seal.



CONCEALED DOOR IN PLASTERED WALL

By F. D. Fernandez New York, N. Y.

A CONCEALED door in a plastered wall is frequently detailed as in Fig. 1, which inevitably leads to the cracking and chipping off of the plaster at "A" due to the metal lath not extending to the edge of the plaster and the plaster "feathering down" at the edge of the door.

Detailing the jamb as in Fig. 2, with the metal angle at 90°, permits the metal lath to extend to the edge of the plaster and the plaster to be full thickness to the edge of the jamb. In both cases the metal angle is formed by bending pieces of stock "flat."

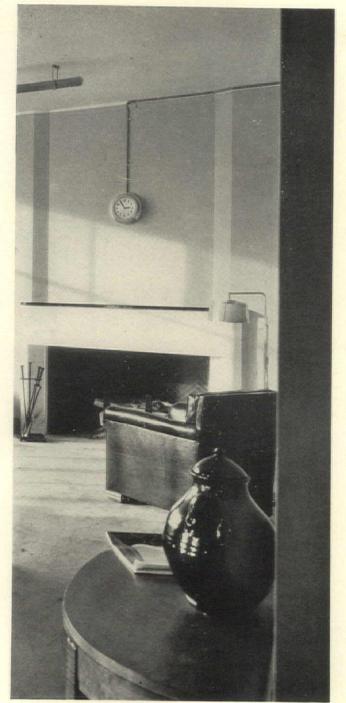


Living Room and

HOUSE OF CAPTAIN J. M. PATTERSON, OSSINING, NEW YORK

JOHN MEAD HOWELLS AND RAYMOND M. HOOD, ASSOCIATED ARCHITECTS

DETAIL DRAWINGS BY ARTHUR H. GILKISON



Plaster

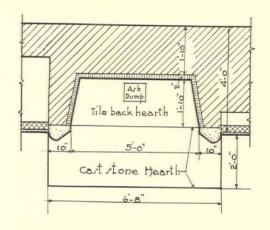
Diack Carrara

Glass

Thoke
Chamber

Tile lining

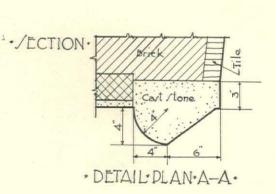
DETAIL • ECTION •

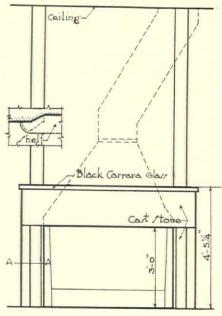


NYHOLM & LINCOLN

Fireplace

Horizontal lines are emphasized not only in the fireplace design but throughout the entire room even to the lighting fixtures. Thus the horizontal lines of the flat roofed exterior are logically repeated in interior





HE Folger Shakespeare Li-Folger Library brary described and featured Award in the plate section of this

issue of American Architect has been given the award of "Distinguished Architecture" by the Board of Review of the Architects Advisory Council of Washington, D. C. The award states that the Advisory Council considers this building to be "outstanding among buildings of its type." This award is the highest made by the Council for private buildings in the National Capital. The Folger Shakespeare Library is unquestionably one of the "distinguished" buildings of its time. But then, as some one has said, "Paul Cret has the happy faculty of producing work which is never over the heads of the humblest among the populace." And Mr. Cret is to be congratulated for his courage in departing from the use of colonnades in the design of this building.

A BANKER asks, "What are architects doing to reduce What Is Being Done About It? the cost of building?" and says that it appears to him that we are building today just the same as when he was a boy. It is a pertinent question asked not critically but as a matter of information. As master builders, architects are supposed to know all about building. They, if anyone, should know what to do to reduce construction costs without sacrificing that desirable quality—good construction. What are architects doing about this?

N the Architectural Review New Tax of England a writer makes Possibility the suggestion that a tax on superfluous architectural decoration has revenue possibilities. As proof of the feasibility of such a tax he cites the taxation in England many years ago. He suggests taxes on the following: half timbering where it performs no structural purpose; crested ridge tiles and terra cotta gargoyles; outside aspidistra and geranium stands and ornamental stained glass for front doors. Every reader can extend the list to meet his or her own ideas. Consideration by Congress of a tax of this nature might prove a benefit to architecture and a hitherto unthought of source of income for the government. Its potential revenue possibilities in the United States, however, are far less today than they would have been even ten years ago.

ODAY, many architects are Danger in awakening to the danger of Specialization specialization. The hospital specialist's practice is almost nil. The school specialist is no better off and the church and bank experts likewise find little work flowing into their offices. While the specialist is awakened to the disadvantages of specializing in times like the present, there is a stronger argument against a one-sided practice—better service to the client. Specialization presents the danger of becoming mentally narrow, one-sided, getting into a rut that produces stereotyped buildings. There is a broadening effect in designing different types of buildings. It keeps one alert, mentally active, and abreast of today's thought. There are advantages that accrue to the specialist and his clients, but his practice should be tempered with some diversified work. One prominent practitioner who follows this principle states it is desirable that one-third of the work in the office should be buildings not related to the specialized work of the office.

/HAT man married to All He Wanted wifely interest and neat-Was One Room ness but will sympathize with the plight of a wealthy man, described in Adver-

tising & Selling. This man's grief is that, with all his millions, he cannot have one room, either at home or office, where he can have papers and books strewn round in joyous confusion—just as he left off using them.

"Here in all this big house," he complained, "not even a little cubby can I have for myself where I can revel in my untidiness. Always some servant-or my wifeis picking up and straightening up after me, so that I never know where to find anything. And at the office my secretary manages somehow, in spite of my orders, to keep order. Isn't it tragic, that in a world where disorder is really the natural condition, my modest fortune cannot buy me one little room in which I can satisfy my heart's desire for that fine confusion that is the essence of orderliness to a man who knows just where he left off, be the apparent confusion a foot deep!"

Smokers Will Sympathize

A ND apropos of frustration is the story of an architect who, when building himself a house, designed a convenient corner cabinet where his pipes and tobacco could lie hidden and undisturbed behind closed doors near the fireplace. His wife suggested it would look much more cozy if the doors were left off. He acquiesced. When the family moved in and the arch-

pointed place, he found the shelf filled with bookswhich have been there ever since.

He Sells the Salesmen

NE architect says that he makes it difficult for salesmen to reach him person-

ally. When one does get to him, he decides that he must be worth while, and often instead of buying, this architect "sells" the salesman on building a home for himself. This architect says, "Why go out and look for clients when more often than not they come to you knowingly or otherwise?" The moral is, always take advantage of your opportunities. Many persons unfortunately are unable to recognize opportunity when it knocks.

itect went to put his pipes and tobacco jar in their ap-

to the Editors

Building Survey

MERICAN ARCHITECT'S survey of new building and modernizing, to be found

in this issue on page 24, is a further step in the program of "Better Business for Architects," outlined in booklet form and distributed to architects some months ago. Considering the recognition given the building industry as perhaps the most important of the business recovery factors, it is evident that this survey will be of direct interest to a great many newspapers and publications, for this is the first definite effort to forecast next year's outlook in the building industry. AMERICAN ARCHITECT is taking advantage of this opportunity to release a broad program of publicity to bring before the public the importance of the architect not only in new work but also in modernization. It will be released through the Hearst newspapers and other publications, also through syndicates and other channels reaching the entire field of public interest.

Outmoded Codes UTMODED building codes retard progress in the science of building

construction and often become a severe financial penalty through unnecessarily increasing business costs. It has been estimated that in a normal building year the new New York City Code will save the building public of

that city approximately fifty million dollars.

The code has been so written that in the future it will keep abreast of new developments in the art of building. The key to making a code sufficiently flexible to assure proper structural safeguards and yet permit the utilization of new ideas and materials is to base the codes on performance. This automatically solves many problems without handicapping science or endangering the public.

Architects can perform a public service by seeing that local building codes where necessary are revised or rewritten with the spirit of safety, progress and economy

in mind.

The Mystery House A n architect was asked by a client to visit a newly purchased house to determine

what alterations, if any, would be needed to make it livable. The house had not been occupied for ten years. The architect was amazed, when he visited the house, to find it completely furnished though everything was covered with an accumulation of dust. Household bills ten years old were on the desk. The dining room table was completely set and a half filled bottle of liquor sat on the table. The bedrooms were in order except for the destruction wrought by rats and mice. Closets were filled with clothing neatly hung but moth eaten and falling into decay. Bureau drawers were filled with fine linen ruined by the mice. To all appearances, the family had gone off, perhaps on a picnic, expecting to return. What tragedy befell them? Why had the house remained so long undisturbed? A strange experience for an architect and one that stirs the imagination.

A Versatile Designer ARIONETTE impresario extraordinary, illustrator, mural painter, and de-

signer of textiles, wall papers, toys and children's barber shops, Tony Sarg also shows his versatility by designing a small restaurant in association with Floyd McCathern, architect. The restaurant is illustrated in the current plate section of this magazine and offers an opportunity

to say a word about its designer.

Tony Sarg was born in Guatemala, the son of a German consul to that country. His mother was an English woman. Interested in drawing as a youth and developing his talent without benefit of an art school training he became first known as an illustrator in England. In 1915 he came to America where he has become well known as an illustrator through his amusing portrayal of fiction characters. Starting as a hobby, "Tony Sarg's Marionnettes" have attracted national recognition. Humor is the dominating characteristic of all of Mr. Sarg's work. One visiting his studio, in an old brownstone house in New York, is impressed with this fact by the funny little drawing on the door plate and the amusing murals on the bathroom walls.

What Will It Do For Me?

THE theory of advertising, publishing, motion picture production—in fact, the en-

tire art of interesting and influencing people was summed up by Paul Bern, a motion picture director, when he said: "When you make a picture ask yourself, 'What do the majority of the people lack?" Which might conversely be expressed, "What do people want?" demagog, with his lavish promises, knows that theory well. The young swain uses it effectively with the girl of his choice. The advertising man makes his living by harnessing that theory up to some product. As Henry Ford said, cutting short the "canned" approach of a Dictaphone salesman, "Just tell me what it will do for me." People about to build a house want a home—and real estate men and speculative builders call it a home, not a house. People about to build a commercial structure are interested in profits. Talking to them about buildings will not interest them. What they want to know is, "What will the building do for me?"

Oil Burner Correction THROUGH an unfortunate typographical error in the "American Architect Ref-

erence Data on Oil Burning Equipment," August issue, some of the captions for "Typical Oil Burners" on page 77 were transposed. The caption beginning, "Gun type oil burner" should have been under the lower left illustration instead of "Industrial, commercial and marine oil burner." The caption beginning, "Industrial, commercial and marine oil burner" should have been under the lower right hand illustration instead of "Natural draft burner." And the caption beginning, "Natural draft burner" should have been under the upper right hand illustration instead of "Gun type oil burner."



Folger Shakespeare Library

Paul P. Cret, Architect, Alexander B. Trowbridge, Consulting Architect

BY LANCELOT SUKERT, A.I.A.

Thou art a moniment, without a tombe, And art alive still, while thy book doth live And we have wits to read, and praise to give.

-BEN IONSON.

HE Folger Library is the realization of the dream of its founder, Henry Clay Folger. It is not surprising, therefore, that its architecture has an ethereal quality. This building has all the boldness and power of the "moniment" and all the delicacy and rhythm of the lyric poetry of the bard whom it commemorates.

In its chaste simplicity, its stands as an oasis in a city of copy-book classicism. It is admired by everyone. It appeals alike to the lowliest layman and to the most carping critic among architects. In design, in plan and in detail, it defies tradition on its exterior and bows in humble worship before the altar of archeology in its interiors.

Not one of its admirers but asks immediately: "Why so classic a building to commemorate Shakespeare?" Cret's reasoning is straightforward. An Elizabethan exterior would be entirely out of place in classic Washington, particularly in such close proximity to Capitol

Square, crowned by the Capitol itself and surrounded by the House and Senate Office Buildings, the Library of Congress and the still uncompleted Supreme Court Building with its huge corinthian order. Cret's vision is broad. He sees the facades, not as a part of the building so much as part of the surroundings of the Capitol and of the scenery of the city.

"Then," one asks, "having chosen a classic cloak for the building, why not classic interiors?" Again the reasoning is clear. Certainly Shakespeare would be out of place in a classic atmosphere. The interiors are not so much a part of the building as they are a part of the exhibit within its walls. They constitute a frame for an Elizabethan picture. Above all, they harmonize with the collection therein displayed. Cret felt that it is quite legitimate to place the Shakespearian scholars who will frequent the reading room in the Elizabethan atmosphere which permeates their commentaries.

To better understand its architecture one should know



GOTTSCHO

Folger Shakespeare Library, north front and west end. The north front and east end are shown on facing page

something of the interesting history of the building's inception. Its founder, Henry Clay Folger, of early American ancestry, was a scholarly gentleman of the old school and, withal, a great figure in American industry. He was associated for some fifty years with the Standard Oil Co. of New York, serving for a time as its President, and later, as Chairman of the Board. During his studentship at Amherst he chanced upon an old magazine containing an address deliverd by Emerson in 1864 on the occasion of the celebration of the 300th anniversary of Shakespeare's birth. The reading of this, it is said, fired him with a compelling interest in Shakespeare and gave him the scholar's lasting passion to learn all that was to be known about his subject. He became a connoisseur and an insatiable collector. Just how insatiable is best illustrated by one of his own anecdotes about a friend of his, a rival collector, who bewailed the fact that someone had beaten him to the purchase of a pair of stays claimed to have been worn by Queen Elizabeth herself, which he had seen advertised in the London Times and concerning which he had written at once, only to learn that they had already been "You should have cabled," said Mr. Folger; "I sold. did."

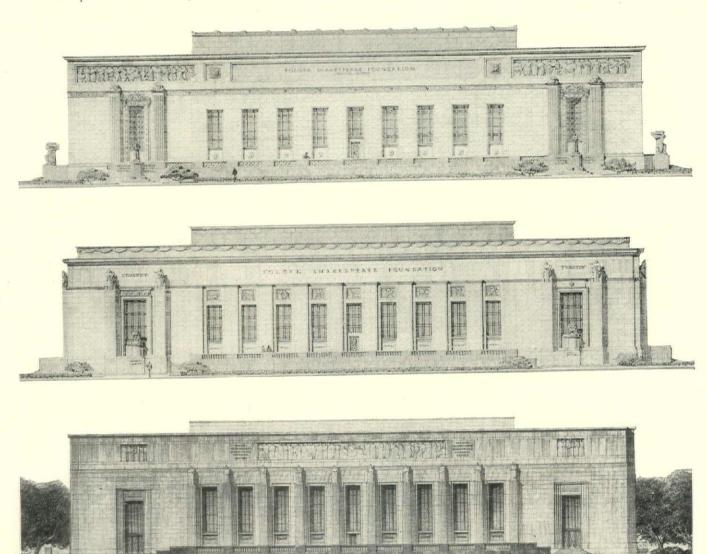
The collecting hobby became a passion. Not just one, but seventy-nine copies of the First Folio of Shakespeare were acquired. This is many more than one-third of the total number known to exist. He purchased the famous Shakespeare Library from Warwick Castle and the complete collection of the Halliwell-Phillips Rarities. He gathered together the Plays in collected editions and in separate form to the number of many thousands of volumes, former owners, among others, having been

Burns, Scott, Shelley, Robert Browning, Coleridge, Lamb, George Eliot, Hawthorne, Lowell, George Washington and Abraham Lincoln. Other treasures were acquired, including copies of Shakespeare with marginal notes by famous editors; those with marginal notations said to have been made by Francis Bacon and others ascribed to Ben Jonson. The collection also includes the plays by the self-styled "improvers" and adapters of Shakespeare as well as the innumerable critical and expository volumes having his work as their subject. Biography, criticism, exposition, the history of the construction of the text and the history of Shakespeare on the stage, all were gathered into the collection.

Nor did the founder's desires stop with printed books. There are also Manuscripts, oil paintings of Shake-spearian subjects by Sir Joshua Reynolds, Sir Thomas Lawrence, Romney and Gainsborough, among others; water colors by William Blake, Turner and others; etchings, engravings and other prints, bronzes, busts, stage properties used by and costumes worn by such Shakespearian actors as Sir Henry Irving, Booth, Richard Mansfield and others; coins, medallions, jewelry, tokens, furniture and play-bills by the thousands.

As the collection grew in proportions Mr. Folger decided that it should be made available to others interested in the great poet and playwright. Americans are fortunate in his afterthought. "I did think of placing the Shakespeare Library at Stratford, near the bones of the great man himself," wrote Mr. Folger, "but I finally concluded I would give it to Washington; for I am an American." He was a reticent personality, known to few intimately, and, according to James Waldo Fawcett, in the Washington Post, "hidden under the routine of

Simplicity is the keynote of the



his existence there was a generous and romantic idealism, centering, somewhat curiously perhaps, about the name, the life and the work of William Shakespeare."

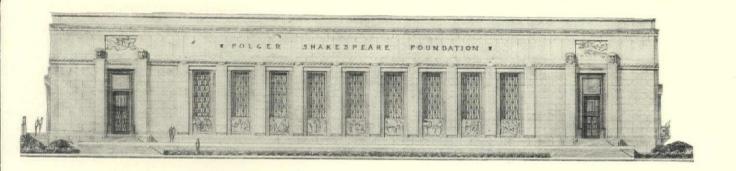
He commissioned Alexander Trowbridge, a kindred soul, to advise him concerning the building which should, at once, become a monument to the Bard of Avon and house the collection. It was Mr. Trowbridge who, after assisting Mr. Folger to crystallize his dreams, suggested that the design of the building be entrusted to Paul P. Cret. The consulting architect had a deal to do with deciding upon the major elements of the building as well as with the final decision as to its general style of architecture. Mr. Cret pays him the highest praise for his invaluable assistance and advice during the unraveling of the knotty problems that arose during the development of the design. That he now steps aside and joins the throng of admirers of Cret's handiwork is characteristic of his modesty.

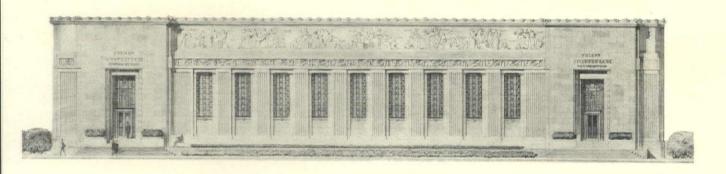
The site was chosen adjacent to the Congressional Library and the land acquired. The new addition to the government library will soon be erected directly behind the Folger Library so that this, the finest collection of Shakespeariana in existence will virtually become a part, as it were, of the Capitol's great store of volumes.

The architectural problem offered to Cret for solution The requirements were to provide a was unique. library for the collection of some 75,000 volumes with space for future growth to 150,000, together with a large reading room, under direct control of administrative offices, into which would be admitted only qualified students, but so arranged as to permit the public to see the room; a public gallery for the exhibition of the more interesting paintings, prints, costumes, properties, mementoes, volumes, etc.; a theatre for the performance of Shakespearian plays, accessible to the public in the evening when the rest of the building would be closed, and the necessary administrative offices and storage spaces for those precious items which must be kept inviolable. A library, a museum and a theatre, all of Elizabethan mode, to be erected in monumental character in a city trooping with classic colonnades. What a problem!

The plan shows with what directness the problem was solved. What might easily have become a complicated

early studies of the Folger Shakespeare Library







arrangement was reduced to a simple, straightforward scheme. The library, considered as of the greatest importance, was placed in the very center of the plan where it is screened from street noises by the other major elements of the design. Access to it is confined to those who enter the west doorway and pass through the administrative wing and the catalog room.

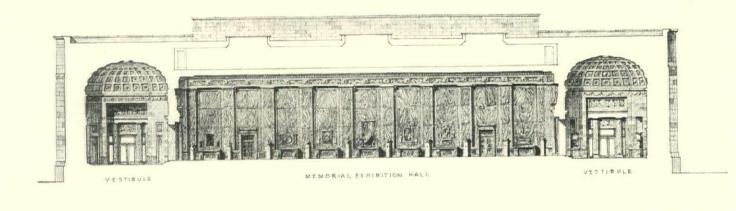
The reading room itself is an excellently designed English "great-hall" with a high, trussed roof. It measures 32' x 121' with a ceiling height of 37'-9" and is surrounded by bookcases, the second, or upper tier being served by a continuous balcony. The oaken hall-screen at the east end has, as its central feature, an exact replica of the Shakespeare Memorial over his tomb in the Holy Trinity Church at Stratford-on-Avon. This feature is flanked by portraits of Mr. and Mrs. Folger.

When the founder selected the quotation from Ben Jonson, which appears at the head of this article and is inscribed on the parapet of the library, he little thought that the words: "Thou art a moniment without a tombe" would become contradictory. He died two weeks after the cornerstone was laid and his ashes were placed in a

small vault behind the commemorative tablet within the door opening of the replica of the Shakespeare memorial, with provision for those of Mrs. Folger, who, immediately after her husband's passing, took up the work of completing the building and assisting in its administration.

At the opposite end of the great library room is a large Gothic window, the tracery of which reproduces that in the window of Trinity Church at Stratford. The original glass having entirely disappeared, it was impossible to reproduce it. To avoid confusion it was decided to use glass of a secular character befitting the purposes of the room and Nicola D'Ascenso was commissioned to execute "The Seven Ages of Man" from the play: "As You Like It," in the style and character of Shakespeare's time. Besides this window, the library is lighted by three huge bay windows on the south side, also providing additional vault and shelf space as well as separate loges for individual research and study.

The central motif of the north wall is a great stone fireplace of the period, serving not only to break up the continuous wall of book shelves, but to give the intimate





Preliminary study of Memorial Exhibition Hall in the Folger Shakespeare Library

character so desirable for student workers. As soon as the work is properly organized and students begin their work, it is expected that study clubs will be formed and seminars and discussion groups will gather around the log fire as they did in Ben Jonson's time.

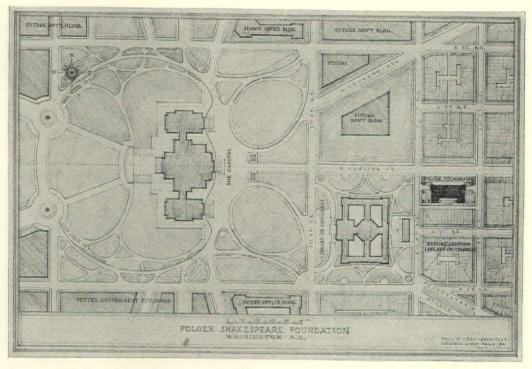
In this great room the scholars will have access to some 20,000 volumes on shelves, and to vaults containing some 18,000 of the most precious folios and manuscripts. Stairs lead directly to two additional tiers of stacks in the basement immediately below.

Separating the reading room from the street facade and reaching across the entire front is the exhibition gallery, which connects the two vestibules or halls and provides circulation between them. It also serves as a grand foyer for those attending the theatre at night and arriving at the automobile entrance. This gallery is a lofty, narrow room, with a segmental ceiling decorated with an all-over strapwork pattern in low relief, so characteristic of the period. It has the appearance of being just as the plasterers left it, free of the antique glazing and polished wax surfaces so dear to the heart of the modern decorator. The walls are paneled in English oak, stained a not-too-dark brown and appearing to have been left without any further finish. They offer a rich and harmonious background for paintings, prints and the various other objects displayed on the walls and in cases ranged about the room. The floor of hand-made tiles is most interesting in design and recalls, in its border, Shakespeare's principal plays. Glazed, wrought iron doors, opening into the reading room, afford the visitor a view of its interior without disturbing the students within or interrupting their work. At either end are monumental doorways, bearing the coats-of-arms of Elizabethan England and the United States of America.

Many of the visitors believe the delightful little Elizabethan theatre to be the most charming room in the structure. It is located so as to be used at night independent of the rest of the building. In its planning, it was not intended by Mr. Folger to attempt to reproduce any particular theatre of the Shakespearian era, particularly since modern theatre requirements vary so from those of the XVIIth Century. The open air pit, for instance, was out of the question. A sloping floor was felt to be a modern necessity. Rather, it was desired to create something of the atmosphere in which the plays of Shakespeare were originally enacted and viewed.

The theatre is archeologically correct in the sense that each of its parts was inspired by something in one of the Elizabethan theatres. The old theatres consulted were principally the "Fortune" and the "Globe," both of which had been destroyed without there having been left many authentic graphic data concerning them. There are many accounts of the old theatres, some of them contradictory, from which various reconstitutions have been made by Shakespearian scholars who have found it possible to make, and to defend with considerable heat, quite different reconstitutions of the same theatre, built up from allusions to the theatre in contemporary literature.

Before any theatres were built in England, it was the custom for the strolling players to drive their heavy show-wagons into the courtyard of the local inn, backing them up against the side and let down the platform which formed the stage. The guests of the inn witnessed the performances from the balconies around the courtyard. The lackeys, grooms and stable-boys, barmaids, cooks and the local populace, stood or sat on the ground in the "pit." The (Continued on page 84)

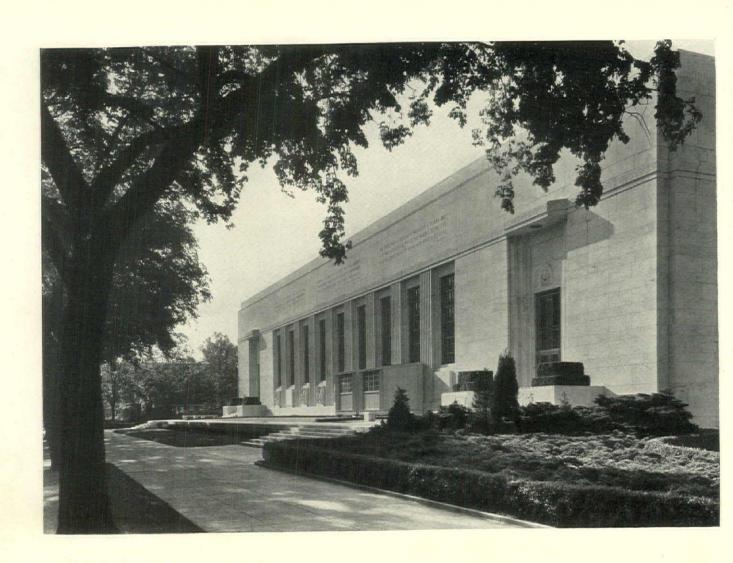


Just east of the Capitol, the Folger Shakespeare Library will adjoin a future addition to the Library of Congress.

PLATE SECTION

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DETAIL OF EAST CAPITOL STREET ENTRANCE

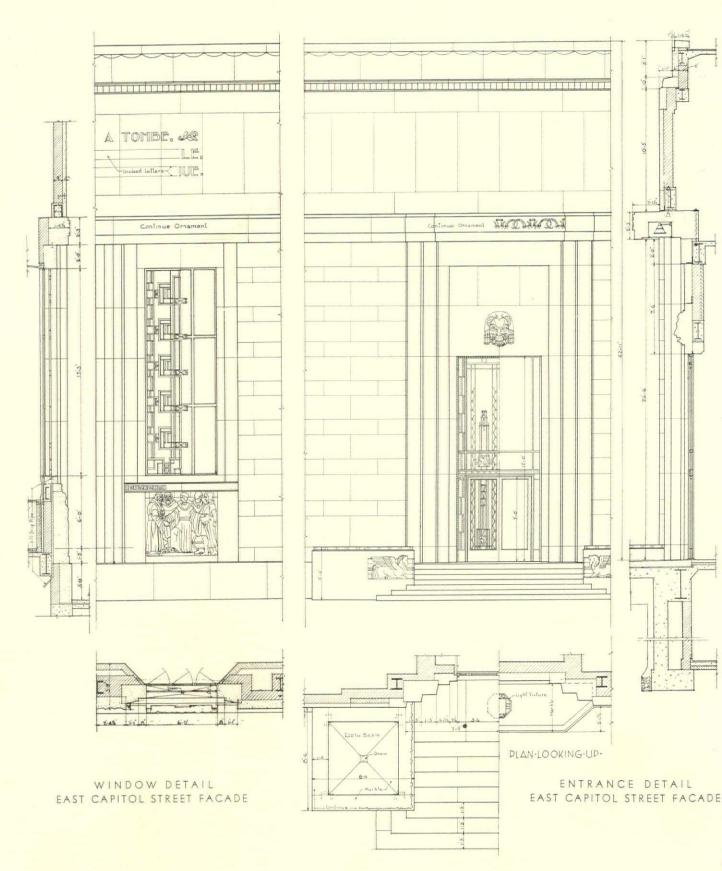
East Capitol Street and Second Street elevations are shown on the facing page. The low structure seen in the photograph of the East Capitol Street facade is the sculptor's movable, temporary shed

FOLGER SHAKESPEARE LIBRARY, WASHINGTON, D. C.

PAUL P. CRET, ARCHITECT

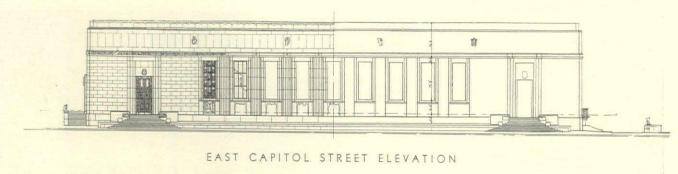
ALEXANDER B. TROWBRIDGE, CONSULTING ARCHITECT

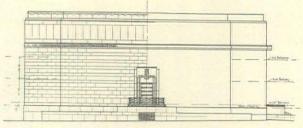
Photographs by Samuel H. Gottscho



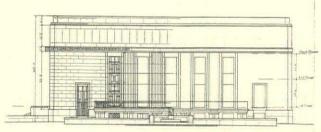
Exterior walls are faced with Georgia marble. Plain wall surfaces are broken up only by variations in the marble jointing. Grilles of windows and entrances, white metal. Bas-relief sculptured panels under windows, by John Gregory. Architect's supervisor, William C. Rohns; builder, James Baird Company; structural engineers, Gravell and Duncan; mechanical engineer, I. H. Francis. Landscaping, J. H. Small and Sons; decorators, Westing, Evans and Egmore, and Austin Purves; woodwork, Erik Jansson

FOLGER SHAKESPEARE LIBRARY, WASHINGTON, D. C., PAUL P. CRET, ARCHITECT, ALEXANDER B. TROWBRIDGE, CONSULTANT



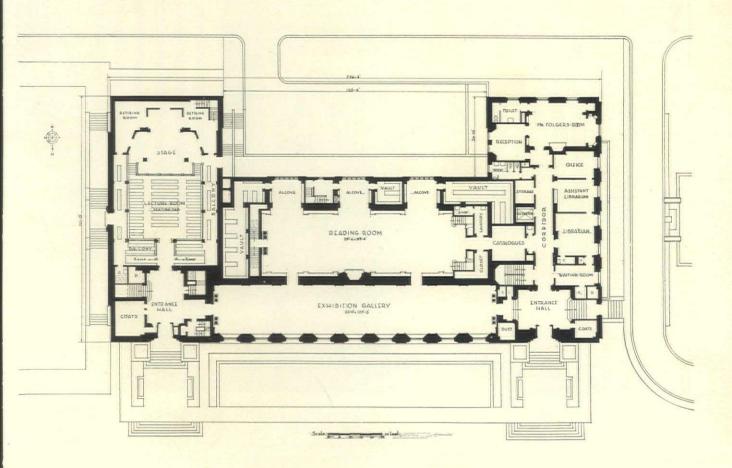


THIRD STREET ELEVATION

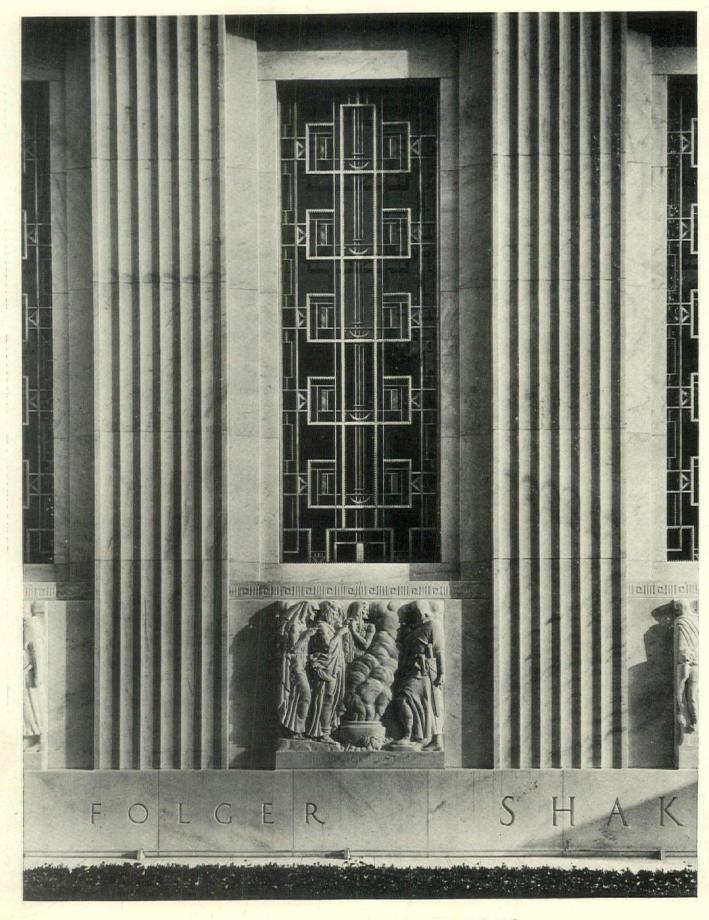


SECOND STREET ELEVATION

The problem required a library to provide for 150,000 volumes, with a reading room for qualified students, administration offices, a public exhibition gallery, and a lecture room or theatre, all designed in the Elizabethan manner. The plan indicates a simple, direct solution of a difficult problem. The problem also required a building of monumental character to be erected in a city of classic colonnades. The exterior is an equally straightforward solution in "modern" classic



FOLGER SHAKESPEARE LIBRARY, WASHINGTON, D. C., PAUL P. CRET, ARCHITECT, ALEXANDER B. TROWBRIDGE, CONSULTANT

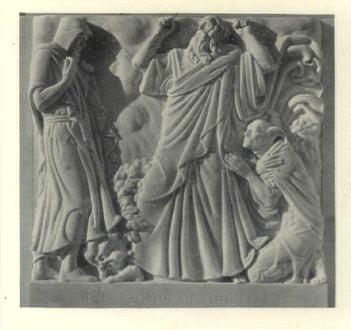


DETAIL OF EAST CAPITOL STREET FACADE

The bas-reliefs below the windows were designed by John Gregory, sculptor, and carved by Piccirilli Bros. Three panels are shown in detail on facing page

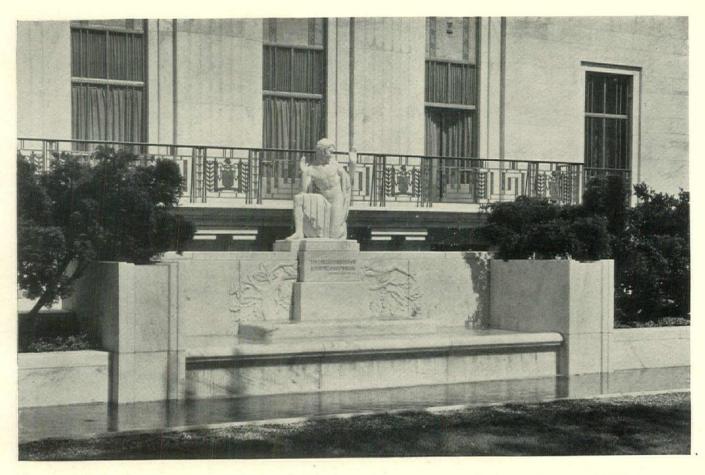
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FOR SEPTEMBER 1932



Above: Marble fountain of east facade. The figure of Puck was executed by Brenda Putnam

At right: East entrance to library

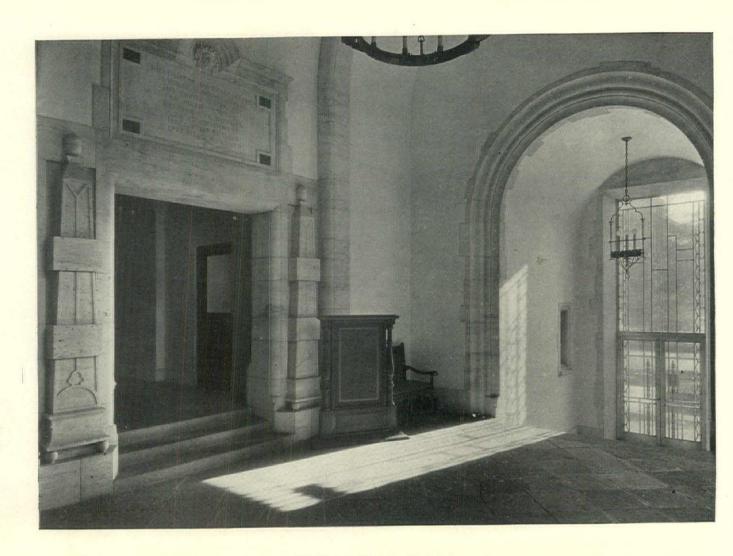


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DETAIL OF LECTURE ROOM EXIT, WEST FACADE

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ENTRANCE HALL

Transition from a classic facade to Elizabethan interiors has been admirably achieved in the design of the entrance halls, one of which is shown above. The segmental ceiling of the exhibition gallery shown on the facing page is of plaster with an all-over strapwork pattern, having the appearance of being just as the plasterers left it. The walls are paneled in English oak, stained brown. Floor of hand-made tiles. Doors to reading room are of glazed wrought iron



EXHIBITION GALLERY

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FOR SEPTEMBER 1932

55



DETAIL OF EXHIBITION GALLERY DOORWAY

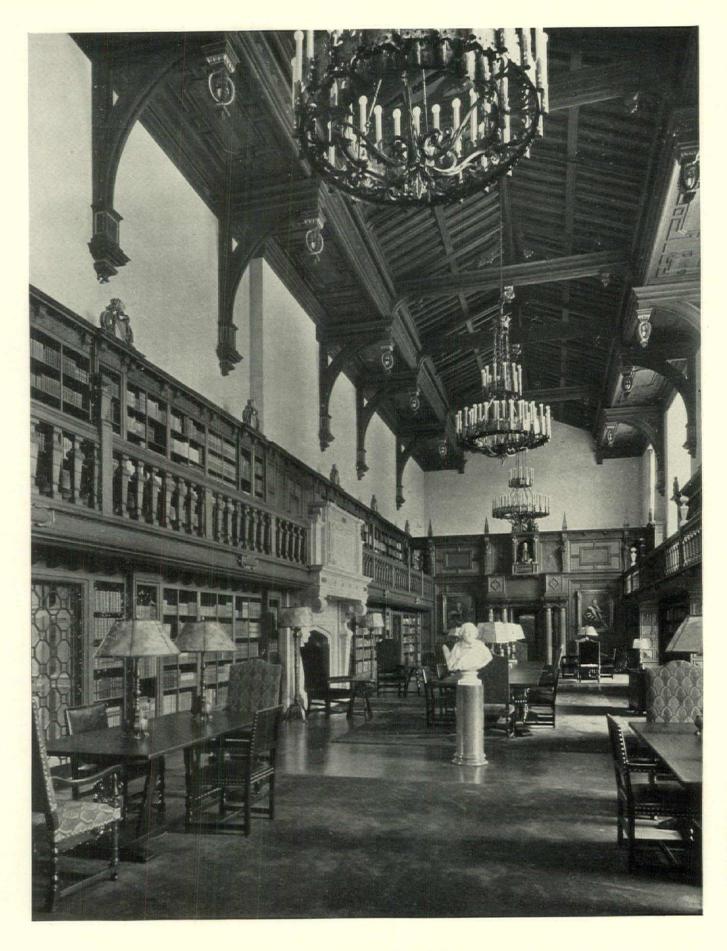


DOORWAY AT END OF EXHIBITION GALLERY

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FOR SEPTEMBER 1932

57



THE READING ROOM



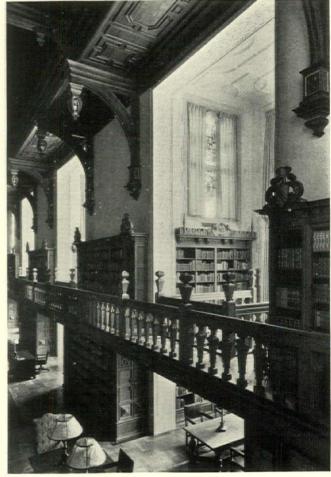
READING ROOM HALL SCREEN

The central figure above the doorway is a replica of the Shakespeare Memorial over his tomb in Holy Trinity Church, Stratford-on-Avon

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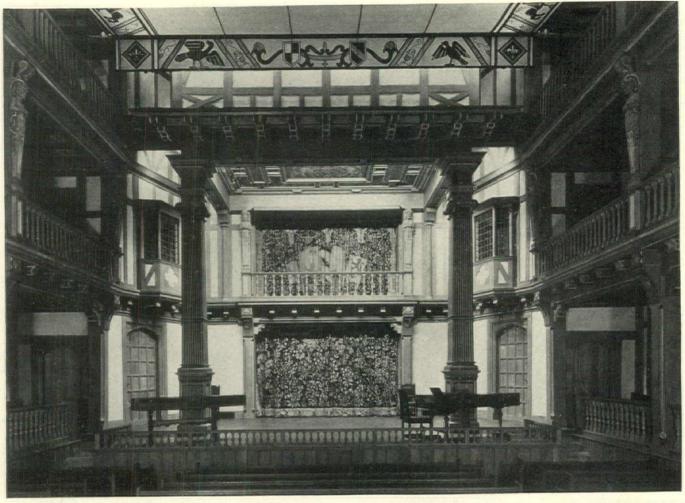


THE READING ROOM is an English "Great-Hall," 32' x 121', having a ceiling height of 37'9". The tracery of the large Gothic window reproduces that in the window of Trinity Church, Stratford. The stained glass design by Nicola D'Ascenzo depicts "The Seven Ages of Man" from the play "As You Like It." This window is shown in detail on the facing page. Bedford stone trim. Fireplace of Bedford stone. Woodwork, oak. Floor, cork



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LECTURE ROOM (above) LOOKING TOWARD STAGE AND (at right) LOOKING TOWARD ENTRANCE

No attempt has been made to reproduce in the lecture room any particular Elizabethan theatre. The atmosphere in which the plays of Shakespeare were enacted has, however, been created. In a sense the theatre is archeologically correct. Theatres of the period were built to conform to the surroundings to which the players were accustomed, namely, the courtyards of inns. Hence the tiers of balconies, the uncovered pit, and the stage in three divisions

The sky-curtain, concealing artificial illumination, and the drapes, separating the front and back portions of the lower and upper stages, were designed and decorated by J. Monroe Hewlett. The stage is equipped with concealed colored lights on dimmer banks. Woodwork, oak. Walls, plaster. Floors, blue stone and cork. Roofs of balconies, shingle tile

FOLGER SHAKESPEARE LIBRARY, WASH-INGTON, D. C., PAUL P. CRET, ARCHITECT, ALEXANDER B. TROWBRIDGE, CONSULTANT



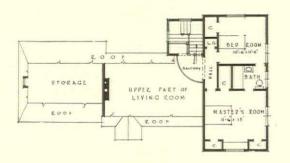


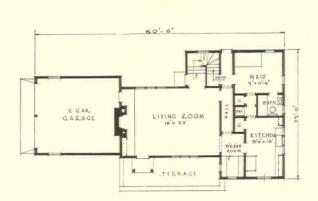
HOUSE OF C. J. GOODMAN, OLD SHORT HILLS, NEW JERSEY

BERNHARDT E. MULLER, ARCHITECT

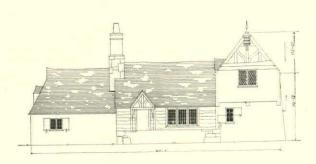


GLASGOW





Exterior materials: White stucco. Half timbering and siding stained Van Dyke brown and whitewashed. Sash, jade green. Blinds, peacock blue. Roof, 3/4" to 3/16" seagreen slate. Built 1929. 29,000 cu. ft. Cost 50 cents a cubic foot



FRONT ELEVATION



REAR ELEVATION

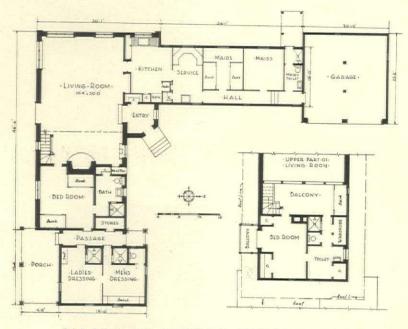


END ELEVATIONS

HOUSE OF C. J. GOODMAN, OLD SHORT HILLS, NEW JERSEY; BERNHARDT E. MULLER, ARCHITECT



COLLINGE



FIRST AND SECOND FLOOR PLANS



WEST ELEVATION



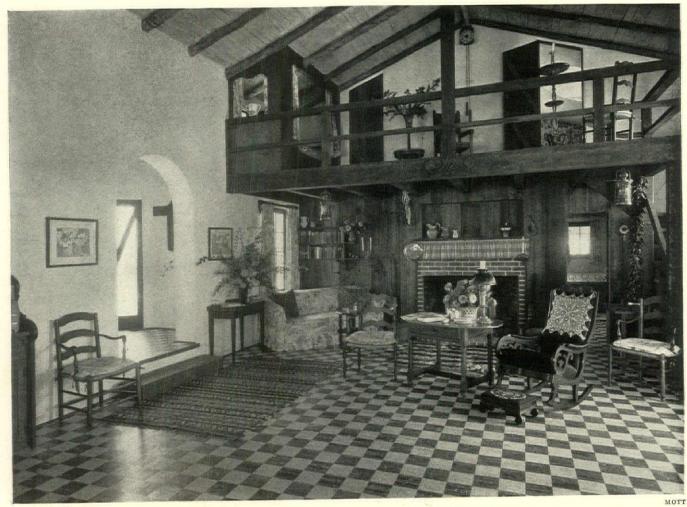
EAST END ELEVATION



SOUTH ELEVATION

BEACH HOUSE OF GEORGE G. WHITELAW SANDYLAND, SANTA BARBARA, CALIF.

RUSSEL RAY, ARCHITECT



FIREPLACE END OF LIVING ROOM



BUNK IN OWNER'S BEDROOM

CONSTRUCTION DATA: Foundations: redwood posts. Foundations: redwood posts. Exterior trim, eucalyptus. Exterior walls, stucco. Roof, hand split redwood shingles. Walls of living room and entrance vestibule, plaster. Other interior walls, plaster board. Floors, wood. Second story, plank floor. Cube, 30,300 cubic feet. Cost, \$10,523, exclusive of architect's fee, sewage disposal plant, road and

disposal plant, road and walks, and grading

BEACH HOUSE OF GEORGE G. WHITELAW, SANTA BARBARA, CALIFORNIA, RUSSELL RAY, ARCHITECT AMERICAN ARCHITECT



PEYSER & PATZIG



OWNER WANTED: Improvement of living room, addition of an entrance hall, a dining room, pantry, porch, master's bedroom, maid's room and bath

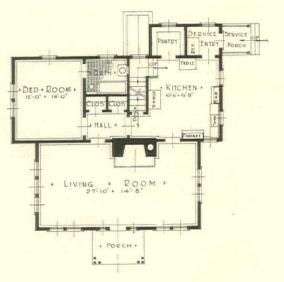
WHAT WAS DONE: Fireplace and chimney moved to allow door to new entrance hall. Fenestration simplified. Book shelves built in living room. Dining room added at rear, necessary hall being taken from old kitchen space. Kitchen wing extended

Upstairs, existing room in original form except that window space was enlarged and closets rearranged

Gas boiler, hot water heating and additional radiation. House rewired. Original cube, 23,700 cu. ft. Additional cube, 8,300 cu. ft., new porch figured at half cube. Cost of improvements, \$13,000

ALTERATIONS TO THE HOUSE OF MRS. HOMER CORCHRAN PLAINFIELD, NEW JERSEY

BROWN ROLSTON, ARCHITECT

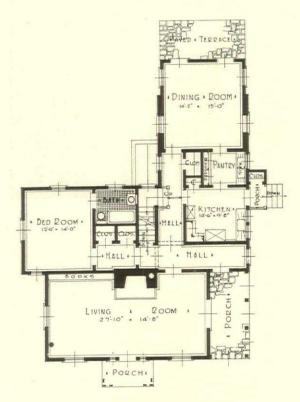


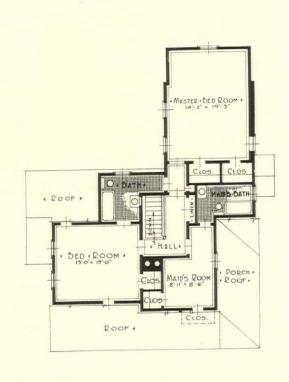
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PLAN OF FIRST FLOOR

BEFORE ALTERATION

PLAN OF SECOND FLOOR

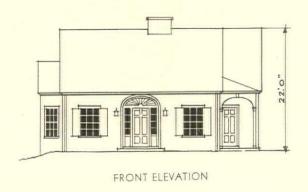




PLAN OF FIRST FLOOR

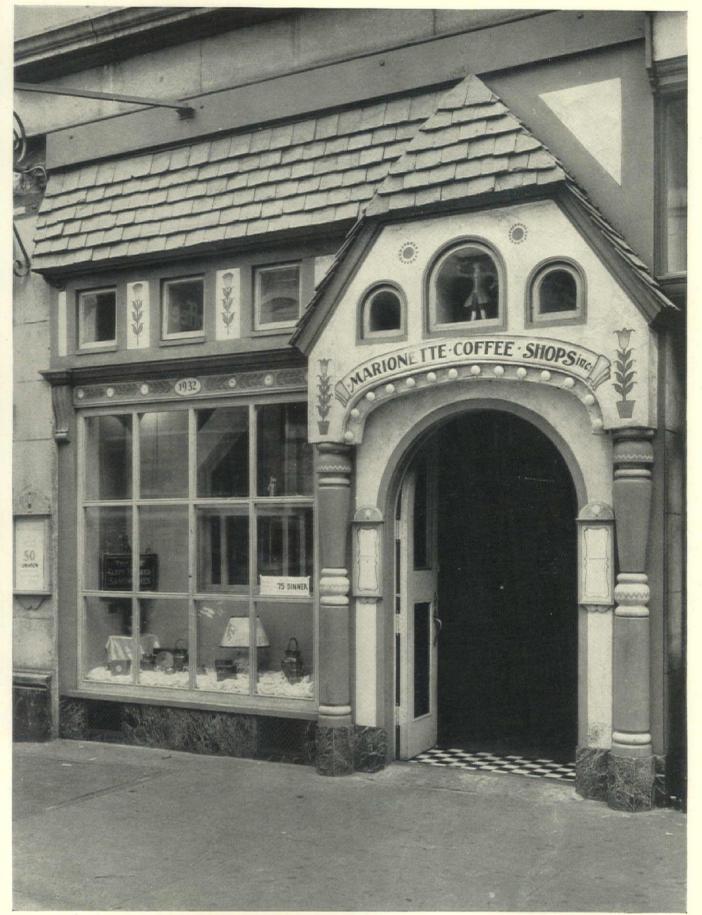
AFTER ALTERATION

PLAN OF SECOND FLOOR





ALTERATIONS TO THE HOUSE OF MRS. HOMER CORCHRAN. BROWN ROLSTON, ARCHITECT



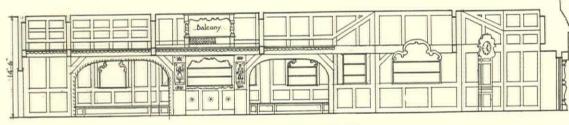
VAN ANDA

A RESTAURANT DESIGNED BY TONY SARG

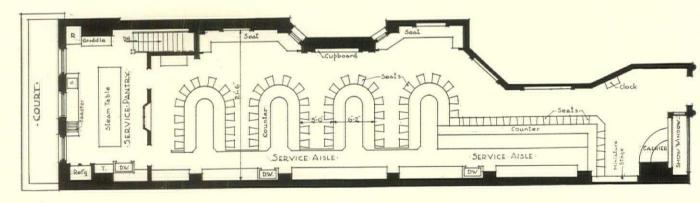
MARIONETTE COFFEE SHOPS, INC., NEW YORK, N. Y., FLOYD McCATHERN, ARCHITECT FOR SEPTEMBER 1932



VAN ANDA



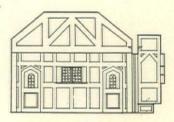
LONGITUDINAL SECTION



MARIONETTE COFFEE SHOPS, INC., NEW YORK, N. Y., DESIGNED BY TONY SARG, FLOYD McCATHERN, ARCHITECT



VAN ANDA

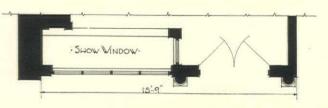


TRANSVERSE SECTION

THE EXTERIOR of the Marionette Coffee Shop is reminiscent of a small house from Grimm's Fairy Tales, an illusion possibly due to its scale and color

THE INTERIOR is vivid in color and gives one the feeling of taking part in a Marionette show. Everything is painted in bright colors. The field of the walls and ceiling is orange. Timber work and trusses are gray-blue with decorations in bright oranges, browns and greens. Puppets decorate the chair backs. The restaurant occupies the ground floor of an old building. The plan is arranged to give maximum seating capacity and quick counter service. A few tables are placed in alcoves





MARIONETTE COFFEE SHOPS, INC., NEW YORK, N. Y.



head. All of the fixtures are painted in gay, bright colors. They not only serve a practical purpose but form interesting, decorative spots as a part of the composition

Even the costumes of the waitresses are of special design to carry out the decorations. These consist of a black bodice, white collar and sleeves, gray skirt and colorful apron

A model in color was made of the exterior and interior as an aid in studying the design. Details, even to the small painted panels and wall decorations were worked out to scale on this model

MARIONETTE COFFEE SHOPS, INC., NEW YORK, N. Y., DESIGNED BY TONY SARG, FLOYD McCATHERN, ARCHITECT



VAN ANDA

DETAIL OF KITCHEN END

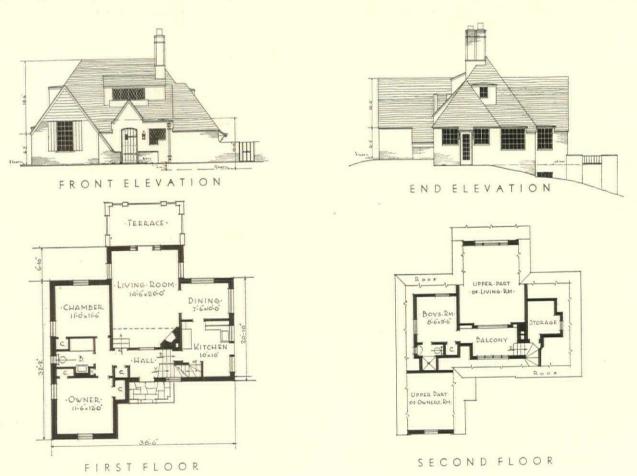
HOUSE OF FLORENCE PICKETT, HASTINGS-ON-THE-HUDSON, NEW YORK

ARTHUR D. PICKETT, ARCHITECT

MATERIALS: Exterior, common brick, whitewashed, backed-up with cinder blocks. Siding, rough sawed redwood. Steel sash. Roof, slate. Interior partitions, cinder blocks. Floor construction: bar joists, concrete, tile finish. Cube, including garage, 23,000 cubic feet

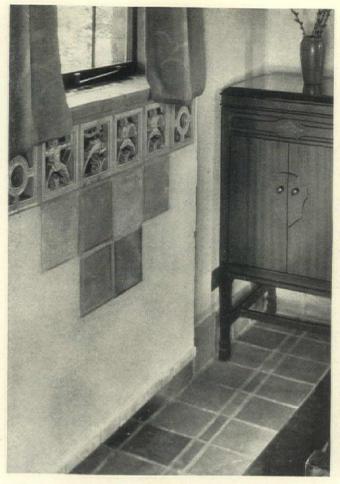


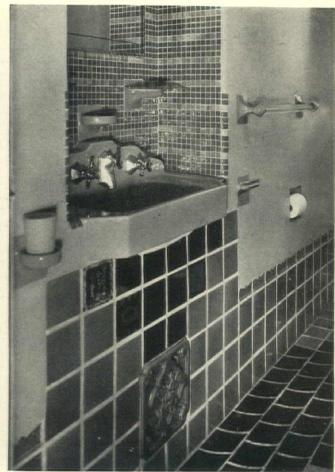
VAN ANDA



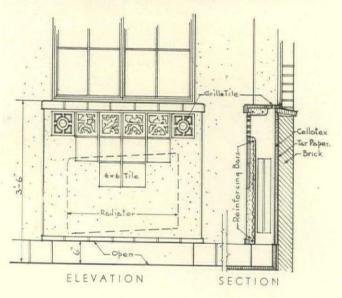
HOUSE OF FLORENCE PICKETT, HASTINGS-ON-THE-HUDSON, N. Y., ARTHUR D. PICKÉTT, ARCHITECT

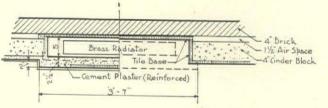
AMERICAN ARCHITECT





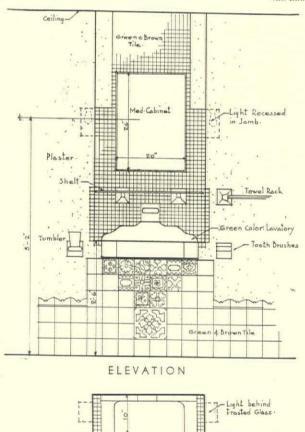
VAN ANDA





TYPICAL RADIATOR ENCLOSURE HALF PLAN AT RADIATOR AND AT BASE

AT RIGHT: DETAIL OF BATHROOM LAVATORY



PLAN

HOUSE OF FLORENCE PICKETT, HASTINGS-ON-THE-HUDSON, N. Y., ARTHUR D. PICKETT, ARCHITECT FOR SEPTEMBER 1932 75



VAN ANDA

LIVING ROOM FIREPLACE Mantel of faience tile in brown with green and silver decoration. Tile moulding around opening, silver. Floor, tile in various shades of brown

HOUSE OF FLORENCE PICKETT, HASTINGS-ON-THE-HUDSON, N. Y., ARTHUR D. PICKETT, ARCHITECT

THE READERS Have a Word to Say

NO FORECLOSURE IN ELEVEN YEARS

Editor, AMERICAN ARCHITECT:

T is a fact that the Ho-Ho-Kus Building & Loan Association has never had a foreclosure during its corporate life of eleven years. We are, however, fortunate in having a directorate composed of high-grade conscientious citizens who take their job seriously. Among them are three practical contractors and it has been our practice to appoint at least one of these three men on each appraisal committee.

We have also been fortunate in having demands for funds beyond the amount available to loan. The consequences were that we were able to pick our loans,

We supervise construction very carefully and insist that the design of the building be pleasing and fitted to the property on which it is to be located.

We do not lend to speculators or on business property and have thereby eliminated what we consider a hazard.

We have, with one or two exceptions, insisted that the plans be drawn and the building supervised by a registered architect. We believe that we are advancing the interests of the borrower as well as the Association through this practice and we have had little difficulty in convincting our customers of this.—J. D. Wall, President, Ho-Ho-Kus Building & Loan Assn., Ho-Ho-Kus, N. J.

• ARE ARCHITECTS' OWN HOUSES POOR RISKS?

Editor, AMERICAN ARCHITECT:

THERE is another way to look at the quotation in your July number from Bruce Barton, about architects' homes: "built to suit the architect's own taste and so not suited to another family." Doubtless many architects have had financing difficulties from this cause on their own homes, but is there any sound basis for the discrimination, or is it only an opinion?

I have been through the experience myself. The house was designed for the specific requirements of my own family and the way we liked to live. The objection was that the loan company had never seen a house like it before. The mortgage was finally placed without any changes in plans or specifications, and when it was put up for sale at a later date, a buyer at a fair price was quickly found.

Perhaps the mortgage people have compiled statistics on architects' homes to show that such houses are poor security. If such reports exist, their publication would be of great interest to the profession. The cases of which I have personal knowledge may be exceptions, but until something more tangible than a guess is presented, I will continue in the belief that it is just one more error to be charged against the banker's superiority complex.—Harrison Gill, Architect, Silvermine Ave., Norwalk, Conn.

AMERICAN ARCHITECT
 FOR 1888

Editor, AMERICAN ARCHITECT:

R. CARL MUELLER called at my office today with a bound volume of "The American Architect & Building News" Vol. 23-24, dated Jan. to June, 1888, and published by Tichnor & Co., 211 Tremont St., Boston, Mass.

This volume is of no value to me personally, but the thought occurred to me that you might know of someone who would be interested in acquiring same.

If it has any value, I would appreciate your advising me so that I may pass the information along to the owner.—Arthur G. Tafel, A. I. A., 140 South Third Street, Louisville, Ky.

• THE LARGEST UNOBSTRUCTED AREA

Editor, AMERICAN ARCHITECT:

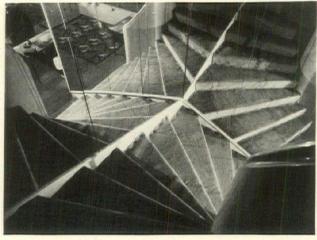
N your issue of May, 1932, you have a picture of the Travel and Transport Building in connection with which you make the statement that this is the largest unobstructed area ever enclosed beneath a roof and in your issue of July this is questioned by Mr. Harry Bogner, Architect of Milwaukee, Wisconsin who gives an illustration of a larger one in Breslau, Germany. Neither of you is correct. According to the best information I have, the largest unobstructed area ever enclosed beneath a roof is the Airship Factory and Dock for the Goodyear Zeppelin Corporation at Akron, Ohio.—William J. Watson, Wilbur Watson and Associates, Architects and Engineers, Cleveland, Ohio.

Editor's Note:

The Goodyear-Zeppelin Airship Factory and Dock is approximately a semi-paraboloid in shape; its length, 1175 feet; its width, 325 feet; and its height, 197½ feet. The height from the floor to the platform at the top is 211 feet. The floor area of this structure is 364,000 square feet and its volume is approximately 55,000,000 cubic feet. Wilbur Watson and Associates were the architects and engineers.

AS an outgrowth of the President's Conference on Home Building and Home Ownership, a national agency has been organized to bring about a revival of business through country-wide stimulation of the repair and improvement of residential, commercial, industrial and institutional property. This undertaking is under the direction of the recently appointed Sub-Committee on Business Cooperation in Community Development of the Committee on Reconditioning, Remodeling and Modernizing of the U. S. Department of Commerce. The main object of the committee is to stimulate trade promotional activity under local community organizations sponsored by Chambers of Commerce or other agencies. It will serve as a national clearing house of information and counsel on repair and modernizing.

WHAT ARCHITECTS



BROWNING

MIRRORS lining the staircase wall in the salons of Marie Bordes, Paris, give an unusual effect. Pierre Barbe, architect

A BUILDING boom is imminent, according to the National Association of Real Estate Boards, which states that even a slight improvement in business conditions would serve to release a large amount of building construction. An appreciable business recovery would leave practically every city with some shortage of building. Even under present pinched conditions and consequent "doubling up" of families, 10% of 358 cities surveyed in the United States and Canada report a shortage in homes. An almost total lack of mortgage money is reported as the dominating feature in holding prices down and retarding activity.

N Detroit a modernization analysis has been made by Joseph Wolff, Commissioner of Building and Safety Engineering. It shows that 44% of the one-family houses and 40% of the two-family flats were built prior to 1915. These more-than-seventeen-year-old buildings are rapidly becoming obsolete. The report also shows that for the last five years, construction of this type of building has been but slightly greater than it was in 1915 and 1916 despite the fact that the 1930 population was more than twice the 1915 population. Quoting, "It is interesting to note that we do not now have a greater percentage of single homes and two-family flats than we had prior to the World War when we thought we had a shortage of residential accommodations."

ART exhibits from the United States entered in the Olympics at Los Angeles received the major percentage of awards. American artists won three first prizes, four seconds, one third, and seven honorable mentions. First honors in architecture, however, went abroad. John Hughes, Birkenhead, England, took first in architecture for his sports and recreation center with stadium for the city of Liverpool. Gus Saacke, Pierre Bailey and P. Montenot, Paris, won first in architectural design for a design for a "Cirque Pour Toros."

Building Boom Predicted

Architectural Service to Be Stimulated by New York American

Sexton Forms Architectural Bureau

OLORED light controlled by fireproof film is to be a feature of the Buckingham Fountain during the Chicago World's Fair. The control, based on thermionic tubes, makes use of film on which the light program is



BONNEY

THIRD HIGHEST office building in the world. The 67-story Cities Service Building, 91 Pine Street, New York, 950 feet high. Clinton and Russell, architects

laid out in copper braid. A separate roll of film is provided for each of the 23 circuits used. The film moves over a roller wound spirally with resistance wire and the varying position of copper braid controls the voltage on the control circuit. This variation controls successively three vacuum tubes, which actuate a three-legged reacter which in turn varies the voltage on the lights. For a new program, the copper braid need only be sewed in a different path. The system was installed by the Westinghouse Electric and Mfg. Company, effects being designed and constructed under the supervision of C. W. Farrier, associated with Bennett, Parsons and Frost, architects.

ARE TALKING ABOUT

U.S. Artists Triumph in Olympics

Detroit Finds 44% of One-Family Houses Are Over 17 Years Old

Films for Colored Lighting

A NEW information service on home building has been opened by the New York American. It is called the New York American Homes Exchange, with headquarters at 101 Park Avenue, and is under the direction of Miss Victoria Tashian. It will be conducted



ROMAN CATHOLIC church built at Halfweg, Holland. Erected in 1929. Jan Kuijt, architect

in connection with a new building section in the Sunday editions of the New York American. This section will specialize in presenting houses costing from \$3,000 to \$15,000. Effort will be made to promote the use of architectural service, educational and other promotional work being carried out not only in the newspaper but through illustrated talks in schools and women's clubs.

HE Bureau of Architectural Relations has been organized with R. W. Sexton as editor and director. The object of the organization is to stimulate a

greater appreciation of architecture and the allied arts. The services of the Bureau include the booking of illustrated lectures, informal discussions and radio talks by architects, interior architects and landscape architects on the plan, design, construction and equipment of houses and various other types of buildings. There will also be prepared illustrated articles, architecturally endorsed, for publication in newspapers, magazines and other periodicals or for use as part of publicity campaigns intended to promote a better understanding of architecture and the allied arts. The Bureau will also cooperate with newspapers in small towns so that they may illustrate better material and publish better articles on building, and to see that architects are always given full credit for their designs. Headquarters of the Bureau are at 108 West 46th Street, New York. Mr. Sexton was formerly one of the editors of AMERICAN ARCHITECT.

TO encourage better building in Mexico City, the government of the Federal District of Mexico is offering prizes ranging from about \$500 to about \$12,500; 75% of the prize money goes to the property owner and 25% to the architect. Collective homes for workers as well as commercial buildings will be eligible, prizes being given on the basis of the best designs embodying the preservation of the traditional architecture, greater economy and convenience, better sanitation, and utilization of higher buildings in the center of the city.

PRICE padding and bid peddling are condemned in a resolution recently passed by the Executive Committee of the Associated General Contractors of America. It was resolved that recommendation be made that members adopt the "one price (Continued on page 86)

"INDUSTRY". Section of frieze to be carved in granite for East Cambridge Savings Bank, East Cambridge, Mass. Paul Fjelde, sculptor. Thomas M. James Co., architects



Gold Plated Fixtures for Army Officers

BSURDITIES in government specifications are pointed out in a recent issue of the Monthly Bulletin of the Illinois Society of Architects. The article resulted from a letter written by S. N. Crowen, a past vice president of the society and referred to a Chicago lighting fixture manufacturer, who stated the following:

"Recently the architects for the Capitol Buildings and Grounds in Washington tried a new plan that differs materially from either that of the Treasury Department or the War Department. They, the Capitol Buildings and Grounds Department, sent out specifications, describing each individual fixture as to its dimensions, style or ornamentation and material and requested that each bidder submit a drawing of their interpretation of this description most suitable for the location and to comply with the general specifications. We learn from the March number of 'Lighting' that three judges, independent architects in Washington, were chosen to make the selection from the designs submitted. The judges were not to know the names of the manufacturers of any of the designs. The result was that there were fourteen bidders; each bidder went to an expense of conservatively \$500.00 and the order was split up among seven different manufacturers.

"The War Department, in a recent request for quotations, sent out a set of specifications. It was required of each bidder that he submit a sample of what he proposed to furnish of over forty items and some not altogether inexpensive. No bidder could figure this job and comply with this request at a cost of less than six or seven hundred dollars. The two low bids received amounted to \$8,390.00 and \$8,362.95 respectively.

"The following is quoted from a letter by the Assistant

Secretary of War after bids were in:

"'You are informed that the finish specified for lighting fixtures purchased by the War Department follows the accepted standard practice of fixture manufacturers and no special finishes are required.'

"The Quartermaster General's specifications, covering fixtures, we quote in part as follows from a paragraph

headed 'Finish':

"'Sprayed metallic finishes for metal parts will not be accepted. This restriction, however, does not apply to pigments or other substances added to the lacquer to produce certain special effects.'

"Sprayed metallic finishes are usually applied with

lacquer.

"'Where gold plating is required on fixtures, such plating shall be accomplished in an approved gold plating bath, using an anode of 24 carat gold. Where specifications require silver plating, the anode used in the bath shall consist of silver 925-1000 fine. Plated finishes of all kinds shall have sufficient material applied to the fixture so that when buffing has been accomplished, a smooth unbroken coating remains. Finishes applied by "flashing" or applying just sufficient plate to acquire the desired color will not be considered as being in accordance with these specifications, and, therefore, will not be accepted."

Still, the Assistant Secretary of War says that no

special finishes are required.

"The specifications from the War Department cover electric lighting fixtures for officers and non-commissioned officers quarters. One would assume that an ornamental type, plain and simple, would fill the requirements, but not so according to such specifications, which say in one place that 'the design of fixtures submitted may vary slightly in unimportant details from those shown by the illustrations, but all fixtures shall be appropriate for the intended purpose and shall be equal in design and construction,' and in another place it says, 'In determining upon an award under these specifications, the Government will consider the best interest of the U.S. compliance with specifications, workmanship, durability of the fixtures and principally design. The fixtures submitted should be carefully designed and representative of the period or type required.

"The specifications do not say whether these buildings are Colonial, Queen Anne or Modernistic, and the illustrations furnished, in our opinion, are not very en-

lightening on this subject.

"The specifications have this to say about 'Chains': "'Supporting claims for fixtures, unless otherwise specified, shall consist of solid brass links, approximately 2x11/4x11/4 in., unless the design of the fixture is such that links of other dimensions or materials are necessary.'

"I submit that very little restriction is imposed by this

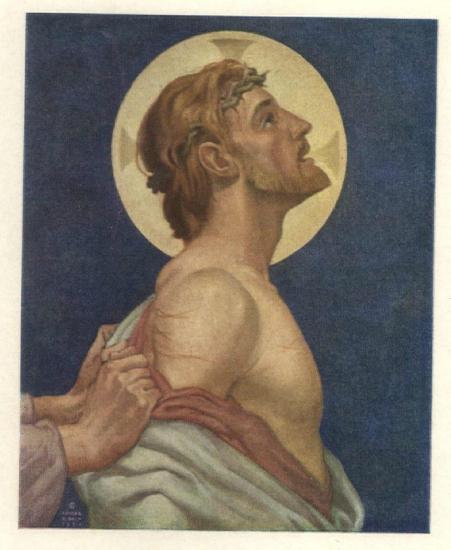
"Under 'Glassware,' one sentence reads, 'All glass cylinders shall consist of high quality plate glass, free from flaw, as above specified, with top and bottom edges smoothly ground.'

"We do not believe they want plate glass, because a cylinder made of plate glass would have a seam. We take it this is just their way of saying that the glass shall

be heavy."

"

NE hundred and seventy thousand Viennese (or almost 10 per cent of the population) have been rehoused since the war, but the rents charged by the city are barely enough to pay for the cost of repairs and for rent collection," said Grahame B. Tubbs recently, speaking before the English Architectural Association. "A case in point is the four-roomed cottage. This, with a good garden, costs about 2s. 6d. a week, including Housing Tax. Nothing is charged for interest on capital, as the buildings are built on the proceeds of the Housing Tax levied on every building. This is steeply graded upwards, but does not fall heavily on tenants, as their rents are fixed by law at about onefifth of the pre-war rentals, or about one-twelfth, it is reckoned, of the economic rent. Thus, they are built at the expense of the landlords, who are allowed to have practically no return from their property. Low rents allow of low wages and so help exports. scheme is known locally among the non-socialists as Viennese Bolshevism. Many new schools, kindergartens, public baths and laundries have also been built."



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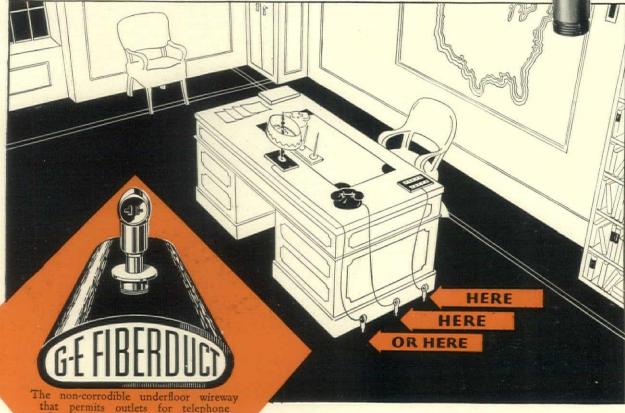
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Folger Shakespeare Library

(Continued from page 44)

first theatres were built to conform to the surroundings with which the players had become accustomed, hence their resemblance to the courtyard of the inn, the double tiered balconies, and the uncovered pit or yard. The stage itself was roofed and had three divisions, the outer stage, inner stage and upper stage, the intended purposes of which have been entirely forgotten. To the various companies who will use this little theatre will be left the decision as to just what uses may be made of these teatures.

Quoting Mr. Cret's description: "The walls are, like of old, made of 'frame lime, lath and hair,' the stage, with its shadow covered in tile; the posts 'square and wrought pilaster-wise with carved proportions called satyrs; this plain construction is embellished by painted decoration." * * * There are, of course, a number of other features (dressing rooms and foyer for the public), which are as little Elizabethan as will be Juliet, Ophelia or Portia, interpreted by actresses."

THE interior is utterly entrancing. Although the timbers and posts are purposely out of plumb and level, there is no apparent effect of forced antiquity. The effect of the open courtyard is accomplished by the use of a sky-curtain, concealing artificial lighting and decorated by J. Monroe Hewlett, who also did the drapes separating the front and back portions of the lower and upper stages. One can imagine nothing more delightful than to witness the performance of, say, Romeo and Juliet, done by a company like the Ben Greet players, in the Elizabethan manner, in this most attractive setting.

The stage is provided with cleverly concealed colored lighting effects on dimmer banks, an anachronism like the modern seating, but anticipating the demands of producers who are unwilling to believe that present day audiences will be satisfied with the ghost of Hamlet walking in the brilliancy of the psuedo sunshine. Naturally enough, this makes one wonder just how Shakespeare's own company accomplished the effect of night, or the dissolving of Hamlet's phantom, or if they even attempted to do so.

A deal of research was necessary to design this little theatre, which seats something less than 300. Most of the existing reconstitutions had been done by students entirely unfamiliar with architecture, so it was found quite necessary to go to the original documentation in most instances. Mr. Cret has given us that which he believes to be as archeologically correct an Elizabethan theatre as it is possible to build for modern usage, for which let the architectural profession and the students of Shakespeare be thankful.

In attempting to describe the Folger Library, the writer has taken the liberty of following the architect's progress in its design. Just as the plan was drawn and approved before the exteriors were given more than casual study, so the description of the plan and interiors has preceded that of the exterior.

In its outward appearance the building is, according to Mr. Cret, of classic design. It is not the classic of the

Greeks or Romans, of D'Espouy or Buhlmann, but the classic of Cret and modernity. Mr. Cret says: "While the facades were to harmonize in masses and materials with classic Washington, it was thought that the building ought to reflect the present day tendencies of our architecture, rather than the Italian precedents of the Congressional Library or the French precedents of the House and Senate buildings." The plan was such as to provide the utmost latitude in the exterior design. In the final studies the composition remained classic but the detail had become most modern in treatment. The doorways are anything but traditional. The silvery metal grilles and balconies are ultra modern, yet a character eminently satisfactory in the general ensemble. Cornices have been eliminated. Great power is discovered in plain wall surfaces, broken up only by the subtle effect of alternately wide and narrow coursing of the Georgia marble blocks, a favorite device of Cret's, which serves not only to relieve the cold severity of the material but also to give it more intimate scale. The large vertical slabs in the parapet proclaim the revetment quality of the marble.

The front is rhythmic. The wide-fluted pilasters are undoubtedly "of the wall." The frieze having disappeared with the cornice, the title inscription has been moved down to the basecourse where he who runs, or passes by in his motorcar, may read, a device which is soundly sensible and truly modern. Beneath the great, tall windows of the main facade are nine bas-reliefs by John Gregory, depicting scenes from the better known Shakespearian plays. They are placed so as to have more importance than in the usual frieze, at the proper height for the passerby, and along a marble terrace raised three feet above the street level, where they may be easily seen and studied by students and others interested in the plays. While studying them, the writer noticed an old, snowy-haired negro, bowed with age and leaning on a cane made of a gnarled branch, staring intently at the Midsummer Night's Dream panel, depicting the character of Bottom, wearing the ass' head, and pixylike Titania. Muttering to himself he was heard to say: "De body of a human and de haid of a donkey! Dat's de debil, all right."

EVEN the temporary sheds for the stone-cutters have been designed to harmonize with the architecture of the building, since they were to be seen for some time after the building had been dedicated and opened. Whilst peering into one of these to view the plaster casts from which the carvers were developing the incompleted panels, two ragged pickaninnies timorously toddled up to ask the writer: "Mistah, them is cahved bah hand, isn't they?" Need we worry about the public's interest in architecture and sculpture?

The panel depicting Portia is delightfully symmetrical, the too-perfect balance having been relieved by resting one foot on the Venetian predecessor of Blackstone. The composition of the placing of the figures in the scene from Julius Caesar is masterful. Realizing the locating

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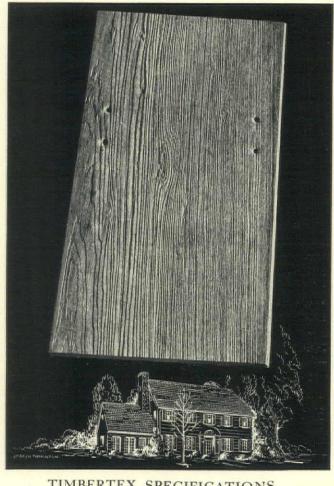
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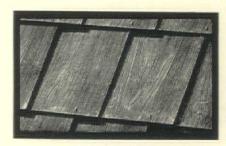
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of and the reasons for the introduction of these basreliefs, one can better appreciate their illustrative quality. Obviously the shape of the spaces themselves made them the more difficult to compose. Be it said to the credit of the sculptor that he did not resort to modernistic distortions to effect satisfactory compositions.

Except for these illustrative panels, sculpture has been most sparingly used, but used with telling effect. One cannot help but admire this restraint, particularly when one appreciates that ample funds were at hand to do with. How few could have withheld the desire to place a spot of ornament above the two smaller windows in the west facade? One has but to place his finger over the masks in the illustrations of the doorways in the main facade to appreciate how barren this simple composition would have been without them.

In the east facade, the doorway is a comparatively unimportant fire exit from the theatre. Criticize, if you will, the glorifying of so humble a feature. Its treatment is utterly charming. The two masks carved in the huge key-block intensify the beauty of the otherwise perfectly plain wall surface. How could it have been better handled? Who would remove, if they could, that

lovely metal balcony rail?

The curved faces of the marble consoles supporting the masonry balcony of the west facade, as well as the curved top surfaces of the ramps flanking the automobile entrance doorway, indicate the utter refusal of the French-trained architect to eliminate a graceful line in favor of the chopped-off squareness of the modern. Aside from its most interesting metal grilles and balcony railing, the feature of this facade is the marble fountain with its delightful statue of Puck, resting on one knee, with hands upraised in mirth. One wonders whether it was by accident or caprice that this roguish imp was made to face the halls of Congress, with the base upon which he rests inscribed: "What Fooles These Mortals Be." The commission for this lovely fountain was executed by Brenda Putnam, daughter of the Librarian of Congress. A better, a happier and a more appropriate selection could not have been made.

The building has a setting which could hardly be improved upon. The landscaping has been done with admirable restraint. The two are tied together by the clever use of box hedges as part of the architecture of

the entrance motifs of the principal facade, deliberately utilizing foliage as an architectural material. One feels that the composition or these motifs would suffer just as much from the elimination of these contrasting spots of dark color as they would from the omission of the carved masks previously referred to.

The parapet faces (or should one say the frieze?) are decorated with incised inscriptions. It is regrettable that it was thought advisable to anticipate the weathering which would have darkened the lettering sufficiently to render it legible from the sidewalks, since the paint used tends to give the inscriptions undue prominence and, by contrast, to obliterate the delicate intaglio decoration of the belt course.

The inscription carved above the windows of the west facade, in the old spelling, reads: FOR WISEDOMES SAKE, A WORD THAT ALL MEN LOVE. It is quoted from "Love's Labor Lost" and tells the story of Mr. Folger's idealism and of his life's work. Mr. Cret, telling of it in a letter to Mrs. Folger—printed in a volume issued in Mr. Folger's memory—wrote: "Men are not always led by selfish motives. Now and then someone rises whose disinterested aims, burning faith and gentleness, attract to him followers inspired by his example and fired by his enthusiasm. Such a man was Mr. Folger. His influence was most powerful when needed most, at the inceptive stage of the work. It will remain with us to the end."

The American literati are grateful for Mr. Folger's collection, as are American architects for this monument. In the words of Ada Rainey, art critic of the Washington Post: "Without and within, in spirit and in form, The Folger Shakespeare Library is a great work of art"

The writer is indebted to Alexander B. Trowbridge, the Consulting Architect, through whose courtesy and in whose delightful company he was permitted to examine the building and the collection at will; to Paul P. Cret, the Architect, and to John F. Harbeson, one of his associates, for their extreme generosity in furnishing a wealth of data for reference; to William Adams Slade, Director of the Library, for his biography of Mr. Folger and his description of the collection; and to Samuel Gottscho for the excellent cooperation in obtaining the desired views and his photographic artistry.

What Architects Are Talking About

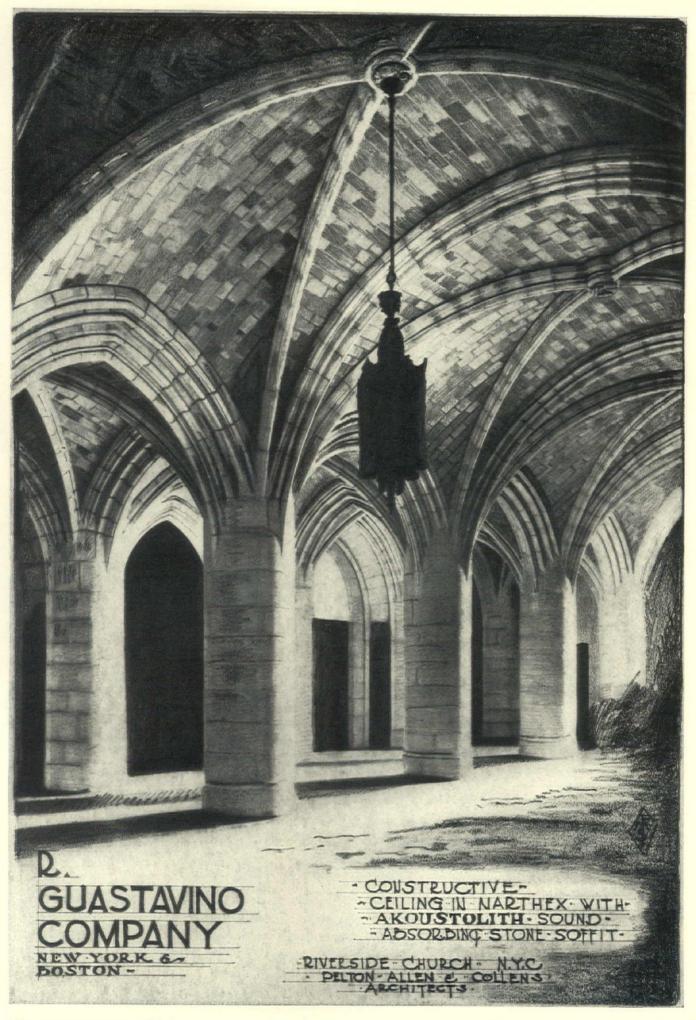
(Continued from page 79)

system" in their buying and selling when the entire industry in a competitive area evolves a plan or method whereby those adhering to the "one price system" are not penalized in competition with others who refuse to adhere to the "system."

FIGURES bearing on the future of home building have been compiled by H. S. Kissell, former president of the National Association of Real Estate Boards. In 1925, in 257 cities 492,000 housing units were built. Construction has dropped each year since that time. Indications are that by the end of 1932 only about 30,000 units will have been built. In 1925 there were fewer vacancies than there are now, although the population

has increased 10,500,000 since then. Mr. Kissell's opinion is that whenever the present doubling up of families is relieved by better business conditions, there is going to be found a shortage of good housing in every normal American city.

THE National Conference on Construction, organized in 1931 by leaders in the various branches of the construction industry in order to consider some of the broader problems relating to construction, will hold a general assembly this autumn. Invitations to attend will be extended to delegates from trade associations, buildings congresses and other groups. At a recent executive meeting, emphasis was placed on the lack of an adequate



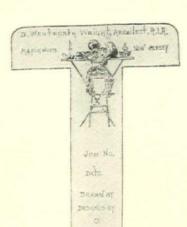
plan for the industry in regulating demand and supply of construction and attention was directed to the effort being sponsored by the Conference in Cleveland. In that city a committee is conducting a study of building requirements for the guidance of financial and other interests.

RIVET heads may now be protected from corrosion, according to the American Zinc Institute, Inc., New York. The individual units of riveted steel structures may be hot-dip galvanized before assembling, joined together by riveting in the usual manner with ordinary uncoated rivets, and the exposed rivet heads then sealed from the weather after the entire job is assembled in the field.

THE Milton B. Medary Memorial Scholarship for graduate study in architecture has been awarded by the American Institute of Architects for 1932-33 to Frederick S. Webster of the Department of Architecture of Syracuse University. The scholarship was

awarded this year for the first time and was founded by the Georgia Marble Company in honor of the late Milton B. Medary.

EW YORK UNIVERSITY has announced the result of the competition held by the Department of Architecture for the tuition scholarship for the degree of Master of Architecture. First place went to Emanuel Weisfeld, Brooklyn, N. Y., and first alternate to Peter Copeland, New York. The committee consisted of James Gamble Rogers, Kenneth Murchison, Burnham Hoyt, Will Rice Amon and Albert C. Schweizer.



JOB STAMP used on working drawings by D. Wentworth Wright, architect

THE women's national honorary architectural fraternity, known as Alpha Alpha Gamma, recently held its eighth convention at Los Angeles and elected the following officers: pres., Irene McFaul; vice pres., Alice Linsmayer; sec., Lois Dilworth; treas., Annalourie Eck-

hardt; historian, Rosaliel Grahek; Keystone editor, Mabel McCutcheon. It is expected that the next convention will be held in Chicago. The address of the National secretary, Miss Dilworth, is 1220 S. Pasadena Ave., Pasadena, Cal.

COMMITTEE on Architecture to cooperate with architects and their associations in the development of porcelain enamel on metal for use in modern construction and design has been formed by the Porcelain Enamel Institute, 621 North Michigan Avenue, Chicago. Bennett Chapple, vice president of the American Rolling Mill Company, has been appointed chairman of the committee.

XPENDITURE of twenty billion dollars to modernize existing buildings and obsolete plants and to rehabili-

tate cities and towns is the quickest and soundest way of restoring prosperity, according to Francis Lee Stuart, member of the Public Affairs Committee of the American Engineering Council.

PROVISIONS of the Emergency Relief and Construction Act of 1932 will be carried out with the aid of state committees of the American Engineering Council. These committees will work with government agencies in relieving destitution, in recommending loans for self-liquidating projects, and in obtaining employment for engineers in public works construction.

When Comes This Modernism?

(Continued from page 23)

few years have created buildings of simple brick work composed with refinement, and impressive to a degree which is delightful. France is less stubbornly logical in its cubes and its geometry is becoming more pleasing. America is making many overtures to the new movement, for the most part clinging a little toward the bizarre rather than to its more exacting requirements.

We tend to take the "modern" as another "style" and look for forms rather than create them by study. If modernism does indeed become a style, it will become so because of its conformity with the manners and customs of the times. It is at present a manner of creative thought, trying to get more exact contact with the present and to express the present. As a manner of thought bringing the scientific attitude of mind in touch with the artistic, it is applicable to any problem without reference to any alien designs or limitations. It derives its power from fundamentally sound relationship to its problem.

While a condition of unrest has long been apparent in the field of architecture, conservative tradition possessed the vast majority of the profession. Any innovation of the scientific manner, as much for convenience as through choice, was delegated to the engineers. Whether the invasion by the new manner would have succeeded gradually is uncertain. Possibly it would have failed amid the dullness of a universal complacency had not the irresistible force of the immediate relationship of cost to building been so emphasized by post-war conditions abroad that it brought about a necessary scientific contact and did so at a time when the architectural ability throughout Europe and America was by training and experience best prepared to test its genius in new solutions.

In my opinion, although the demand for rigid economy brought it into sufficient light for general examination, modern architecture represents an awakening of forces capable of continued and distinctive achievement.



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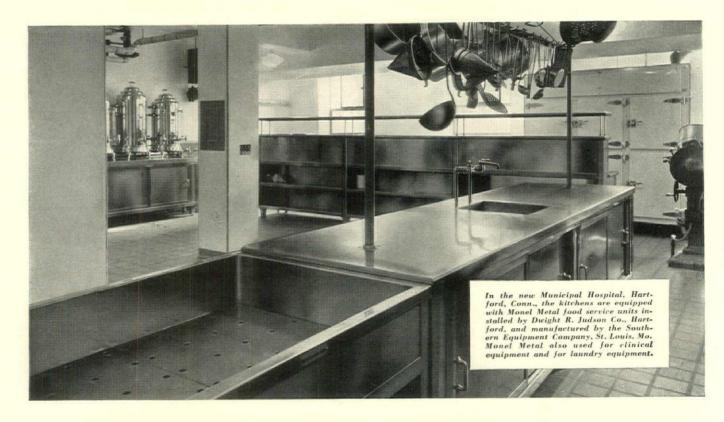
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New Type Electric Radiator

108M An electric radiator making use of a chemical instead of water has been placed on the market by Chelva Heat, Inc., Newark, N. J. It consists of a fin type radiator having a welded hollow metal core to which thin metal fins, spaced 1/4" apart, are so attached as to insure permanent heat conduction, and an electric heating element of strip type fastened to the bottom of the core of the radiator to give continuous electrical contact. Within the hollow core of the radiator a chemical compound is hermetically sealed in a partial vacuum. Rapid heat transfer from the electric element to the

metal of the radiator core and fins is secured through quick vaporization of this chemical compound, which is said to have several times the heating efficiency of water.

Combination Heating and Cooling Units

109M The Trane Co., La Crosse, Wis., have applied their light weight extended heat transfer surface to a combination heating and cooling cabinet using water, brine or direct expansion gases as refrigerants. Three types of units are available: the cabinet type, a suspended type with a propeller type fan for factory or industrial cooling, and a blower type unit for large installations in which the cooled conditioned air is carried from the units to various rooms by means of ducts.



Combination Lavatory, Dressing-Table and Mirror

mirror, all in one piece ready for installation, has been placed on the market by the Excelso Products Corporation, 1807 Elmwood Ave., Buffalo, N. Y. The product—called the Lady Luxury Vanadoir—is wired for every desired electrical accessory from cigarette lighters to curling irons. It is made of furniture steel fully insulated to prevent metallic sound and is offered in several color combinations. All plumbing is concealed from view and yet is readily accessible. It is suggested for use for the one-bathroom house, for guest rooms and for ladies' rest rooms in public and semi-public hotels, clubs and restaurants.

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Combination Aerial Lead-in and Lightning Arrester

lead-in and lightning arrester in one compact unit has been placed on the market by the Wodruff Company, Meridian, Miss., and is called the Wodruff Super-Thru. The aerial and ground wire are fastened to the outside portion by binding posts and these two wires are brought to the inner wall outlet through holes bored into the wall. At the inner outlet, the aerial and lead-in are fastened to contact points in the same way that an electrical wall plug is connected and then, by means of a simple attachment unit, the aerial and lead-in are brought to the radio set through a silk covered wire. All three pieces are molded of brown Durez, which is a thermosetting plastic material.

Air Filter of Glass Wool for Air Conditioning

An air filter of glass wool has been placed on the market by the Owens-Illinois Glass Company, Toledo, Ohio. This new product is called "Dustop" and is offered as a complete self-contained air filter unit in which "glass wool" serves as the filtering medium. The material has been designed 2 inches thick so that when a standard 4-inch pack is established by using two units in tandem it is only necessary to change one-half the thickness of the total pack at one time.

New Line of Plumbing Fittings

Ohio, has introduced a new line of plumbing fittings permitting the installation of copper tubes at a cost of little more than iron. The inside of the copper fitting is covered with a solder composition; the copper tube is tapped into the fitting and a blow torch applied. When a color band on the fitting turns black the proper heat for a perfect joint has been applied.

New Closet Bowl with Sanitary Overflow

114M The John Douglas Company, Cincinnati, Ohio, has developed a new closet bowl with sanitary overflow ports. The overflow ports make cross connections between waste line and fresh water supply lines impossible under any conditions. They prevent water in the closet bowl from rising to the flushing rim whenever stoppage might occur. The overflow ports also forestall the possibility of back syphonage.

New Kohler Bracket to Eliminate Plaster Crack at Bath Tub

115M The Kohler Company, Kohler, Wis., has introduced the "Kohler Avertor" bracket. Use of this bracket makes it possible to support the bath tub at three or four additional points and to make it impossible for the tub to pull away from the plaster or tile, thus eliminating cracks between the rim of tub and wall.



Asbestos Shingle Textured Like Wood

wood has been placed on the market by the Ruberoid Company, New York. It is called "Eternite Timbertex" and comes in five wood colors, colonial grey, cypress brown, tile red, jade green and quarry blue. Double sets of nail holes permit the use of irregular shingle courses which further emphasize the deep shadow lines of the heavy butts. Shingles are 8" wide and 16" long; butts are approximately ¼" thick.

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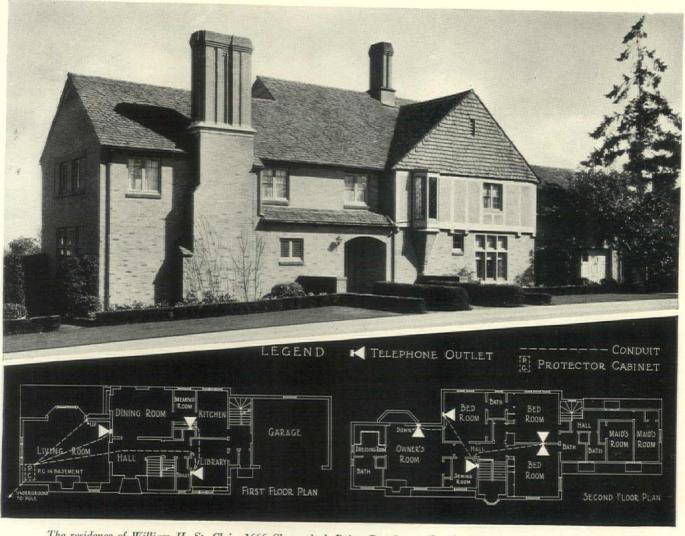
The Frigidaire Corporation, Dayton, Ohio, has placed on the market a new combination porcelain finished refrigerator and electric range for apartment house kitchens. Overall dimensions of the combination are: height, 527/8"; width, 265/8"; cooking top to floor, 441/2".

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The residence of William H. St. Clair, 1666 Shenandoah Drive, Broadmoor, Seattle, Washington, is equipped for telephone convenience with built-in conduit serving eight outlets. William J. Bain and Lionel H. Pries, Architects, Seattle.

THE telephone needs of any given residence change with the years—and the occupants. Proper planning in advance assures telephone arrangements that are flexible enough to meet almost any demands that may be made.

By specifying telephone conduit within walls and floors, outlets can be located at strategic points throughout the house. Then there are sure to be *enough*, and the owner can use any or all, exactly as they're needed. In addition, wiring is concealed and there is greater freedom from most types of service interruptions.

Let the local telephone company help you choose the right type of telephone equipment and installation for your residence projects. They'll do it gladly, without charge. Just call the Business Office and ask for "Architects' and Builders' Service."





BLOXONEND gymnasium flooring gives just the right degree of resilience! It is elastic enough to prevent shin splints, heel bruises, body shock and leg weariness, yet firm enough to guarantee fast floor work. This resilience is uniform and results from an exclusive method of laying BLOXONEND over floor strips with no fill between. The flooring is long-lived because the tough end-grain fibres form its surface. It is safe for the same reason—end-grain means no splinters or slivers. BLOXONEND should not be confused with ordinary wood floors. It is the original strip type end-grain flooring and has been laid in over 500 schools (gymnasium and shops). Also widely used in industrial service. Ask for specifications and free sample.

CARTER BLOXONEND FLOORING COMPANY

GENERAL OFFICES - KANSAS CITY, Mo.



In the Land of William Tell

(Continued from page 17)

think them first piled into place and then sawn, so accurately are the ends in line.

Shutters are universal. Roofs are usually of wood shingles, but flat stone or slabs of slate, of frequent use, are held by thick planks of wood to the poles which support them and weighted down by small boulders, for winds are sometimes violent and the projecting eaves offer liberal leverage. Frugal by necessity, timber which otherwise would have no value except as fuel is turned into tiny shingles. Each one rounded at the base, not more than two and one-half inches wide, and with the same dimension to the weather, they cover the entire sides and roofs of dwellings, sometimes of three stories, thousands of tiny, scalloped shingles. Such dwellings are usually painted white.

The first floor of chalets in some districts is of whitewashed stone, the second story projecting, as a rule, over the lower. A common feature is the balcony clear across the front, frequently reached by an outside stair-

There is no dearth of timber for fuel in Switzerland, for one quarter of its entire area is forest, and all this is carefully conserved.

The Swiss were the first in the world to develop their hydro-electric resources. Possessing no coal, the innumerable tumbling streams, fed by the snows and high glaciers, have long been coerced to furnish power and light. Even remote chalets are supplied with electric current. I have seen as many as seven transmission lines crossing a single field, not the high, gaunt steel towers common with us, but prim, painted poles, fifteen feet high, carrying two wires supported by insulators on angle brackets.

Dut in a land so beset by mountains there is none of our mania for speed. Great undershot water wheels still slowly grind their grain and logs are converted into boards and timbers by vertical saws with a deliberation which would drive one of our lumbermen frantic. One huge log, with us, will be ripped into strips and stacked more quickly than one channel is cut by their more primitive method.

Logs in the Bernese Oberland are not first squared. Slab after slab is cut until the log is all in boards. These are then assembled and tied together, so that a pile of sawed logs, minus bark, looks precisely as it did before sawing, except for the parallel lines along its length. Piled beneath eaves, they await their eventual use.

The popular notion is that the Swiss are a nation of hotel keepers. The truth is Switzerland is one of the most highly industrialized states of Europe. Only Great Britain and Belgium have a relatively larger industrial population. Of the nearly 4,000,000, 41 per cent. are engaged in manufacture; 27 per cent. in agriculture and less than 2 per cent. are engaged in satisfying the requirements of the tourist trade.

A BRAHAM LINCOLN was the first president of the United States to have a bath tub in the White House.

Brilliant ... Practical

...THIS NEW ARCHITECTURAL FORM

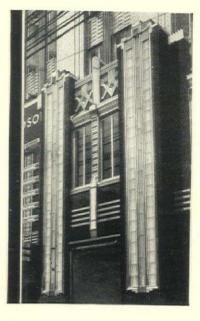
Heat-resistant Steuben Architectural Glass chosen for the new Syracuse Lighting Company Building

By day, shimmering metal... sparkling glass... shine in the sunlight. By night, brilliantly illuminated columns and panels gleam through the surrounding darkness. The magnificent new Syracuse Lighting Company Building has been endowed with the "Spirit of Light" itself.

Steuben's contribution to this latest triumph of architecture is this newest medium of decoration . . . cast architectural glass. Leading architects are choosing this new architectural form not only for its beauty . . . its facile adaptation to their own individual expressions in both interior and exterior design . . . but also for its extreme practicability.

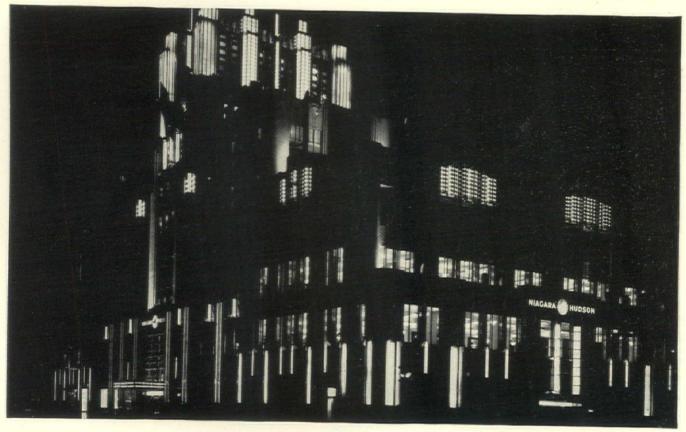
Heat- and cold-resistant, Steuben Architectural Glass is immune to sudden temperature changes. Remarkably durable, it successfully resists the weathering action of the elements.

Steuben Architectural Glass includes cast, pressed and mould-blown ware, grilles, panels in intaglio, or in relief,



all in a variety of handsome finishes and designs.

Steuben Architectural Glass is listed in Sweet's Catalogue, but for your own files, let us send you our brochure, "Sculptured Architectural Glass by Steuben Furnaces," showing many of the proprietary designs of noted architects. Address Steuben Division of Corning Glass Works, Corning, New York.



Steuben ARCHITI

• Illuminated Steuben columns and panels of the new Syracuse Lighting Co. Building, at Syracuse, N. Y. Melvin L. King, Syracuse, Architect. Bley and Lyman, Buffalo, Consultants.

ARCHITECTURAL GLASS

250,000 People Saw Modernizing Demonstrated

(Continued from page 13)

On the outside wall beside the front entrance an enlarged photograph of the house as it was gave visitors a startling realization of the contrast wrought by modernization.

No attempt was made to make the house an architectural gem but rather to show what could be done by the use of stock material which could be obtained anywhere. We did not want to scare away persons who might get the impression that modernization is costly. The result was good and the public's reaction was enthusiastic.

The first day of operation, July 1, 1932, brought about 10,000 people to visit the house and a similar number came Saturday. Sunday naturally brought fewer but a steady crowd was always to be seen. From then on there were unending groups coming at all hours. It is estimated that about 250,000 will have seen the house by the time it is removed and without doubt many will have been inspired to have work done. From conversations with numerous persons, we found that if there were any signs of pickup in the business world, if they could only feel assured that things were not going to get any worse, many would remodel now. Fear seems to be the principal barrier. They are not at all sure of their jobs and hesitate. Others just haven't the money, but have the desire.

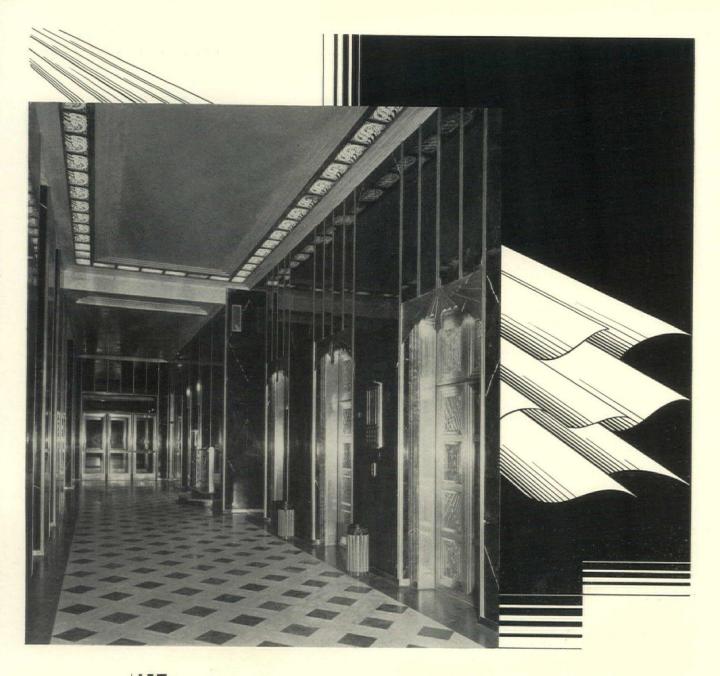
The modernization demonstration idea was the direct

result of an earlier effort to "hitch" a modernizing campaign on to the annual "Clean-up, Paint-up Week." An effort was made to collect \$20,000 with which to finance it. The campaign for funds would hardly be called successful but enough money was raised to print 350,000 pamphlets which were placed in the hands of the school children of the City.

THESE pamphlets told the benefits derived from modernizing one's home, gave rules for an essay in a modernization contest and offered cash prizes as a stimulant to enter the contest. Twenty-two thousand essays were recived. The Civic Pride Association made the elimination readings and a group of City officials awarded the prizes on the steps of the modernized demonstration.

When we started there was no treasury. There was however, unanimous and whole hearted cooperation from everyone. Read any lesson, or none, if you wish, from this project but we in the industry in Detroit have had confirmed what we suspected was true, that the many branches of our industry can and will work as a friendly unit, without friction, if given the opportunity and that the natural, local unification agency is the Building Congress. The surprisingly successful consummation of this modernization job has reasurred us of this fact beyond all doubt.





Modernistic Series --- Plate 14

The Lobby walls of the Phoenix Title & Trust Building, Phoenix, Ariz., are wainscoted from floor to ceiling with exceptionally dark Verde Antique marble, and stripped with nickel silver on the vertical joints. In contrast, the architraves of the elevator doors are of Red Flame Morocco marble. This, with the carved mirror lighting overhead, intensifies the modern effect. Lescher & Mahoney were the architects.

VERMONT MARBLE COMPANY—PROCTOR, VT.

Branches in the larger cities

See Sweet's Catalog for Specifications and Other Data

VERMONT MARBLE

The Story of an Architect Who Has Advertised for 20 Years

(Continued from page 29)

contain lists of clients. "Results of advertising have been most satisfactory," said Mr. Chase. "Publicity in itself is of no value unless backed up by a record of accomplishment and perforce the architect's advertising must deal with his record of accomplishment. It enables him to contact more people in need of his services in less time than could be reached without advertising. This means that if the advertising is right and the services rendered are satisfactory, he broadens the field of his activities more rapidly than without advertising.

"Incidentally," Mr. Chase remarks, "a very gratifying reaction to my advertising has been the comment offered by other architects and engineers. Very little escapes their attention and I have been aided and encouraged by an ever increasing interest on their part. Sometimes, from the letters written to me, are developed ideas that

subsequently are worked out in copy."

As in every successful venture the actual results have far exceeded the original aims. As first conceived, the advertising was intended, as most advertising is intended, to increase the volume and to carry the business of the company beyond the usual geographical limits which confine, to a large measure, the work of an architect to his own locality. Both objectives became accomplished facts. It then soon became possible to select contracts toward which to direct professional sales effort and, as every architect and engineer knows, this has many advantages beyond the simple one of prospective remuneration.

At the beginning of his professional career the usual problems confronting every architect faced Mr. Chase. There was the road he might take by seeking employment or association with a well-established firm or partnership or the immediate hanging out of his own shingle. Either path to success and recognition, if his experience was to be that of the great majority, was likely to be a long one. The latter held the lure of independence and of freedom to put into practice business ideas that from the very start Mr. Chase confidently believed could be applied to the furtherance of his ambitions. Mr. Chase associated as a junior with other architects and engineers. He was making the plans which were adopted when he was

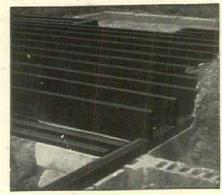
At first, Mr. Chase advertised as an "Industrial Architect and Engineer" but, later in 1917, this was altered and the phrase "Industrial Engineer" carried in its stead. The service or services that featured the copy included location, layout, design and construction, and emphasis was placed upon a feature vital to manufacturers, namely that no plan was complete without provision for subsequent expansion of plant. A slogan coined to cover these manifold services, "Factories that Fit," has been featured by a great majority of the publication and direct mail campaigns that have been broadcast since 1916, the year in which the advertising first appeared over the signature of Frank D. Chase. The following year the signature was changed as a result of

incorporation and its present style, Frank D. Chase, Inc.,

has been followed since that time.

S an engineer no prohibition was placed on advertising by the engineering societies, but as an architect, Mr. Chase, early in his career, had to face the objection of the American Institute of Architects. Characteristically, he followed an independent course. In his own words, "rules are made by bodies of men, but ethics are controlled by the individual." It is safe to say that ethically the advertising that he has used in no way has been subject to reproach. The record of correspondence at that time between Mr. Chase and the Institute shows that in one of his letters he brought out the fact that it was decidedly more "ethical" to advertise than to violate the code that forbids the submission in competition to prospective clients of plans and specifications without compensation. This practice was common and wide-spread to such a degree that he said it required no detective to unearth the violation of the code.

Sixteen years ago it was a heinous crime, in professional opinion, for an architect to advertise and Mr. Chase resigned his membership in the Institute. A year later the subject of advertising became a major issue in the annual meeting of the association. Change in thought and opinion on this subject is registered by the fact that institute chapters in recent years have advertised.



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TERMITES

Write for booklet telling how Termites destroy foundation timbers. For permanent prevention, use A & L Timber, Pressure Treated with Pure Creosote Oil.

FOUNDATION TIMBERS LUMBER

FENCE POSTS PILING RAILROAD CROSS TIES

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CHICAGO, ILLINOIS

Plants—Carbondale, III., Grenada, Miss., Louisville, Ky., North Little Rock, Ark., Montgomery, Ala. Marine Ways—Paducah, Ky.



Priced at \$55, plus installation



Bring that novel, smart, modern tone to your bathroom, downstairs lavatory and dressing room by modernizing with the new Standard Tubular Lavatory. It costs so little now to install this attractive fixture, with frame in Chromard... glittering...non-tarnishing...rustless. It is the last word in efficiency and cleanliness.

With the new "Standard" Tubular Lavatory you can enjoy the distinction of a fixture which will be the envy of your friends and the pride of your family. And at such a remarkably low price, too! Write today for complete details.

Standard Sanitary Mfg. Co.

PITTSBURGH, PA.

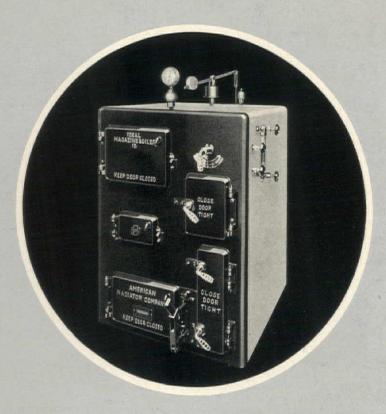
AMERICAN RADIATOR & STANDARD SANITARY CORPORATION



People change automobiles every three years for the new comforts of later models, yet expect heating—installed 20 years ago—to provide modern comfort. Modernize your heating with American Radiator equipment at the lowest prices in 16 years. With an Ideal Magazine Boiler you can enjoy effortless comfort.

Just fill the magazine of this boiler with coke or anthracite and the boiler automatically feeds and regulates itself as long as 24 hours in average winter weather. Enjoythe same modern comfort in your heating as you do in your automobile. Write today for catalogue.

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Priced from \$195.00 up, plus installation

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for easy bending economical installation

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for permanence and maximum protection inside and out

> Glyptal Coated

for extra long life and easy wire pulling



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ELECTRICAL CONDUIT
made by GENERAL ELECTRIC

For further information see your nearest G-E Merchandise Distributor or write to Section C-1009, Merchandise Department, General Electric Co., Bridgeport, Conn.

Tune In! Join the "G-E Circle" every weekday noon (except Saturday) D.S.T. N. B. C. Network

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RIGID CONDUIT

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SMITH & WESSON

Flush Valve

~ Give Your Clients

Five Year Guaranteed Freedom from Flush Valve Maintenance Expense

The annual cost of servicing ordinary flush valves averages \$1.50 per valve. This Smith & Wesson guarantee absolutely eliminates such expense to your clients for at least five yearsa handsome return on their flush valve investments.

~ Guarantee ~

Smith & Wesson Flush Valves are guaranteed to be made of first class materials, free from defects in workmanship, and to give a dependable flush at all times when properly installed. Smith & Wesson will furnish new valves in exchange for any which may prove to be defective within five years of the purchase date.



Send for Catalog "A"

SMITH & WESSON SPRINGFIELD, MASS.



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Stromberg-Carlson installations, both large and small, are satisfying every service demand.

Write for literature describing the various Stromberg-Carlson Program Service Systems.

There are Stromberg-Carlson engineers in your locality who will cooperate with you at any time.

Stromberg-Carlson Telephone Mfg. Co., Rochester, N. Y.



MICROPHONE

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Stromberg-Carlson



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- 1. Rich, lustrous beauty...with a satiny, glass-smooth surface.
- 2. Neutral silver tone that harmonizes with any kitchen color scheme.
- 3. Rust-proof . . . highly resistant to corrosion . . . easy to clean.
- 4. Solid metal...no coating to chip, crack or wear off ... strong as steel,
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- 6. 31% more work space than ordinary sinks of same nominal sizes.
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Monel Metal is a registered trade-mark applied to an alloy containing approximately twothirds Nickel and one-third copper, Monel Metal is mined, smelted, refined, rolled and marketed solely by International Nickel.



THE INTERNATIONAL NICKEL COMPANY, INC., 67 WALL STREET, NEW YORK, N. Y.

PERSONALS

FRANCISCO LEVY GONZALEZ, architect and engineer, has opened an office in San Juan, Puerto Rico, and a branch office in Lares. He was recently assistant engineer in the Department of Plant and Structures, New York City. He would like to receive manufacturers' catalogs and samples.

DAVID SHAPIRO, C.E., architect, has formed a partnership with Edward O. Ekman for the practice of architecture and engineering. Offices are in the Old Colony Cooperative Bank Building, Providence, R. I. Manufacturers' samples and catalogs are fequested.

PRUIT & BROWN, architects, New York, have opened a branch office in the National Bank Building, Charlottesville, Va. It will be in charge of Louis L. Scribner, assisted by Thomas R. Leachman and Jack Lewson.

DONALD DES GRANGES, architect, has opened an office at 49 Federal Street, Boston, Mass., for consulting and general practice.

HORACE GINSBERG, architect, announces that, by virtue of Supreme Court Order, he will hereafter be known as Horace Ginsbern. Offices continue at 205 East 42nd Street, New York.

THOMAS K. HENDRYX, A. I. A., announces the removal of his offices to Room 404 of the I. O. O. F. Building, Bradford, Pa.

HAROLD H. EHLERT, architect, has moved to 2437 Tyler Avenue, Detroit. He desires new catalogs.

THE CUTLER MAIL CHUTE

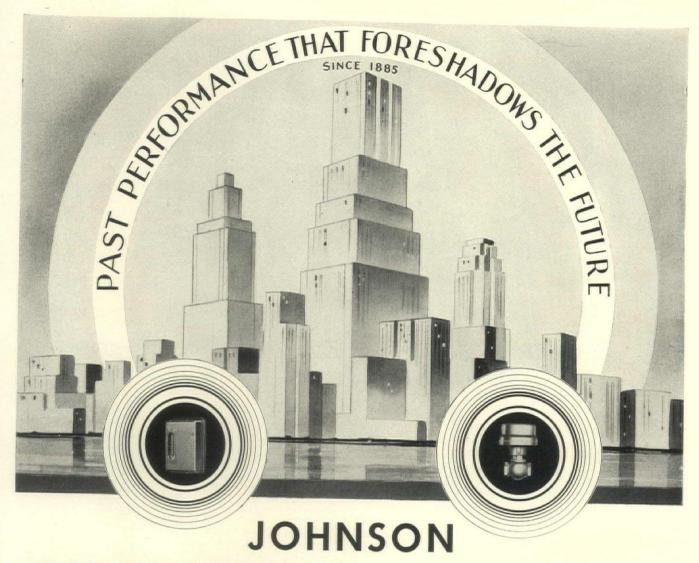
TO INSURE standard, dependable equipment installed promptly at moderate cost, the Cutler Mail Chute should be specified by name. If desired, approximate estimates will be furnished in advance.

If preferred, a stated sum may be allowed to cover this item.

Full information, details, specifications and estimates on request.

CUTLER MAIL CHUTE CO.

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The Johnson System was the first and original heat and humidity control... established in 1885. The Johnson System has remained first, up through all the 47 years since... by constantly developing, improving, advancing and perfecting heat and humidity control. Practically every important detail of progress in heat and humidity control apparatus has been of Johnson origin... today many features of essential mechanics and design are Johnson exclusively. And added to that leadership is Johnson service... extended all over the continent with the Johnson organization of thirty-one branches. In the selection of the heat and humidity control most advisable to install, The Johnson System remains first and foremost, for every reason.

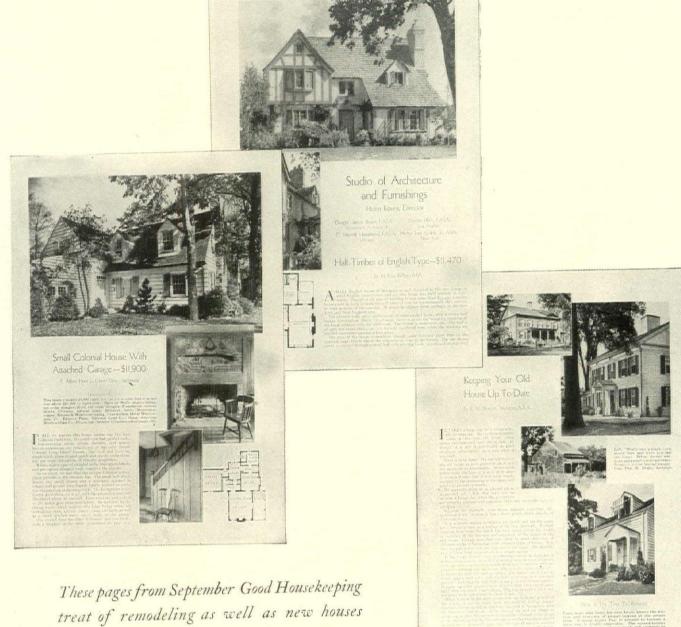
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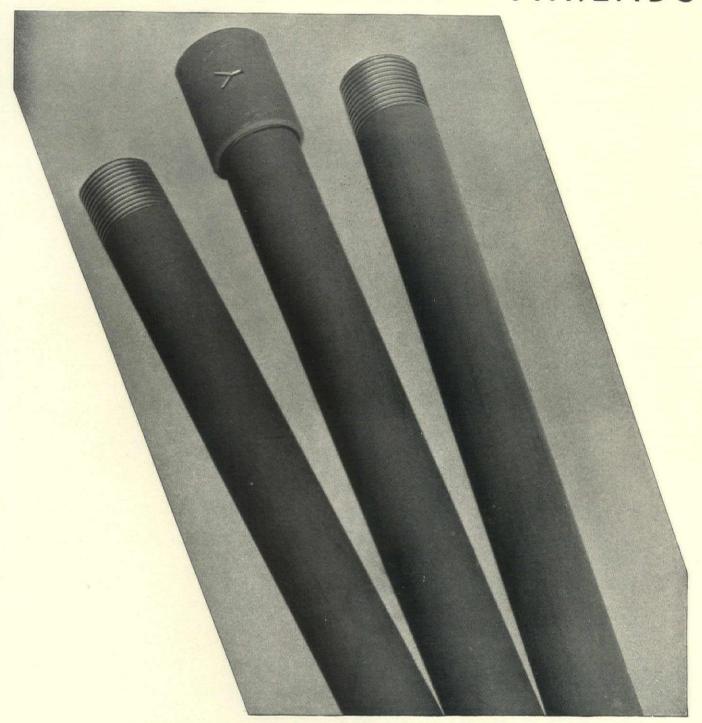


Every month 1,850,000 families learn the story of good domestic architecture from Good Housekeeping's pages.

Good Housekeeping

Everywoman's Magazine

CLEAN DEEP - CUT THREADS



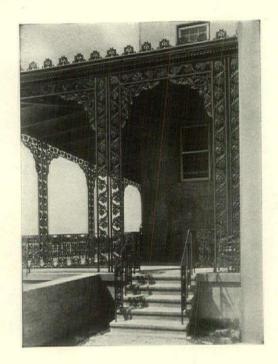
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THE YOUNGSTOWN SHEET AND TUBE CO.



GENERAL OFFICES - YOUNGSTOWN, OHIO



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Please send me your c Cast-iron Veranda Exterior Lighting	18	☐ Ornamental	Iron-work
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This Georgia Marble building preserves for the ages the Henry Clay Folger collection of Shakespeareana



Left. THE FOLGER SHAKESPEARE LIBRARY, Capitol Hill, Washington, D. C., Paul P. Cret, Architect; Alexander B. Trowbridge, Consulting Architect; John Gregory, Sculptor; James Baird Co., Bldrs.

Below. Tableau from Macbeth. This is one of nine bas-reliefs, located under the nine windows in the principal facade. Five of Shakespeare's tragedies and four of his comedies are to be depicted.

JUST as a modern white gold jewel box may contain rare jewels and stones of earlier times, so this modern marble temple will house the priceless Folger collection in a quaint Elizabethan interior.

From the stand point of design, materials used, and mission, this is the most important building of the year. The centre portion of the building contains the library rooms and exhibition gallery; the near bay contains the reception room, offices, and private study rooms. The entire interior of the other bay is a complete "Shakespearean Theatre" where plays will be presented as they were originally in Shakespeare's time.

It was not by mere chance that Georgia Marble was chosen for the exterior of the Folger Library. Georgia Marble was chosen because it measures up to the high standards set by those responsible for the choice of a material that will protect, for generations, the priceless treasures housed within.



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Basement arrangement proved to be drawing card to thousands of visitors

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It was the cleanliness and quietness of the Petro oil burner that enabled the architect to plan a basement of unusual interest to the thousands who visited the house while open for inspection. The stairway to the basement leads to a large hall with a terazzo floor. The basement consists of a social room, rooms for a laundry, furnace, storage, toilet and lavatory. The social room is decorated in black, Chinese red, silver and gold. The same burner provides domestic hot water, eliminating the necessity of a gas heater.

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PETRO OIL HEAT pays for itself in buildings of every description. Every dollar spent for oil buys heating units. No ash or coal-handling charges. Higher boiler ratings are possible. Depreciation of the boiler equipment is lessened. Full boiler pressure can be raised in a fraction of the usual time. Firing can cease on a moment's notice. Oil delivery is quick and clean...and the smoke nuisance is entirely eliminated.

> As a public service enterprise, providing both the equipment and the fuel oil in our trucks from our own oil terminals. our responsibility to you is undivided.

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For Architects

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—Kenneth Franzheim, Arch.

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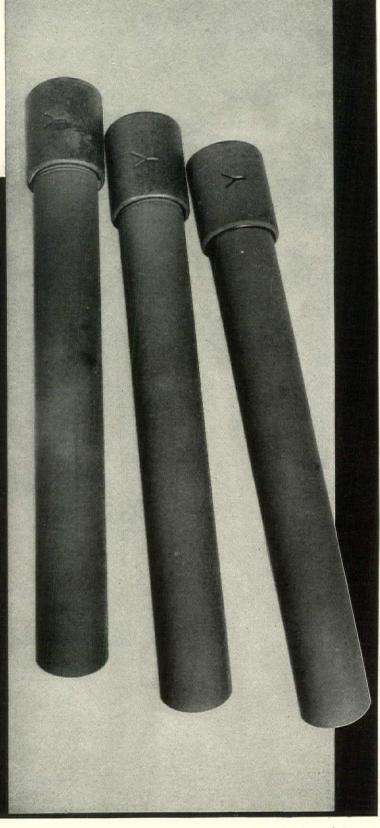
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YOUNGSTOWN

STRENGTH

UNIFORMITY

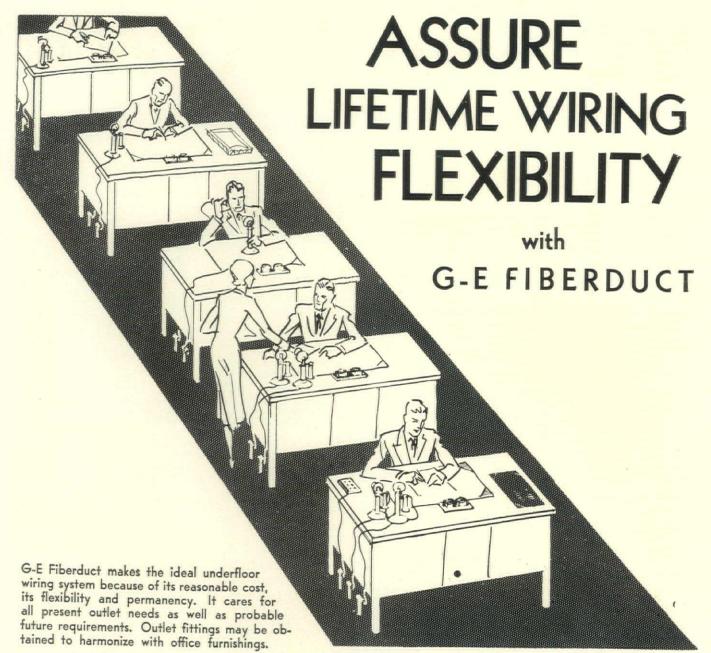
DEPENDABILITY



THE YOUNGSTOWN SHEET AND TUBE COMPANY

GENERAL OFFICES . . YOUNGSTOWN, OHIO

American Architect, published monthly by International Publications, Inc., 57th Street at 8th Avenue, New York, N. Y. Yearly subscription \$3.00. Entered as second class matter, April 5th, 1926, at the Post Office, at New York, N. Y., under the act of March 3rd, 1879. Issue number 2612, dated October, 1932.

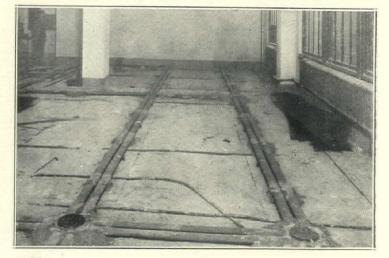


The specifying of G-E Fiberduct provides wiring flexibility for the life of the building. Its installation permits any change in office arrangement and enables owners to satisfy the present as well as tuture requirements of their tenants.

The installation of a G-E Fiberduct system, assuring future wiring adequacy, enhances the value of any building and prevents premature obsolescence.

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Tune in! Join the "G-E Circle" every week day at 5:45 P. M., E. S. T. (except Saturday) N. B. C. Network of 54 stations.



GENERAL & ELECTRIC



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MERCHANDISE DEPARTMENT, GENERAL ELECTRIC COMPANY, BRIDGEPORT, CONNECTICUT

AN ARCHITECT MUSES

By Wm. Roger Greeley. Published by the Beacon Press, Boston. 98 pages; size 51/2 x 81/4; price \$1.60

THIS book by an architect whose charm of expression, whose manner of thinking is so typically architectural, furnishes much food for thought. He muses on nine phases of architecture: on architecture as a necessity, a profession, a commodity, a business, a pastime, as the vestal of the crafts, as an inspiration, as a personality and as a prophecy.

What he has to say is nothing to be passed by hurriedly. Rather is it to be carefully considered, to be pondered on, to be used as leading to a greater understanding of and for architecture in its various aspects. It is a book which the thoughtful architect will read and maybe reread before passing it on to his friends.

BUILDING

By J. B. Van Loghem. Published by Kosmos, Amsterdam, Holland. Illustrated; 144 pages; size $71/2 \times 10$; price \$3.50

NTERESTING pictures of buildings in Holland together with introductory text giving the philosophy of their plan and design. A condensed translation in French and English of the introduction, which is in Dutch, is included in this volume. The illustrations, which are well printed and well selected, are valuable as showing the modern tendency of architecture in Holland.



Factory in Rotterdam. J. A. Brinkman and L. C. van der Vlugt, architects. From "Building"



Plate from "Building a House in Sweden"

BUILDING A HOUSE IN SWEDEN

By Marjorie Cautley. Published by the Macmillan Company, New York. Illustrated; 48 pages; size 71/2 x 81/2; price \$1.75

OT a book for architects but for their children, the eight and ten year olds who are fascinated by things done in far away places. The author is a landscape architect who has travelled in Sweden and her story of the building of a little house there—and the part the children played in it—make an interesting tale. The illustrations by Helen Sewell are whimsical and well done.

NEGRO HOUSING

Report of the Committee on Negro Housing, President's Conference on Home Building and Home Ownership, Commerce Bldg., Washington, D. C. Prepared for the Committee by Charles S. Johnson; edited by John M. Gries and James Ford. Illustrated; indexed; 282 pages; size 6 x 9; price \$1.15

THOUGH, as stated in the foreword, "the negro's housing problem is part of the general problem of providing enough housing of acceptable standards for the low-income groups in our society," yet this book goes far beyond the discussion of housing as such and examines the negro from the point of credit and desirability as a tenant. Some rather surprising figures are given, based on actual conditions, which indicate that the negro is not nearly so irresponsible as the average white person sometimes thinks. Figures compiled from housing developments for negroes are given, together with general information about their housing, both good and bad.

Some of the subjects covered are the physical aspects

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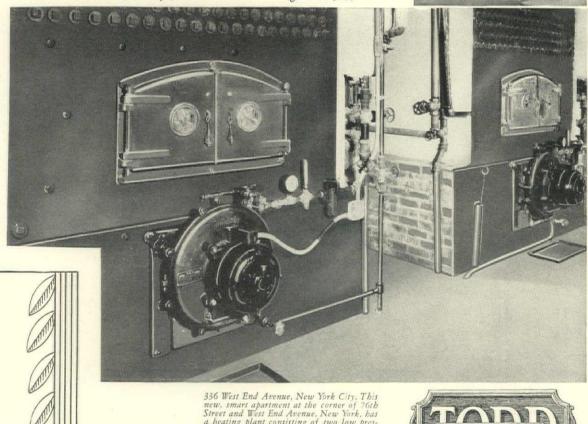
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Inner court of Paul Laurence Dunbar Apartments for Negros at Harlem, New York City. From "Negro Housing"

of negro housing, negro housing and the community, social and economic factors in negro housing, home ownership among negroes, financing of negro home buying, housing projects for negroes and various recommendations made by the committee. In many cases, surveys among whites and negroes are compared as an aid to fully understanding the responsibility of the negro and his housing problem.

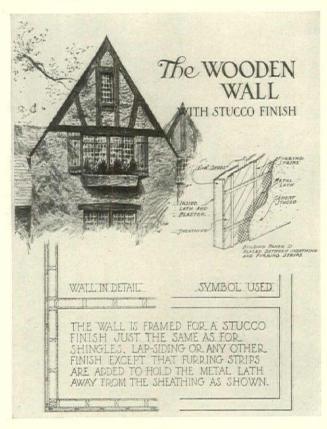


Plate from "An Introduction to Architectural Drawing"

AN INTRODUCTION TO ARCHITECTURAL DRAWING

By Wooster Bard Field, A.I.A. Published by the McGraw-Hill Book Co., New York. Illustrated; indexed; 103 pages; size 9 x 121/4; price \$2.50

A N unusually interesting book on architectural drawing not only because of the way in which the subject matter is treated, but also because the choice of architectural details shows far better taste than is customary in books of this character. The pencil sketches

and drawings scattered throughout the book are also far above average in their technic.

The book is largely a collection of plates showing in pencil form the various exterior and interior details of a house with accompanying methods of indication and construction, as in the plate illustrated. Other types of plate in the book show construction details without the accompanying pencil sketches. Seven pages of pencil sketches of floor plans are included as study problems.

The author is associate professor of engineering drawing at Ohio State University.

THE WEATHERING OF NATURAL BUILDING STONES

By R. J. Schaffer, B.A., B.Sc. Published by the Department of Scientific and Industrial Research, London, England. Illustrated; indexed; 149 pages; size 6 x 91/2; for sale in the United States by the British Library of Information, 270 Madison Ave., New York; price \$1.08



Exfoliation of Headington Stone. From "The Weathering of Natural Building Stones"

HE results of investigations carried on for some vears by the Building Research Station are presented in this book, which discusses the problem of the weathering of natural building stones. Not only the chemistry of materials is discussed but also accidental causes of weathering such as smoke pollution.

Some of the subjects covered in the book are: classification of natural building stones, weather-

ing associated with natural defects inherent in the material, with faulty craftsmanship; with errors in the choice of materials, atmospheric pollution and chemical phenomena associated with weathering, soluble salts as agents of decay, preventive and remedial measures, etc.

MANUAL ON MODERNIZATION

Prepared by the Committee on Reconditioning, Remodeling, and Modernizing, United States Department of Commerce. 41 pages; size 8 x 101/2

TENTATIVE manual for conducting local modernizing campaigns issued by the Department of Commerce is intended to assist cities and towns to stimulate business and employment, help owners maintain their property values, and in general promote community cleanup and beautification. It is based on a study of modernizing campaigns conducted during seven months of 1932 in 65 cities, which reported approximately 49 million dollars worth of modernizing business. The manual includes organization procedure, duties of committees, samples of publicity, modernization checking list, modernization contests, etc.

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New York City

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John Bindrum has chosen a new medium of expression for the illustration on this month's cover—"Through the Trees"—a colorful picture of the rolling country near North Hills, Long Island. Linen material has been used

as a surface for colored inks which are applied with a brush, when the linen is damp, over a drawing in black made similar to batik. Mr. Bindrum began painting at the age of fifteen. His work has been exhibited widely.

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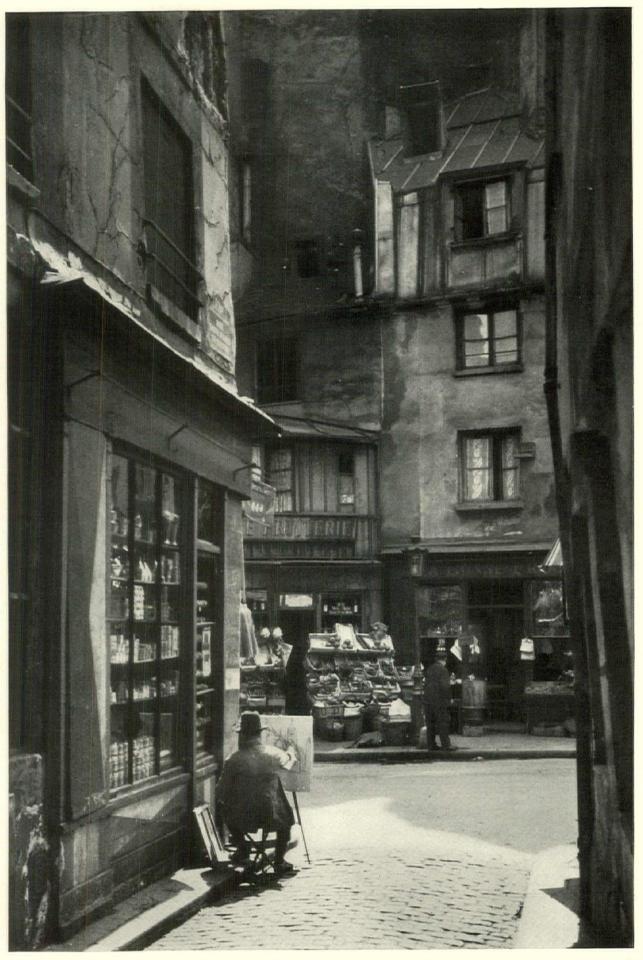
Benjamin Franklin Betts, A.I.A., Editor; Tyler Stewart Rogers, Managing Editor
Walter E. Dexter, Advertising Manager; R. F. Gardner, General Manager; C. Stanley Taylor, Merchandising Consultant

OCTOBER 1932

Cover-A Water Color by John Bindrum

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IN THE RUE ST. JULIEN LE PAUVRE, PARIS

A camera study by Burton Holmes from Ewing Galloway

The Financiers Should Be Told

BY BENJAMIN F. BETTS, A.I.A.

AGENCIES that finance the construction of buildings can become powerful factors in furthering the use of the service offered by architects. These agencies should be convincingly told of the economic and protective value of such service.

Architectural service has a definite economic value that lending agencies should recognize and appreciate. It assures the utmost value for the money expended. Through good planning, good construction, good materials, architectural service has a definite economic and protective value. Costly, unsuspected extras can be eliminated through the architect's foresight in providing against construction difficulties and providing for unusual equipment demanded by a specific type of building. The architect's specialized knowledge can save the owner many legal pitfalls. His service can make sure that the right kind of building is built in the correct location.

Through its planning, legal and supervisory aspects, architectural service becomes an essential safeguard to an owner's financial investment. Architects offer an expert, specialized service, the purpose of which is to protect the owner. It is an unbiased service. It is a service that no one else in the building industry is qualified to render.

ONEY makes the wheels of the building industry revolve. Those who control this money are in a position to dictate to those who borrow. When lenders are convinced of the economic and protective value of architectural service they will insist upon owners' engaging a qualified architect.

It has been forecast that the near future will see new methods of financing projects. It is difficult to see how any radical change from present methods can come about. But one that should be—and doubtless will be—made is greater care in making loans on building projects. Building investments must be afforded better safeguards in the future than has often been the case during the past decade.

A properly developed and conducted campaign setting forth the value of architectural service from the investor's and lender's point of view should be launched now. This campaign should be directed toward all lending agencies. It is a type of business building effort that can be conducted nationally or locally or in combination. Correctly handled it would mean more business for architects, more better designed buildings and greater safety to building investments.

FOR OCTOBER 1932

Chicago Architects Develop

Committee Makes Intensive Study That Shows

BY F. CHARLES STARR

General Manager of Schmidt, Garden & Erikson, Architects, Chicago, and Secretary of the Committee Conducting the Investigation

STUDY of architects' business methods and practices has been completed after a year's work by a committee of Chicago architects. The purpose of this committee, which was appointed jointly by the Illinois Society of Architects and the Chicago Chapter, A. I. A., was to determine how the architect can increase his proper profit without sacrifice of service to clients or loss of professional dignity. The more important points in this study cover fees, cost accounting, shop drawings, owner-architect contracts, copies of drawings and specifications, damages for delays, charge for changes, and office efficiency. The recommendations of the committee follow.

FEES

THE most natural suggestion as to the best way to increase profit is to increase the fee for architectural service. But to raise fees now is entirely contrary to the trend of the times. A study of existing schedules of proper minimum charges indicated much to be desired by way of change—primarily to present the matter more frankly and clearly to owners and thus show present fees to be fair and proper. Three ways of determining fees were recognized: first, a fixed pre-agreed fee plus the actual cost to the architect for executing his work. Second, an agreed minimum total lump sum. Third, a percentage of the cost of the work.

The committee considered a proper minimum fee based upon a percentage of the cost of the work for complete architectural services for various types of average buildings to be as follows.

Group A: Industrial and mercantile buildings, factories, office and governmental buildings: costing over \$1,000,000, 5%; costing under \$1,000,000, 6%.

Group B: Schools and colleges, apartment buildings, hotels and clubs, banks, governmental and office buildings, theatres and libraries: costing over \$200,000, 6%; costing under \$200,000, 7%.

Group C: Hospitals and churches; costing over \$500,-000, 7%; costing under \$500,000, 8%.

Group D: Residences: 10%

Group E: Alterations: 10%.

Group F: Landscaping: 12%.

Group G: Interior decorating and furniture monuments and memorials: 15%.

When computing the amount of the architect's fee, this fee, traveling expenses and salary of architect's superintendent should not be included in the "cost of the work." No reduction should be made from the architect's fee on account of (a) use of old materials, (b) items furnished by the owner, (c) penalties, liquidated damages or other sums which are withheld from payments to the contractors, or (d) "savings" under any contract resulting at least in part from the efforts of the architect. In case of the abandonment or suspension of all or part of the project, the architect should be paid proportionately for whatever services he may have rendered.

When drawings and specifications are completed and approved by the owner, if the total of bids exceeds the amount the owner then wishes to spend and the architect makes changes in drawings and specifications to secure lower bids on a revised basis, the architect should be paid 75% of his basic fee, based on the total of original low bids received, and 25% of his basic fee based on the cost of the work as finally contracted for, plus three times the labor cost of making the changes.

Payments on account of architect's fee should be made monthly. A guide to indicate the total fee due at various times is as follows: Total of 30% on completion of preliminary studies, total of 70% when working drawings and specifications are completed, total of 75% when bids are received and recommendations made for awards of contracts, total of 80% on completion of large sized and full sized details and the remaining 20% in proportion as the work proceeds. The complete total, including any extras due the architect, should be made payable on completion of construction.

If additional services are furnished, the architect should be reimbursed therefor as follows:

- (a) Continuous supervision by a full time superintendent: Salary plus 10%.
- (b) Changing drawings, specifications, or contracts, after once approved by owner: 3 times the labor cost.
- (c) Transportation and living expenses, while traveling in discharge of duties connected with the work: Charge at Cost.
- (d) Telegraph and long distance telephone calls, necessary to expedite the work: Charged at Cost.
- (e) Checking shop drawings and other necessary additional services, if separate trade contracts are let: Basic fee increased 4%.
- (f) If construction work is executed on a cost-plusfee basis: Basic fee increased 2%.
- (g) If architect is put to labor or expense by reason of delays caused by the owner or the contractor, or by the delinquency or insolvency of either, or as a result of damage by fire or other casualty, he is to be equitably reimbursed for such extra services and expense.

Ideas To Increase Profits

"Profit Leaks" and How to Avoid Them

(h) Blueprinting of an unusually large number of plans and specifications for securing bids. (Reasonable number should be agreed on).

(i) Where heating, ventilating, sanitary, mechanical, or electrical problems are of such a nature as to require special attention, an additional fee of 2% of the cost of the trades involved should be added to the basic fee.

(j) Special services such as process or acoustical engineering, water color or crayon perspectives, special drawings for renting purposes, etc.: Charged as agreed upon.

In commenting on the schedule of charges, the committee recommended that a complete list of services to be furnished by the architect should be given the owner included in a revised schedule of proper minimum charges or a special memorandum, together with a statement indicating just what supervision is to be furnished.

COST ACCOUNTING

NE cannot study the question of architect's fees without realizing the deplorable general lack of proper cost accounting. How can an architect increase his profit if he does not know where his costs are excessive or where he is losing money? The cost of keeping a reasonably detailed cost record is surprisingly small when actually in practice. The objection often raised that some items of expense cannot be specifically allocated, while partly true, is not justification for having no record.

A cost record should be kept of every job, the time of every man in the office being allocated each day to proper jobs or to some branch of overhead. Salaries should be charged against each partner as an item of cost production before profits are considered. Miscellaneous items such as blueprints, travel, telephone, etc., should be charged against proper jobs or branch of overhead; other items such as rent, light, heat, sick leave, vacation, etc., should be proportioned.

If a uniform accounting system were used generally in architects' offices, it would be helpful for the sake of comparisons.

CHECKING SHOP DRAWINGS

OSSIBLY one of the largest items of reducible expense in an office is that of checking shop drawings. One may say that the architect must check them in order to be sure that he gets what he wants and that all trades fit together. This is a fallacy—grown up from usage.

Architects should not check shop drawings, for the architect's duty is done when he shows by plans and specifications what he wants accomplished. A general contractor is paid a fee to completely construct a building as planned and specified; one essential in that work is to properly correlate the work of all his sub-contractors. The architect should merely look over the shop

drawings to make sure that his design has been followed, for the contractor or his sub-contractors should not only make proper working or fabrication drawings but should also see that they fit the work of other trades. Moreover, better bids will result if individual initiative and experience of tradesmen are secured through encouraging their own methods of fabrication.

It is suggested that a paragraph be included in the general conditions of the contract requiring that the contractor, before forwarding a shop drawing to the architect, shall certify by a stamp or letter that he has carefully checked it, that it conforms to the contract, and that it will not cause conflict with other trades.

With the increasing complications of modern construction, the minute detailed checking and rechecking of shop drawings by the architect, often without even the cooperation of the contractor, has come to be a considerable burden and it is believed that the present procedure is wrong and should be corrected. The one cautionary remark that should be made, naturally, is that the architect should always be sure that his contract drawings and specifications do show clearly what is to be accomplished, and never to specify the impossible.

OWNER-ARCHITECT CONTRACT

WRITTEN agreement of some kind should always be secured before any work is done. If not willing to sign a complete service contract at the start, the client should sign an agreement to pay a certain sum for a preliminary study or whatever work he may want done with a proviso that if and when he decides to actually proceed with construction, he will then sign a complete service form of contract.

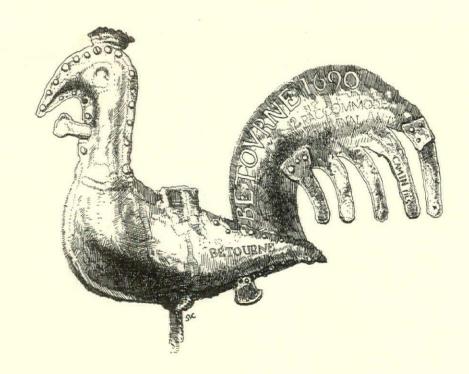
COPIES OF DRAWINGS AND SPECIFICATIONS

To prevent unwarranted duplication of drawings and specifications, it should be agreed in the owner-architect contract as to how many copies will be furnished by the architect. If more copies are requested, they should be paid for by the party ordering them, be he the owner, bidder or successful contractor.

DAMAGES FOR DELAY

NJUSTIFIED expense to the architect is occasioned when construction work is delayed an unexpected and unreasonable length of time. If operations are slowed down or temporarily stopped, the owner should reimburse the architect, provision for this being made in the owner-architect contract. The architect's fee is based on the assumption that construction work will proceed at a reasonable rate of speed for, after construction starts, it costs more, for example, to have an active job in an architect's office for two years instead of one year.

(Continued on page 86)



Le Coq Gaulois Comes Down From Its Perch

BY SAMUEL CHAMBERLAIN

ANY an inhabitant of the quiet town of Senlis was startled by strange visitors this spring. For days the ancient cobbled streets of the town resounded with the footsteps of four festive stone masons carrying a strange time-stained object on their shoulders. At every doorway the cortege stopped while the leader of the quartet pulled the bell cord and proudly displayed the object to a surprised housewife, meanwhile hinting broadly for a tip. For the strange object was the weathercock from the cathedral spire, and a tradition dating back for centuries specifies that, whenever the peak of the cathedral has been reached by a steeplejack, the weathercock may be taken down and shown from house to house with the unwritten understanding that a "pourboire" is in order. One can hardly say that the custom has been abused, for this is the bird's first descent in 120 years!

The French Government is now making thorough repairs on the venerable south spire of the cathedral, and a thick screen of scaffolding has gradually cloaked its graceful lines. Toward the end of April the scaffolding achieved the extreme peak of the tower, and the "coq Gaulois" came down for his brief visit, amid much ceremony. The present work is carried on by the most expert archaeologists and master masons on the Government staff, and promises to be long and arduous.

The tower was finished around 1230-1250. Seven centuries of northern French climate have left their mark. Many a crucial keystone sags. Eight German projectiles hit the tower in 1914, and if they caused no actual collapse, they shook the ancient joints badly.

The aged weathercock seems a bit defiant on his lofty perch, but at close range he loses all ferocity. He becomes a rather droll creature, resembling the inflated rubber birds on which aquatic playboys are wont to disport themselves at Atlantic City. About three feet long and 20 inches high, he is cast in copper and weighs a good forty-five pounds. Different inscriptions on his battered sides indicate that he has undergone several surgical operations in recent centuries. Here is the list, carefully engraved on the greenish copper:

BÉTOURNÉ 1690
RACCOMMODÉ PAR CAMIN FILS
RACCOMMODÉ PAR TOUSSAINT-BÉTOURNÉ 1751
ET JACQUES GUIL, SONNEUR.
BÉTOURNÉ 1769
RACCOMMODÉ PAR LE PÈRE BÉTOURNÉ
GERMINAL AN IX
VICTOR LEMAIRE 1808
MA TETE A ÉTÉ RACOMMODÉ PAR NICOLAS
BÉTOURNÉ 1810.

The constant repetition of the name Bétourné is evidence that the care of the weathercock was entrusted to one family of artisans, and passed on from father to son to grandson. The name still persists in the locality, but the Bétourné's are now less adventurous. They are all farmers.

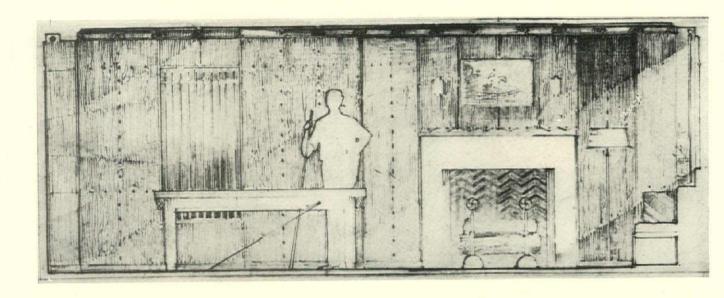
Twice in recent history an audacious alpinist has succeeded in climbing up the spiny surface of the spire as far as the rooster, without the aid of ropes or scaffolding. In June, 1731, an innocent-looking young man obtained permission to climb (Continued on page 86)

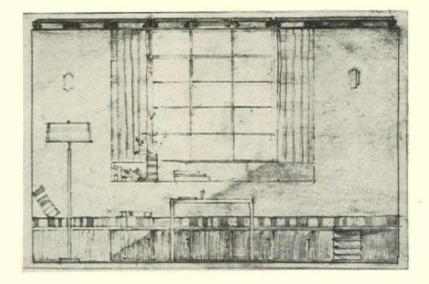


DRYPOINT BY SAMUEL CHAMBERLAIN

IT TOPPED THE CATHEDRAL OF SENLIS

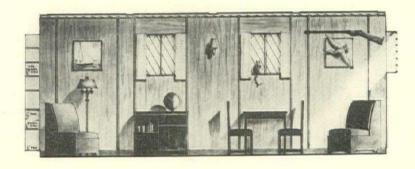
Whenever the weathercock comes down from its perch on the cathedral spire, the owner-for-a-day proudly takes it from house to house with the understanding that a "pourboire" is in order





FIRST PRIZE
William H. Harrison and Walter C. Myall,
Los Angeles, California

SECOND PRIZE
(Below) Arthur S. Davis, Chicago, Illinois

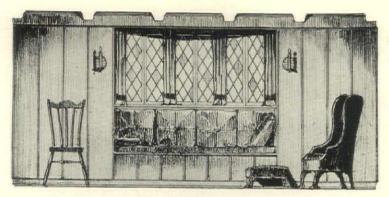


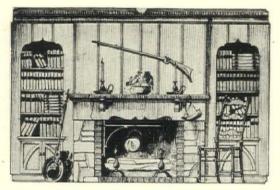


6 Basement Recreation Rooms

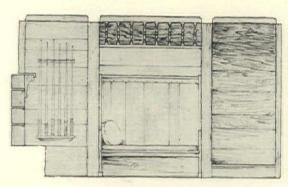
Prize Winning Designs in Class Two of the Contest Conducted By the Douglas Fir Plywood Manufacturers

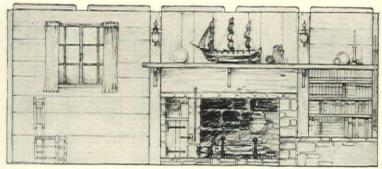
AWARDS in the contest were based on two considerations: the attractiveness and good taste of the design itself, and the extent to which it adopted the natural advantages of Douglas Fir plywood—large sizes, split-proof and warpresistant strength and low surface cost. The professional advisor was Charles H. Alden, F.A.I.A. Judges were A. L. Loveless and D. J. Myers of the Washington State Chapter, A.I.A., and G. L. Bartells, research director of the Douglas Fir Plywood Manufacturers



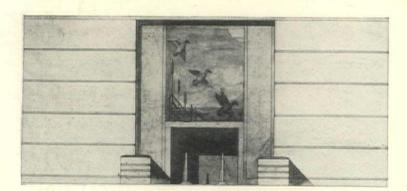


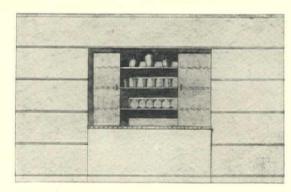
THIRD PRIZE . . . Herbert E. Duncan, Kansas City, Missouri



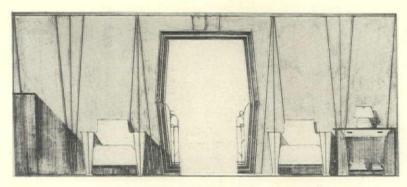


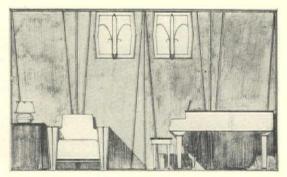
FOURTH PRIZE . . . Howard G. Elwell, Bell, California





FIFTH PRIZE . . . Arnold I. Lorenzen, Curtice, Ohio





SIXTH PRIZE . . . Alfred F. Schimek, LaGrange, Illinois

ARCHAEOLOGY, Mostly American

BY

J. HERNDON THOMSON

Head of the School of Architecture,
Tulane University

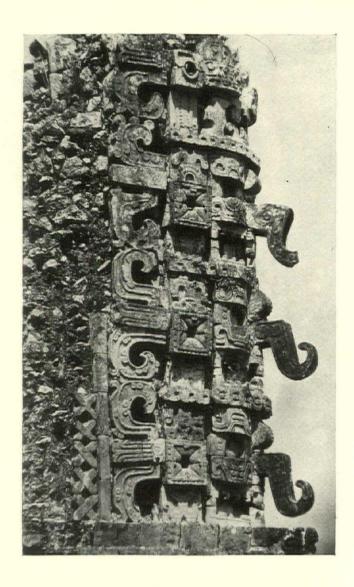
Photographs by Dan Leyrer

At right: Corner masks, Monjas Quadrangle. Vivid color was used with high relief and deep undercutting

AVE you ever known the magnificent breath-taking rush and leap of a tarpon on your line? Have you ever fought an eight pound bass into submission with a four ounce rod? Do you know the healthy ague of buck fever? Have you ever started in to clean, in an ancient Maya temple, an area of stuccoed wall black with a thousand years' accumulation of dust and smoke, and seen emerge the remains of a fresco painted before the first stone of Notre Dame was laid, and obscured and forgotten before America was discovered? I can conceive of no greater emotional excitement than this last. Certainly I have never experienced any sensation remotely comparable to it.

There are few remote places in the world today that have not given up their secrets to the geographer, but to the archaeologist there still remains a vast territory, its wells untapped, its treasures still buried.

Archaeology, as a more or less definite interest in and study of ancient civilizations, their architecture, sculpture, painting and minor arts, dates from the renaissance. Archaeology as we know it today, an art and a science, meticulous in all its methods, is little more than a century old. Even in the early years of this late period the methods of archaeologists, when compared with those of today, were crude and inexact. This is in some measure attributable to the lack of what is now considered necessary mechanical equipment, such as the cameras, precision instruments for measuring and weigh-



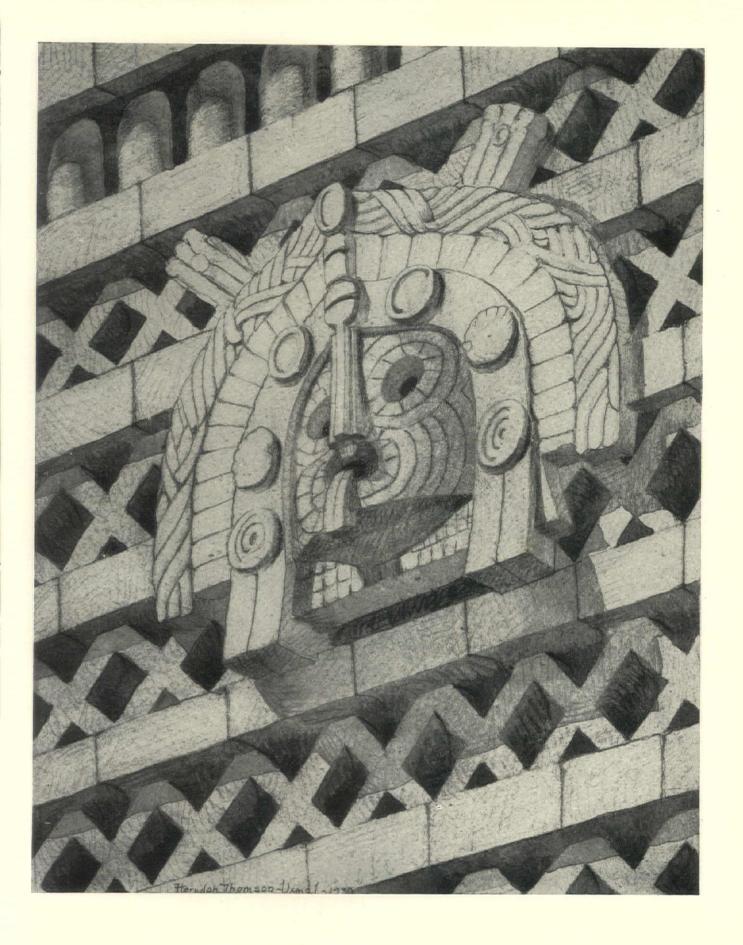
ing, and chemical cleaners, solvents and preservatives.

The early archaeologists were essentially collectors, many of them, let it be frankly confessed, collectors in much the same sense as were Jean and Pierre Lafitte,

Dominique You and the redoubtable Captain Kidd, their interest centering largely around objects of high esthetic value.

It is impossible to present here an adequate resumé of the work accomplished by the early classical archaeologists, or even to list the outstanding figures engaged in archaeological research. Such a summary would be boresome and inadequate—covering ground with which we are familiar. However, certain names present themselves insistently with the idea of classical archaeology. Such men as James Stuart, Nicholas Revett and Lord Elgin and later Layard, whose work at Nineveh made possible the deciphering of cuneiform, Sir Charles Fellows, Wood, Newton, and Professor Flinders Petrie, who was first to point out the vital necessity for meticulous recording of all information.

Having vaulted nonchalantly over several hundred years of archaeological development, from the period when the gentle archaeologist returned to his native land with everything that he could find that wasn't screwed to the site, to the present period of archaeology as an exact science with all the resources of chemistry, physics, art, architecture and sculpture at its command, let us glance at the organization now conducting archaeological in-

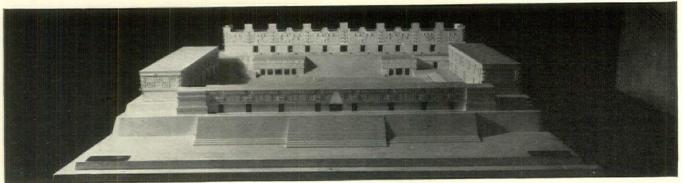


DETAIL OF MONJAS QUADRANGLE, UXMAL

Mask from the east building. The lattice work is of stone, the face of the lattice being a light yellow ochre with diamonds in dark red. The horizontal bars are conventionalized serpents, each terminating in a serpent's head

Rendered detail by J. Herndon Thomson





Ruins and reconstruction of Monjas Quadrangle, Uxmal. Remains of the forecourt are shown in the foreground. Reconstruction by Frans Blom. Model by H. M. Fair and Gerhardt Kramer

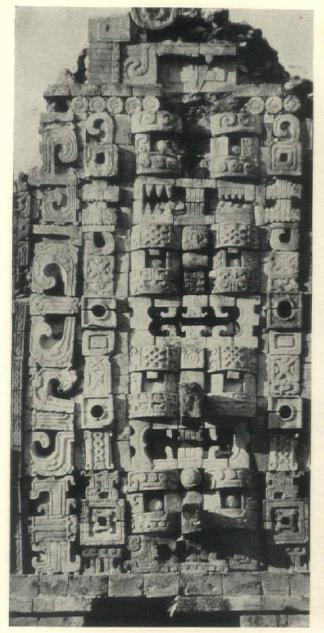
vestigations and at the areas offering greatest promise to the investigator.

There is at present archaeological work under way in most of the open fields throughout Europe, Asia and Northern Africa. In America, besides the work being carried on by the various states, each state of course in its own territory, there are any number of endowed organizations, universities and individuals conducting archaeological investigations extending from the Canadian border well through the length of South America. Such government controlled and financed investigations are being conducted by the United States, Mexico, Guatemala, Chile, Brazil and the Argentine.

Of the various fields now open to the archaeologist, Middle America holds, I think, incomparably the most promise. Where Egypt numbers her pyramids by tens, in Mexico, Guatemala, British Honduras and Yucatan there are literally hundreds, and while a great amount of work has been done in that field in the last few years, the field is so vast that it remains practically untouched.

There are any number of ruined cities in this area about which practically nothing is known archaeologically beyond mere location, and undoubtedly there are a great many more buried in the jungle which are known only to the "chicleros" or not at all. While classical archaeology is primarily engaged in confirming legend and history, American archaeology is unfolding a completely unknown saga of plagues, wars and migrations.

In America, Mr. J. L. Stevens was intrusted, in 1841, by the United States Government with a diplomatic mission that carried him over a large part of Central America, Mexico, Guatemala, Honduras and Yucatan. Around this trip Mr. Stevens wrote and published, in 1843, "Incidents of Travel in Central America," the first book written in English touching on the ruined Indian cities of Central America. Although a large part of the descriptive matter in this book is given over to the country, the lives of the natives and the extreme difficulties of travel in that day, Stevens visited and described in detail numerous ruins, among them Palenque, Copan, Ux-





Masks of Ku Kul Kan, Monjas Quadrangle, over doorway of north building, and detail from the House of the Governor. Typical of the wealth of detail to be found in Maya buildings

mal, and Chichen-Itza. It is a grand book, written by an able and close observer, and most excellently illustrated by the fine engravings of Mr. Catherwood. The text is naive to a degree and in places very amusing. Stevens, as an accredited representative of the American Government, was accorded certain official honors of the opera bouffe type. Quoting Mr. Stevens, "To crown the glory of the parting scene, my good friend, Captain Hampton, had charged his two four-pounders, and when the steamboat got under way he fired one, but the other would not go off. The Captain of the steamboat had on board one puny gun with which he would have returned all their civilities; but as he told me, to his great mortification, he had no powder."

Following Le Plongeon, one of the most versatile of archaeologists in the Middle American field, was Senor Juan Martinez. Possessed of a wide knowledge of the Maya language and a sympathetic understanding of the native, he was at the same time an outstanding authority on Maya Archaeology and beloved alike by Indian,

Spaniard and American. Other pioneers in the Middle American archaeological field include E. H. Thomson, acting for the Peabody Museum, T. A. Willard, both Americans, and a German, Teoberto Maler. Some ten years ago the Carnegie Institution founded a permanent camp at Chichen-Itza, and, under the leadership of Dr. S. G. Morley, a tremendous amount of excellent work has been accomplished, the most spectacular of which is the fine reconstruction of the Temple of the Warriors, the reconstruction being under the immediate direction of Earl H. Morris.

Some progress has been made in the translation of Maya glyphs. Date glyphs can now be read with assurance, although there is still some disagreement among archaeologists as to the correlation of the Maya and Christian calendars, but beyond that not a great deal of translation has been accomplished. And, as a result of the activities of that bigoted old cleric, Diego de Landa, first bishop of Yucatan (1573-79), the chances of finding a Maya Rosetta stone are (Continued on page 88)

Damage Suits Against

How to Prevent Them and What

BY CLINTON H. BLAKE

of the New York Bar

HE responsibility of the architect for mistakes, errors, omissions and other forms of negligence is a matter of increasing importance to the profession. Hardly a month goes by that some new phase of the problem does not develop and some new case come to my attention involving a claim against an architect for damages based on his alleged negligence.

Generally speaking, the responsibility of an architect for negligence is substantially the same as that of any other professional man. Like the lawyer and the doctor, he is presumed to be skilled in his profession and to be ready and prepared to use that skill in behalf of his client. If he accepts a job and does not fulfill it with the skill and care required, he is liable for any damages caused to the client by his failure to do so. This does not mean, however, that he is supposed to have extraordinary skill and ability or to exercise extraordinary care in his work. It means simply that he must exercise that degree of care, diligence and skill which the ordinary architect—rather than the architect of exceptional ability—is presumed to have.

For example, if he is engaged to supervise the work and fails to do so or if his supervision is purely perfunctory or casual and some defective work is done in consequence, he will be liable. On the other hand, if he does give to the work the ordinarily required degree of supervision and nevertheless some defective work escapes him, he will not necessarily be liable for the damage which it occasions to the owner. He is not required to see that every bolt is put in place or every beam properly set or every stone properly bedded.

There is naturally no phase of the practice of his profession in which an architect is more vitally interested than this question of his financial responsibility for errors or neglect. This responsibility may conveniently be considered under three headings, namely, the design proper, the specifications and the supervision. The ordinary care and skill to which I have referred must be present and exercised with respect to each of these phases of the architect's work.

THE DESIGN . . . There is less danger of the architect incurring liability for negligence in connection with the design proper than in connection with either the specifications or the supervision. Subject to legal refinements which can not be discussed here, it may be taken as a general rule that the responsibility of the architect for neg-

ligence in design will attach, not to the artistic result or lack of artistic result secured by the design, but rather to his failure to use proper care or skill on the more practical details of design, such as indicating on the plans a proper and efficient layout for drains, providing supports and framing of proper strength, details for the setting of doors and windows to prevent leakage and the like.

The fact that the client does not like the artistic effect of the house when built or objects to the elevation, or that the client's wife complains of a lack of proper closet room or a lack of efficiency in the kitchen arrangements, may result in the loss of a client, but will not serve as the basis of a valid damage claim against the architect.

On the other hand, if the architect indicates on the drawings beams insufficient to safely carry the strain called for or omits to indicate necessary space to be reserved for drain pipes or makes no provision for flashing where it should appear upon the plans, then the owner may well base a claim for damages on the failure of the architect to provide for any one or more of these items. The plans must be read in conjunction with the specifications, however. If a defect existing in the plans is cured by the specifications, the owner would have no just complaint. For example, if the plans did not show any flashing where there should be flashing, but the specifications contained such a broad provision under the flashing heading as to require it to be done by the contractor, the owner would not suffer any legal damage.

FOLLOW OWNER'S INSTRUCTIONS

T is not to be assumed, from what I have said of the lack of liability in matters of pure design rather than structure, that the owner is without any recourse against the architect where the latter deliberately departs from his instructions or fails to provide for a result which the owner has specified must be secured. As a rule a claim of this kind does not arise because the owner is present and sees what is being done, can step in and protest and is under no obligation to approve the plans unless he likes them. Given a situation, however, where the owner, due to illness or absence, trusts the architect to proceed, and the architect fails to follow instructions, the owner may have a claim for damages, although even here it will be difficult to establish actual concrete damage rather than an unliquidated esthetic damage.

THE SPECIFICATIONS . . . In writing the specifications and in supervising, the architect must definitely watch his step. If the specifications are not properly drawn so as to make the building structurally correct, to give the proper specified finish, to prevent leakage in cellar and walls and roof and generally to provide a workmanlike job, the owner will have a valid claim directly against the architect. The builder in the majority of cases will be

Architects for Negligence

To Do If Trouble Develops

protected, if he follows the specifications, and the architect who has failed to prepare proper specifications will be the one who will be held liable. Probably ninety-five per cent of all cases of claims by owners against architects are based on the ground that he has been negligent with respect either to the specifications or supervision.

Every architect with any substantial experience will realize the importance of the specifications to the client. He should realize equally their importance to himself. An architect who writes a defective specification incurs substantially the same liability as a lawyer who prepares a defective will or contract, or a doctor who negligently performs an operation. A really good specification writer is a rare prize to be cherished and retained at all hazards. The few dollars which will be saved in the salary of a second-class specification man may be lost a hundredfold in the payment of damages to a client because of the failure of the specifications to provide, where necessary, for flashing on roofs, around doorways and windows, for proper waterproofing and drainage or proper heating, plumbing and structural requirements and a dozen other similar items that will suggest themselves to every experienced architect.

If I were to choose the two points which I consider the most likely to give rise to damage claims based on defective specifications, I should unhesitatingly select those dealing with flashing and foundation waterproofing and drainage. Case after case has come up in my practice involving claims for damages against the architect for a failure properly to provide requisite flashing and properly to provide against leakage in the cellar.

Much can be done to minimize these dangers, if, in addition to the regular specification clauses dealing with these matters, there be included a general clause of wide scope, providing in substance that, whether or not shown on the plans or provided for specifically elsewhere in the specifications, the builder shall provide and perform any and all work necessary to make the house absolutely water-tight throughout. The presence of a properly worded clause of this kind and its use as a standard in all specifications will go a long way toward removing the threat of damage suits, and toward placing the architect in a position where he can successfully defend claims of negligence in the preparation of the specifications.

SUPERVISION... Here again is a fertile field for damage claims against the architect. As I have already indicated, the architect is under no obligation to see each nail driven and each timber put in place. If supervision of that kind is desired, it is incumbent upon the owner to secure the services of a clerk-of-the-works.

This does not mean, however, that the architect is not under a very definite and real obligation with respect to his supervisory services. If he skimps those services, if he does not attend at the job reasonably often, either in person or by a competent representative, he will be liable for the damage caused to the owner by defective work which he might have discovered, had he given reasonable and proper supervision.

The fact that the owner may have a valid claim against the contractor for failure to follow the requirements of the plans and specifications will not relieve the architect of his liability for the damage caused by this failure. In many cases the architect will escape actual loss in a case of this kind because the natural course is for the owner to proceed against the builder, both because he will have the backing of the architect in doing so and because the builder in many cases has behind him a surety company or other bondsman.

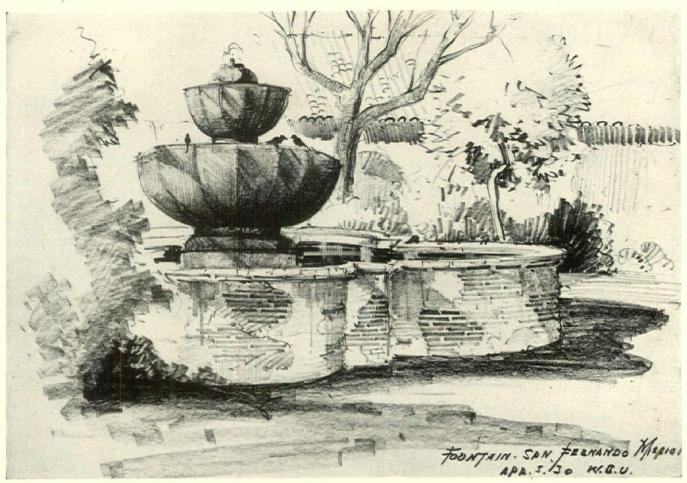
It is far more difficult to fasten a legal liability upon a professional man than upon a general contractor. In the case of a professional man, it is necessary to prove negligence, whereas in the case of the contractor, it is necessary merely to prove that he has deviated from the terms of his contract to the damage of the owner. Nevertheless, the architect will do well to keep his own house in order and not trust too much to the probability that any such damage will be made good by the builder and that the owner will be content to look to the builder rather than to the architect.

EXTRA CARE TO AVOID LITIGATION

AWSUITS are unpleasant and expensive things—expensive in time as well as in money, expensive often when one wins, as well as when one loses. A little thought and caution applied in the first instance, a little extra care taken to see that the essentials of construction are properly covered by the plans and by the specifications, as well, and the giving of a little more supervision than the minimum required will yield substantial dividends in the avoidance of litigation and of liability for damages.

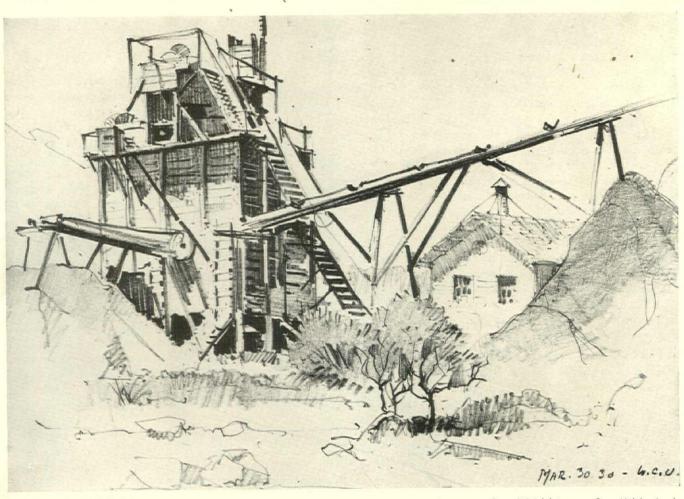
Every architect knows how often it is that the client will claim that the architect has been guilty of some neglect or omission. In the vast majority of cases these claims are trivial and rarely of a substantial character. They usually take the form of complaints that the closets are too small or sufficient shelving is lacking or there is insufficient book or furniture space. In cases of this kind there is no real danger, ordinarily, of the complaints taking the form of serious claims for damages or lawsuits. The architect can decide how far he wishes to go in satisfying the client, and will often assume the expense of meeting the client's wishes in order to retain his good will.

Now and again, however, the complaints are of a more serious character, either because there is real basis for a claim of substantial damages or because the client is temperamentally difficult to deal with and inclined to make real trouble. It is not (Continued on page 90)



FOUNTAIN

By William C. Ullrich



ROCK CRUSHER

By William C. Ullrich

AMERICAN ARCHITECT



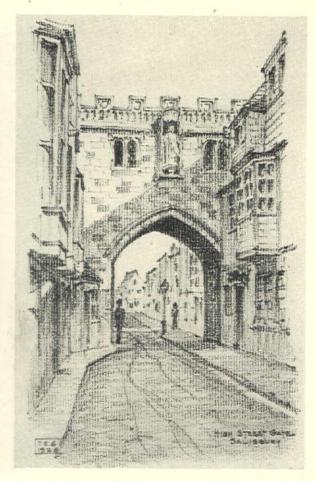
BAPTIST CHURCH, MILLERTON, N. Y.
By Taber Hofmann



IMAGINATIVE SKETCH . . . Wilbur H. Adams
Made with grease crayon. Intended as one of a series
to submit to motion picture producers with the suggestion that an architect would make a good set designer

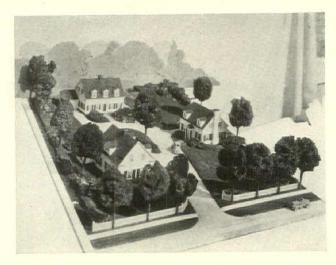


ROOFS, CATHEDRAL, PUEBLA, MEXICO By Jane Pelton



HIGH STREET GATE... Trent Elwood Sanford Is part of the old wall bounding the Cathedral Close at Salisbury. Built in the early part of the fourteenth century. Drawn on rough gray paper with litho crayon

What Architects



IVORY SOAP was used for this model of a Cape Cod group, the buildings being designed to show what could be done on a site 140x250. Exhibited in the Chamber of Commerce window, Tiffin, Ohio. Troxel and Pahl, architects

ARRIAGES are used to make a forecast of home building in figures tabulated by A. S. Douglass, chairman of the research committee of the Detroit Building Congress. Comparison of the number of marriages and building permits for houses issued each year in Detroit showed that in 1928 the ratio was 1.6; in 1929, 1.9; in 1930, 3.6; and in 1931, 6.1. According to Mr. Douglass, "The purpose of this information is to set forth that the potentialities for home construction are proceeding at a rate vastly greater than the rate of home production."

THE most important era in the 100 year history of the building and loan industry began the day that President Hoover signed the Home Loan Banking Bill, according to William E. Best, president of the United States League of Building and Loan Associations. He predicted a revival of the home building industry through operations of the Home Loan Banking System in the expansion of credit.

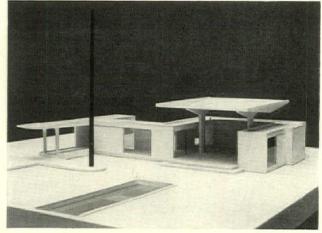
RANK LLOYD WRIGHT'S new school at Spring Green, Wis., will be bookless. Students will first make a broad study of architecture. The materials that go into a building will be studied at first hand, the students quarrying stone and hewing timber. They will learn about soil by tilling and studying it. At their drawing boards, they will consequently be imbued with the idea that buildings should fit the landscape and be better able to design them with that idea in mind. Sculpture, painting and music will also be studied. In the evening entertainment will be combined with the further quest for a well-rounded life. The faculty will include Mr. Wright, three technical advisors trained in industry, three resident associates-a sculptor, a painter and a musician-and a group of seven honor or senior apprentices. The school, which opens this month, is known as "Taliesin Fellowship."

Douglass Cites Marriages to Forecast Home Building Boom

Home Loan Banking Bill Starts New Era

Bookless School Started by Frank Lloyd Wright

NSTALLATION of the most complete and elaborate system of electric chimes in the world has been made in the Crucifixion Tower of the Shrine of the Little Flower, near Detroit, Mich. The bell-like tones of the new carillon are all produced electrically, the lowest note on the keyboard being equal to the tone of a forty-ton bell, according to engineers of the RCA Victor Company who designed and installed the system. The instrument also includes a special reproducing apparatus through which organ music may be played, utilizing the same sound projection system as the electric carillon. The entire instrument is controlled from a forty-nine note piano-like keyboard.



BONNEY

MODEL for a country house, being a forecast of the future by Gabriel Guevrekian, French architect. Terraces are covered with elevated roofs extending beyond the walls. Large areas of wall are entirely of glass.

UTTING and fitting materials on the job is always a wasteful and costly procedure; for some unexplainable reason the building industry has neglected this obvious defect in method and, as a consequence, home construction has not kept pace with other classes of construction." So states F. Leo Smith, technical secretary of the American Institute of Architects. "The architects' cooperation in these new developments is essential or the result is most certain to be a monotonous repetition of characterless structures, devoid of interest and lacking in those qualities which are necessary to encourage home ownership."

Are Talking About

Management Problems Akin to Architect's Problems

Largest System of Electric Chimes

Flat Roofs Not Suitable for Houses

MPROPRIETY of flat roofed houses is cited by Wm. Roger Greeley in his new book, "An Architect Muses." Mr. Greeley states, when discussing "propriety," that: "Through use, or evolution, certain architectural forms or types have become associated with certain kinds of buildings. A house, especially in colder climates, signifies shelter, and this idea of shelter has come to be expressed by a sloping roof, with its eaves overhanging like the protecting wings of a brooding hen. If we construct a cottage with a flat roof, we offend this principle of propriety. This is true even if a flat roof happens to be a more sincere form to use. In this case the consideration of propriety has been, at least in our climate, stronger than that of sincerity. We are so accustomed to associate the pitched roof with the idea of proper shelter for a house that we demand such a roof, regardless of its extravagance and inutility."

THE position of manager, as typified in the average business executive, is comparatively the same as that of an architect, according to F. A. Merrick, president of Westinghouse Electric and Manufacturing Company, who visions an organization much as an architect visions a building. The manager correlates all functions so that the work will proceed in harmony, just as an architect correlates the various crafts.

ORTGAGE adjustment and refinancing to protect building ownership is a new advisory service offered by a number of real estate boards.



ADAMS STUDIOS

ARCHITECTURAL BOOKS are kept in this specially designed bookcase designed by and in the office of Vahan Hagopian, architect

SWITZERLAND'S first skyscraper is to be welded. It will be twenty stories high and will be built at Lausanne.

A NATIONAL planning board manned by engineers, physical scientists, statisticians, economists, accountants and lawyers is advocated by Stuart Chase in his book, "A New Deal." Aside from the planning board, Mr. Chase predicts that the next great economic step would be the rehousing of America. He proposes that the board should be set up under the auspices of the Federal Government and supplemented by regional boards in major economic areas.

THE National Conference on Construction will be held in Washington, D. C., October 13 and 14. Economic construction will be the central topic for discussion. Elimination of waste, better information and planning, and improved organization as a means of economic con-

struction will be reported on. The chairman of the committee on arrangements is Colonel Willard Chevalier, publishing director of the Engineering News-Record, New York. Among the committee is E. J. Russell, president of the American Institute of Architects.

(Continued on page 98)



MORTUARY CHAPEL in a cemetery at Ohlsdorf, a suburb of Hamburg, Germany. In detail, the three brick pilasters and frieze about the top of the circular portion of the building are especially interesting. Designed by Prof. Dr-Ing Fritz Schumacher, city architect of Hamburg

Saving Time in the Drafting Room

BY ALBERT C. WOODROOF

Architect, Greensboro, North Carolina

The production cost of drawings must be lowered if the average architect is to have a comfortable profit under today's conditions. Mr. Woodroof explains how he cuts drafting costs by the standardization of details which may be frequently used without sacrificing the results desired

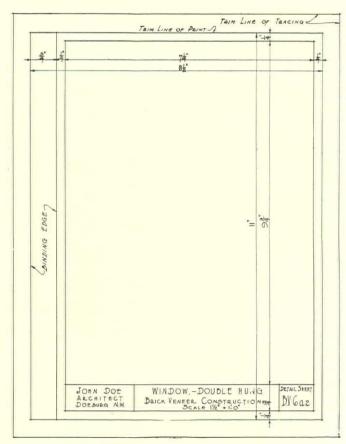


FIG. 1

Standardized detail sheet on letter sized tracing paper

VERY architect has, on more than one occasion, copied some detail "cold" from another set of his plans! Naturally! He does it because it exactly fits the new case.

Every architect has wished that the detail didn't have to be copied. He would like to be able to blueprint it and save the drafting cost involved. Why not, then, make the details of every job in such a way that they can be reused without retracing and save the cost of drafting?

Here are a few simple rules based upon experience:

- 1. Standardize a detail sheet on tough tracing paper, letter size, with border lines and title. (See Fig. 1.)
- 2. Use a separate sheet for each feature to be detailed.
- 3. Use as large a scale as possible to show parts clearly and fill the sheet.
- 4. Omit major dimensions, which should be shown on the plans or elevations. (See Fig. 2.)
- 5. Omit minor notes which do not necessarily apply to each building—specifications usually cover materials and quality.
- 6. Show details in arrangement of component parts, indicating various parts with standard "hatching," symbols, etc.
- 7. Give each sheet a *permanent* number, using such system as will allow an unlimited number of sheets in each grouping without upsetting the numerical order of the entire set.
- 8. When blueprinting the plans, have an equal number of copies of the detail sheets made and bind them in

the back of the specification cover or bind separately in a "detail cover" and issue same as part of the contract documents.

- 9. File tracings or office set of prints in an indexed vertical file, or in an indexed loose leaf notebook.
- 10. When another job is started, select the suitable de tail from the file and use a blueprint copy in the drafting room for reference to save wear on the tracing. Make new sheets for any variations that must occur from time to time, thereby always adding to the completeness of your set of details. Make a notation on sheet No. 1 of the plans of the detail sheet numbers which form a part of the contract. This is your permanent record.

S AVING in drafting costs will not be evident for some time, but after several buildings have been detailed in this manner, it will be seen how often the detail of a window, stair, door frame, type of floor construction, etc. occurs and may be used again.

Since these detail sheets will be developed in each office in an entirely different order, i.e., as they are required by specific buildings, a system of numbering will be required which allows a constant filling in without upsetting the numerical order.

It is readily seen that the contractor is not involved in the numbering system at all, since he receives only those prints which apply to his job and he has them neatly bound for ready reference. It is suggested that notes be put on plans and elevations referring the contractor to specific details by number.

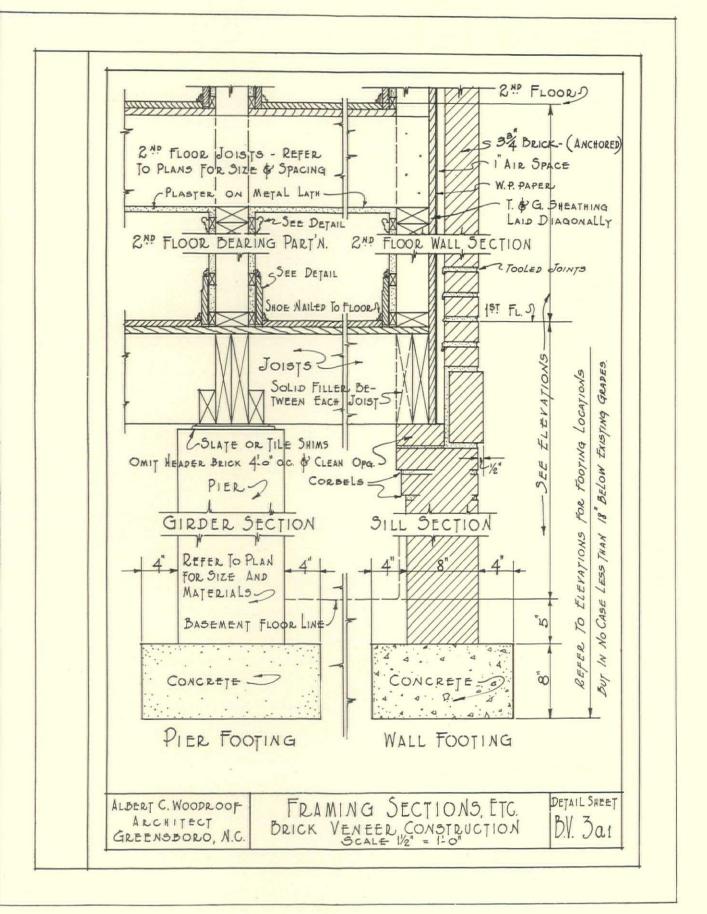
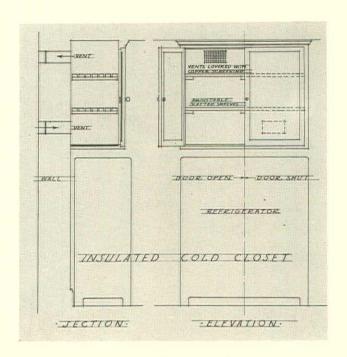


FIG. 2

TYPICAL STANDARDIZED DETAIL SHEET

Each detail is drawn on tracing paper. All major dimensions are omitted, these being shown on either the plans or elevations. Every sheet is given a permanent number. Original size of sheet, measuring from outside ruled lines, 91/2" x 12"

.. Things You Didn't

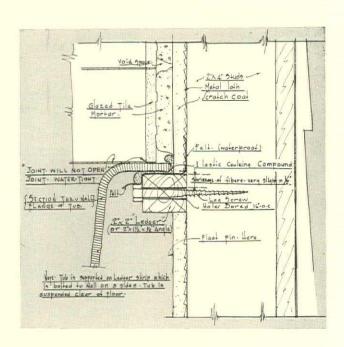


COLD CLOSET FOR THE SMALL KITCHEN

By William Heyl Thompson, A. I. A. Philadelphia, Pennsylvania

TO provide a cold closet, and still keep within the small kitchen, a cupboard which can be placed over the refrigerator is shown in the accompanying sketch. If in planning the kitchen the refrigerator cannot be placed against an exterior wall, this same idea can be applied to a cupboard at one end of the sink, or even to a full length closet in any corner of the kitchen on an exterior wall.

It would be well to insulate the closet with an insulating board. The shelves can be made of slats, fixed or adjustable, to allow full circulation of air from top and bottom vents, covered with copper screening.



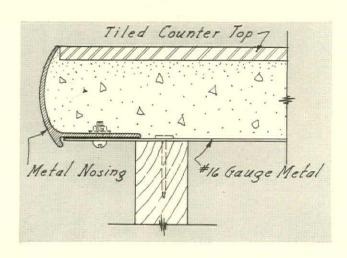
TO PREVENT LEAKS AROUND BATHTUBS

By M. M. Guerry West Orange, New Jersey

A DETAIL devised to overcome leaks and settlement around the wall adjoining recessed type bathtubs is shown in the accompanying illustration.

This condition prevails due to the common practice of placing the tub on the floor for support. Settlement is due to shrinkage and deflection of floor beams, which amount to an average of ½" on 10" beams.

A ledger strip is fastened to the walls before the lath and plaster is applied, and then a 3-ply strip of felt waterproofing is nailed to studs and ledger strip. Before tub is set plumber applies a bed of whiting or elastic caulking compound and then tub is set over same. The tub is thus supported by the walls.



STAIR TREAD NOSING FOR COUNTER TILE

By Harry F. Weeks, architect Detroit, Michigan

HEN using tile for kitchen and pantry countertops, metal stair tread nosings reversed make simple but striking terminations. The top of the case should be covered with 16 gauge black or galvanized iron. The nosing is secured to the metal and an ideal pocket is formed to receive the cement grout. A two inch nosing will be found most advantageous as it will give ample depth for pitch of drainboard and bullnose at sink.

Learn in School ...

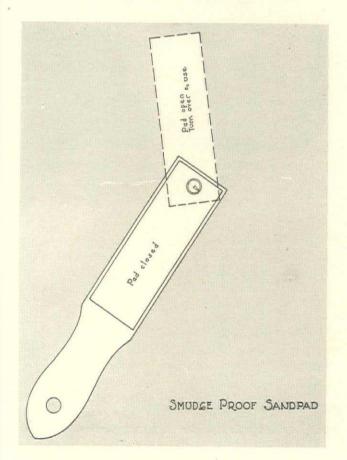




SMUDGE-PROOF SANDPAPER PAD

By Gene E. Fitchner, architect Tallahassee, Florida

TEAR off all the sandpapers of the ordinary sandpaper pad. Thumbtack one of the sheets, sanded side down, to the block so that the thumbtack acts as a pivot. The only thing that can get dirty is the side of the block covered by the sandpaper.

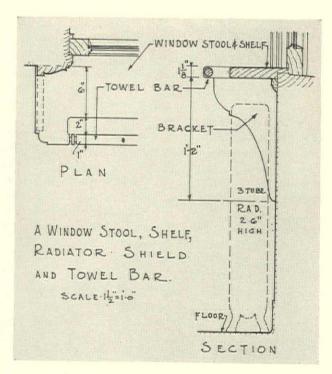




CARBON COPY OF CHECK BECOMES OFFICE RECORD

By R. G. deLappe, architect Oakland, California

E make a carbon of each check, thus condensing essential records into one document. This check and carbon serves as a certificate, evidence of job inspection, payment, record, receipt and release. It eliminates handling of currency and much work in both owner and office accounting. It can be made payable jointly to the contracting party and his vendor or labor, which insures that the funds paid are paid for and to those persons with whom the owner has either a direct or a pending obligation.



HANDY WINDOW SHELF

By Harold H. Ehlert Detroit, Michigan

O eliminate the placing of things on radiators or radiator covers in certain rooms, a shelf may be used as shown in the accompanying sketch. This is a combination of window stool, shelf, radiator shield and towel bar.

Small House Featured



Nearly 200,000 people passed through this six-room house, exhibited at the Boston Home Show and designed by Royal Barry Wills, architect; several commissions were secured

HAT there is considerable public interest in sixroom houses completely equipped for \$4,000 was shown at the recent Boston Home Show. Not only did those attending the show evince considerable enthusiasm, but three duplicates of the house exhibited are now under construction and it is expected that four more will shortly be started.

According to the architect, Royal Barry Wills, "These houses were designed to be built for \$4,000 and our fee was relatively small, although I do feel that due to the similarity of design, it would be possible to make money at the present time on these houses, although it is certainly desirable to have a large number of them go ahead to make any profit."

The class of people that seemed to be particularly interested were retired doctors, managers of companies, authors, artists, decorators, professional and semi-professional people. About two hundred were definitely interested and half of these were good prospects.

Added interest to the exhibit was lent by a display of sketches of houses costing from \$3,800 to \$6,200. Models of the house exhibited were sold for a small sum and proved of interest to both children and adults.

Many people were interested in much larger houses than the small one exhibited. This interest was stimulated by Mr. Wills, who with easel and sketch pad made designs of larger houses as the prospect stated his problem.

The only apparent drawback to interesting people to the point of building was the financial situation and the consequent inability of Mr. Wills to present a definite financial arrangement which would be applicable to the majority of those desiring to build. He has talked to many of the prospects since the show and found that



When people evidenced interest in a different plan or design, Mr. Wills was there to sketch it on the spot. This feature attracted much attention

all the good ones were marking time until they had some assurance that business conditions will improve and financing become available.

The experience of Mr. Wills indicates the great public interest in moderate cost housing and the willingness of the public to consult an architect once they understand that he is a practical person capable of giving trustworthy advice. It is difficult for architects to make proper contact with large numbers of people excepting through expositions such as that in Boston. Though this was an individual effort, yet the benefit to the profession at large could not help but be considerable, for here many people had their first contact with an architect.

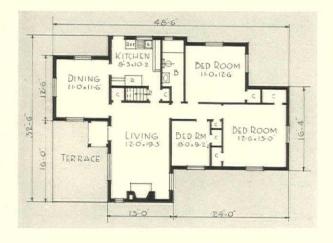
In Boston Home Show



The house, built of cinder concrete blocks, was erected in four days. The cost of duplicating this house was quoted at \$4,000, complete with equipment



INTERIOR WALLS were finished with a coat of 3/8-inch plaster, applied direct to the cinder blocks, and a coat of paint sprayed on. Plaster board was used for the ceiling with 3" x 4" timbers exposed in the living room and dining room



Architectural societies could well afford to take an active interest in every local exposition attracting large numbers of people and to develop an idea which would really educate those attending as to the value of architectural service. Most people who attend the average architectural exposition glean little from it except that an architect certainly can draw pretty pictures. They leave having learned nothing of the practical side of the profession's work such as the money saved by the proper letting of contracts, by supervision that insures the owner getting what he is paying for, by constant vigilance to safeguard the client at every turn and to keep him free from legal entanglements.

Those are the things that the public will seldom even hear of except from an architect. And if the architect does not trouble to tell him, who will?

The High Cost of Birdseed

BY CHARLES S. KYSON

// ELL, I just fired the world's champion cross-hatcher and birdseed artist," drawled Jackson Lee, his dark eyes twinkling with humor.

"Birdseed artist—birdseed artist? Whatizit? Whatizit? Does it croak, moan or squawk? And why falleth the axe?" banteringly queried George Bradley.

The query drew the attention of the Architectural Iconoclasts, gathered for their weekly luncheon at the Pepper Pot Coffee Shop.

"Well, George, hampered as you are by a fancy college education, but being still eager to learn, I will, for your sake, say that a birdseed artist, my boy, is an architectural draftsman who seems to look upon working drawings very much as my good ole' Aunt Mary did a crazy quilt—as something to be decorated up—made to look busy and artistic."

"Check and double check. I recognize the species now. I've got one or two of those cute little animals in my private architectural zoo all right," exclaimed George Bradley with a mocking grin.

"I reckon so, George, and I'll bet yours is an ex-Beaux Arts Society or college kid like mine was accent on the was!"

"All right, Rango-pango! Pick up the crystal ball. You win the conical astrologer's hat. He's one of them things all right."

"Well," continued Jackson Lee, "this morning I squinted into the drafting room and my domesticated birdseed artist was stretched over the drawing board in a trancelike state. There was a placid sheep-like expression on his face. He was in his glory-peacefully, methodically, cross-hatching. And, boy! what a crosshatcher that human robot was! With a calm, satisfied and beatific deliberation, he drew his fine tender lines in careful mechanical precision. His brains were in a complete state of rest-he just drew-birdseeding the hours away! Unfortunately for said draftsman," Jackson Lee smiled reminiscently, "I had acquired a healthy, masculine grouch-you know how it is-something went wrong on the Jones job and I felt mean enough to bite my grandmother. Well, after watching that chap for a few minutes-that contented, dreamy smile-the deadly deliberation-those fool, meaningless lines-y'know-it was just the last straw that bloated and blew up the patient camel. So, dog-gone it, I up and fired him!"

"Brother in suffering, I salute thee!" James Cameron



dramatically extended his hand across the table. "Don't I know the type! Not so long since I had a stormy session in my own drafting room. I rounded up the crew and the pearls of wisdom I tossed around would have made a swell necklace for the Delphic oracle."

"You told 'em, did you Jimmy?" razzed George Brad-

"I certainly did-and for the good of their economic souls, too. Many cub draftsmen, yes, and some more experienced ones too, who should know better, don't seem to understand what a set of working drawings and specifications really are. To my bunch, I said, "Boys, get this: plans and specifications are simply instructions to a lot of mechanics telling them how a certain building is to be constructed. Make these instructions clear and understandable. Yes, and as simple to read as you can. Do this, and the building operation will be carried through economically, easily and expeditiously. Just keep in mind when you are making working drawings, that you are, in reality, bossing that job—telling the workmen how you want it done. And, for the love of the exalted T square, keep your instructions simple. Don't try to get all of the information on one drawing. If it tends to get birdseedy, it becomes hard to readbetter make two drawings instead. Limit the birdseed to the intellectual digestion of the horny-handed canary who slings the bricks and reads the blue prints."

IMMY CAMERON is by way of becoming the patron saint of the drafting room," laughed Julian Munroe admiringly. "Jimmy, if you can bring that home to the draftsmen of this country, you will be revered and called blessed. It reminds me—years ago my old boss gave me this bit of advice, which I have never forgotten. He said 'Don't draw one single line, or put a figure or a note on a working drawing that you don't understand or believe to be correct. Be sure it is necessary and that it has some definite meaning. IF YOU DON'T KNOW, FIND OUT! If you stick to that rule, you'll soon commence to really know something. You will be

Being a Discussion of That Ever-Present Problem . . . Wasting Time in the Drafting Room

a man that the boss will commence to depend upon—he will have confidence in you—you will become invaluable to him. Rigidly school yourself to simplify things.' The insane asylums are full of people who complicate simple things—that's one reason why you find them inside!"

Julian Munroe knocked the ashes from his cigar deliberately. "Here is a method that has been of great help to me in making working drawings clear, and it is one not used to the extent it should be. In making scale drawings, it is an excellent idea to develop and carry forward the elevation, the plan and the section together. Suppose for example, it is necessary to detail a complicated entrance doorway. Directly below the elevation leave space to draw the plan, and at the right side of the elevation a space for the section. Now, assume you are working on the elevation and you strike a difficulty which will have to be solved in plan-why, all you have to do is to drop down to the projected plan below and work it out there. This may lead to a question of how it is going to work in section. You then move up and over to the section and there study it out.

"Believe me, fellows," Julian Munroe spoke earnestly, "when you insist on your draftsmen following that method, you are going to have fewer expensive mistakes in your drawings. You check the drawings as they are made, and your drawings 'work out' on the job. If you become accustomed to following this method, you will never go back to the old and fallacious one of finishing up the elevation, then drawing the plan or the section, perhaps on some other sheet, only to find out that some fundamental mistake has been made which necessitates redrawing the whole thing. Too many chances to make mistakes that way, and it's too expensive."

"You bet it's a good idea! I've tried it—works too!" emphatically declared George Bradley. "Sounds so darn simple and reasonable, you'd think anyone would see it, but I've personally had to fight with some very experienced draftsmen to get them to do it."

"There's one thing in favor of that method, I should say," Charles Gordon leaned forward interestedly, "I imagine it tells right off whether one is drawing a lot of meaningless lines—you could check quickly from plan to elevation, etc. and see if the drawing was being birdseeded or not."

"You sure can, Charles, and no fooling," George Bradley spoke with his customary enthusiasm. "It cuts out lost motion and cheats the canaries."

Here, F. Puddingstone Huntley entered into the discussion. "Of course, you realize, fellows, there are lots of architects who take much professional pride in the working drawings which come out of their offices. Personally, I rather sympathize with the idea. I recall a very fine firm for which I worked in New York; they turned out really lovely drawings—it was a pleasure to work there. Cost was never mentioned—it was just a question of exhaustively studying a thing and getting

the best results possible. I—er—rather imagine it was expensive though."

"You darn well know it was!" Jackson Lee exploded. "I know the outfit you worked for, F. P. Architecture was an elegant and dignified avocation with them—they didn't have to make any money out of their practice—they inherited the mint, and architecture was just a swell plaything. But most of us can't afford the birdseed they demanded and liked. Why, F. P., I doubt if you have any idea as to what that sort of thing costs. I know of a large mausoleum which cost about \$1,500,000 and the drawings alone, without supervision, actually COST \$75,000.00, or 5.0%. There are many architects, who, if they had gotten that job on 6.0% basis for plans and supervision, would have had visions of taking a trip to Europe on the fancied profits."

KNOW another case of a large complicated office building on which the architects paid out \$100,000 for the plans alone. This was between 4.0% and 5.0% of the cost of the building. Tell that to the average architect or draftsman and they would hoot at you and say 'Tell another one, Scheherazade, old girl, how we love to hear you lie!'"

"In the light of my experience those costs do not surprise me at all," Julian Munroe spoke with the quiet certainty of actual knowledge and experience. "The high cost of the—er, birdseed, as you boys choose to call it, is something we architects can well afford to think about. It might give draftsmen a different slant on some of their lost motion and non-productive activities if they realized that for every dollar their employer pays them, he has to collect from \$3.00 to \$3.50, or three to three and one-half times the cost of the drafting to meet their salary, pay the overhead over slack and busy times and permit himself to take in even a small profit."

Julian Munroe started to jot down some figures on the menu. "For example," he continued, "look at this. Assume you pay a draftsman \$65.00 per week. And he is to draw, title and border a drawing. Say it takes him fifteen minutes; his pay for that work is forty cents. Multiply this by 3.5 and we find that title has cost the employer \$1.40. Now, of course, we admit that the titling and bordering of a drawing are necessary, but it would save considerable money in a year to have it stamped or printed. I use this example just to show what a little unnecessary elaboration or birdseed can easily cost and how a draftsman can save his employer a very considerable sum of money during the year by using a little common sense and care."

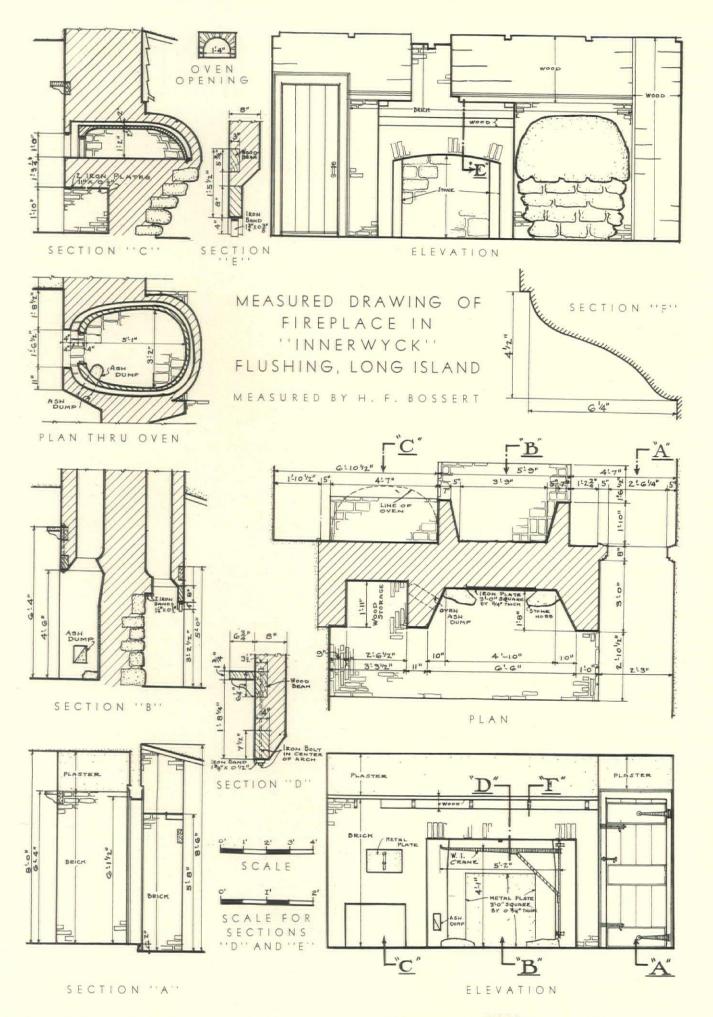
"Stating it that way, Julian, it does rather point to the necessity of putting the architectural canary on a diet," laughted Jackson Lee, looking at his watch. "Well," he continued, "the painful necessity of calling time faces me—tempus and its figity passage, you know. The old Pepper Pot has bubbled today to some purpose, we hope. And now, boys, until the next time."





FIREPLACE AND OVEN IN "INNERWYCK." FLUSHING, LONG ISLAND

MEASURED DRAWINGS BY H. F. BOSSERT Photographs by Samuel Gottscho



"INNERWYCK" ALSO KNOWN AS THE MITCHELL HOMESTEAD, BUILT IN 1780, NOW OWNED BY GARDNER B. PERRY

Ancient America ALAK-MUL, Yucatan, is an old Empire city but recently discovered. It is a

city comparable in size to Chichen-Itza or Uxmal. C. Longworth Lundell is the first white man known to have visited it. His visit was followed by that of Dr. Sylvanus G. Morley. It is curious that a city of such importance should have remained so long totally unknown. It substantiates the opinion of J. Herndon Thomson, whose article on archaeology in America appears on page 18 of this issue, that Middle America offers a fertile field for research that is virtually untouched. His contention is further justified by the recent discoveries made in Peru by the Shippee-Johnson expedition. From the air these explorers discovered the "Great Wall of Peru" and the "Lost Valley of the Colca"-a valley of tiny villages, huge churches, palaces, fortifications and terraces built for agricultural purposes.

Weapon Against PROGRESS continues to be made in the matter of ridding Billboards our highways of unsightly billboards. Through a decision of the Court of Appeals, New York State has been sustained in its right to screen out billboards by means of planting so long as the planting is on state property. Where it is impossible to otherwise correct the situation the state now has a rather effective weapon. The billboard question has been given national attention with good results. This should give encouragement to campaigns for correcting other evils that annoy the public and by no means add to the beauty of the country.

Photography UE to encroachment of industry on a residential Is Useful! neighborhood in England an owner decided to have his house taken down and rebuilt in a new location. The builders had more than a hundred photographs taken to enable them to rebuild the house in every detail exactly as it originally stood. It must have been a large house for the work of removal is said to have taken more than three years to accomplish.

CTOBER 9 to 15 is des-Prevent ignated by proclamation of Fire the President of the United States as "Fire Prevention Week." The idea of "Weeks" has been greatly overworked. This one however has merit that goes beyond the commercializing of sentiment and the emotions. In 1931 some 10,000 people in the United States were burned to death and the estimated fire loss was nearly \$500,000,000. Add to this the cost to communities of maintaining fire fighting equipment

and personnel and our national loss through fire reaches

staggering proportions. It is said 80 per cent of all fires are easily preventable. Through proper planning, use of fire resisting construction, and protection of hazardous areas in buildings, architects can not only assist in reducing the annual fire loss but also help owners reduce building maintenance costs and fire insurance premiums. Economy often overshadows the obligation of those in control of a project to protect the lives of those who use our schools, hospitals, and other public and semipublic buildings. They need to be reminded of the importance of adequate fire protection. By reminding clients of this, architects are but maintaining the trust imposed upon them by those whom they serve.

An Increasing Demand

NE thousand fifty-seven families scattered throughout the country were asked,

"What do you want to buy next?" Twenty-eight per cent want an electric refrigerator; nearly fifteen per cent, a rug; twelve per cent, a radio; ten per cent, a washing machine; and another ten per cent desired a vacuum cleaner. The significant fact about the results of this survey is the importance that electricity plays in the lives of our people today. Every year sees an increased use of electric current with the result that houses-and other buildings too, for that matter-must be adequately wired to meet user demands. This means more circuits, more convenient outlets, and larger wires to safely and satisfactorily take care of the ever increasing load.

Modernism in the Solid

OOKING back on the last convention of the American Institute of Architects, Robert D. Kohn says, in The Octagon, that he would have

liked to hear a discussion on the relation of the logical bases of modern architecture and this architecture in the solid. He says, "The architecture, in the solid, which is produced and exhibited as evidence of this logic -as expounded by the proponents of modernismseems to me to bear no relation at all to any of these generally admirable words." He suggests that it might be a good idea to hold an exhibition of "modernism" and make the designers defend their work both as to logic and art. This might prove to be an extremely interesting idea. If any A. I. A. Chapter, society or club does anything about it, the editors of AMERICAN ARCHITECT would like to know about it.

What's in a Name?

THE "Washington State Architect" recently printed the following incident as having

happened in Seattle. "When is Portland cement not Portland, is the question which arose when a city councilman in Seattle asked, in reference to specifications for 'Portland cement' 'Doesn't that give the preference to cement made in Portland, Oregon?""

to the Editors .

Legal Problems

HERE architects have encountered legal problems that they would like to see

discussed in American Architect, the editors will appreciate being so advised. If such requests appear to be of sufficient interest to a large number of practitioners, articles by authorities on building law will be obtained and published.

Business Failures

OR nearly twenty-five years the W. S. Tyler Company has distributed a little pub-

lication called "The Latch String." It is an unusually well and thoughtfully prepared booklet. It is often full of inspiration and sound advice. Architects can obtain copies upon request. In a recent issue it was stated, "A judge in a bankruptcy court says that incompetence is the chief cause of failure in business many men . . . are ignorant of the basic principles of business procedure. Thousands who come to the court of bankruptcy have never kept a set of books. They have no knowledge of what they owe, what is owing them, or of the value of their inventory. They have no fixed salary, but take from the business what they need for living expenses. To them, bankruptcy is as unexpected and inexplicable as an earthquake." It is a good thing to know where we stand in business. Without a good bookkeeping system we cannot know with certainty. Architects who do not have such a system would do well to investigate the subject and start a simple set of books that meet their requirements.

Too Many P. O. Additions

N August 24, 1932, according to a newspaper report, an architect from the U. S.

Treasury Department visited the Chambersburg, Pa. post office to make a survey for a 28x71 feet addition to the existing building. Last year \$28,000 was spent on a twenty-eight foot extension to this building. Neither the postmaster nor the architect knew what the second proposed addition was all about. But apparently once having secured an addition to a post office, others come of their own accord. Was the first addition too small or the proposed second addition a costly error? In either case, taxpayers may well ask, why?

Small Offices Have Advantage

N general, small well-managed businesses have weathered the

economic storm of the past two years better than many large enterprises. This is as true of the small architectural office as it is of other lines of endeavor. Many architects operating small offices are today thankful for their low overhead. Many large offices are now wondering how much longer they will have to pay rent on unutilized space. The small office has much to commend it and much to be thankful for right now. The history of business is filled with tales of growing businesses that expanded beyond the bounds of safety. It has been truly said, "Many good little businesses have been ruined by big business ideas" and "Now is the time for the well-managed small business to establish itself."

Sounds Reasonable HARLES C. DOBIE, in the New York American, recently said, "Precedents

belong to the past. Timorous folk like support, old or new, moral or unmoral. Precedents are old fashioned. Precedents are the refuge of knaves. Precedents are the monkey-wrenches tossed in the machinery of progress. Holy Writ is not the only thing that the devil quotes for his purpose. When he really is in a tight place he quotes precedents."

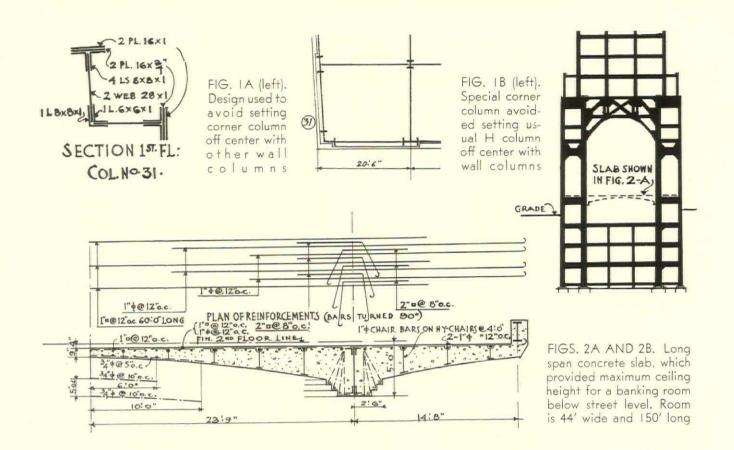
Few architects will perhaps agree with that writer's views on precedent. There is, however, much truth in what he says. Perhaps knowingly or otherwise, this largely explains the motivating urge of many to break with traditionalism.

Wasted Space Made Useful THE Pittsburgh Retail Institute recently held a contest for a solution of "The Use of Idle

Space in Stores." The first prize suggestion was the use of flat roof space of department stores for the erection of a hothouse to be operated by the store or a florist. The originator of the idea demonstrated that such a venture can be made profitable. Perhap this contains a business getting idea for architects. It should be possible to find buildings having unutilized waste space and to suggest how the space can be made profitable. It would probably involve some building work. Perhaps several department stores could be interested in the idea of erecting hothouses for the growing of flowers and shrubs to be sold.

All Wrong But They Like It THE painting, "Washington Crossing the Delaware," is thoroughly familiar to every

American. For years it has hung in the Metropolitan Museum of Art, New York. Its recent removal from the walls of that institution caused such a public furor and storm of protest that the painting has been taken out of storage and hung in the American wing. The painting is stated to be all wrong in detail and not very good as a piece of art. In spite of this, it has won a place in the hearts of all Americans. The publication of reproductions of the painting in innumerable school books has been offered as an explanation of the public's attitude. This is a reasonable answer and indicates the importance of making good architecture a part of the education of every American. Architecture as thoroughly "sold" to youthful Americans as "Washington Crossing the Delaware" would work wonders for the architecture of this country.



Unusual Solutions of Unusual Structural Problems

BY W. S. WOLFE

Chief Structural Engineer, Smith, Hinchman & Grylls, Architects, Detroit

LOSER cooperation between architects and engineers leading to a better understanding of each other's problems would be beneficial. For after all, the architect and the structural engineer are both working toward the same end. They both want to give the owner the greatest value for a given expenditure. But they must keep in mind the fact that an economical structural frame does not always mean an economical building or the most value for the owner's money. It may cost more as far as structural steel is concerned to leave out certain columns in the lower stories or to increase the column spacing, but spending this money will sometimes make the building more desirable and usable for the tenant—in fact it may permit the owner to obtain a rental out of all proportion to the extra structural cost, or it may mean the difference between keeping the building fully occupied as against being only partly rented. Actually the cost of the structural frame is a surprisingly small percentage of the total cost of most buildings.

The writer once worked for a chief engineer who insisted that his office did not design structural work economically, but designed it to meet conditions. That

is a thought worth keeping in mind. The structural frame is not an end in itself; it is a means to an end. The only excuse for it is that it is necessary to support, or serve as a skeleton for a building. To serve its function properly it must meet the requirements and conditions of a particular building. If the value of the building, as far as usefulness is concerned, can be increased only 10% by increasing the cost of the structural steel say 20%, it is the proper thing to do because the owner gets 10% more value for 2 or 3% extra cost, depending on whether the structural steel is 10 or 15% of the total cost.

Some of the problems that architects and owners make for engineers and the solutions of these problems are indeed interesting.

On a certain large building the architect desired to use a corner treatment which, if an ordinary H column were used, would require that the corner columns be set in from the center line of the other wall columns. This would not only have caused an objectionable obstruction inside of the building, but it would have made an awkward and unsatisfactory wind bracing connection for the spandrel beams. Therefore, in order to give

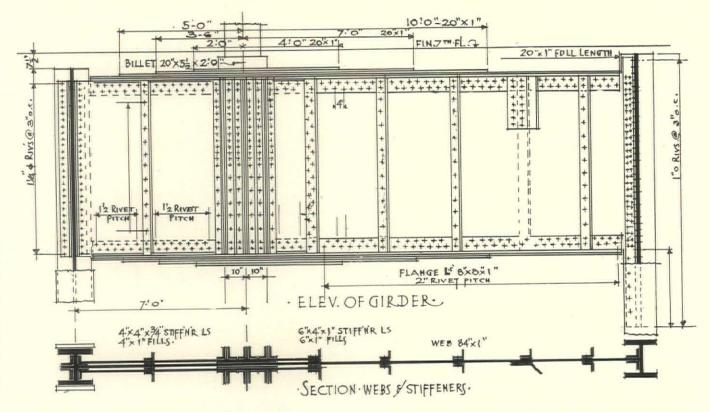
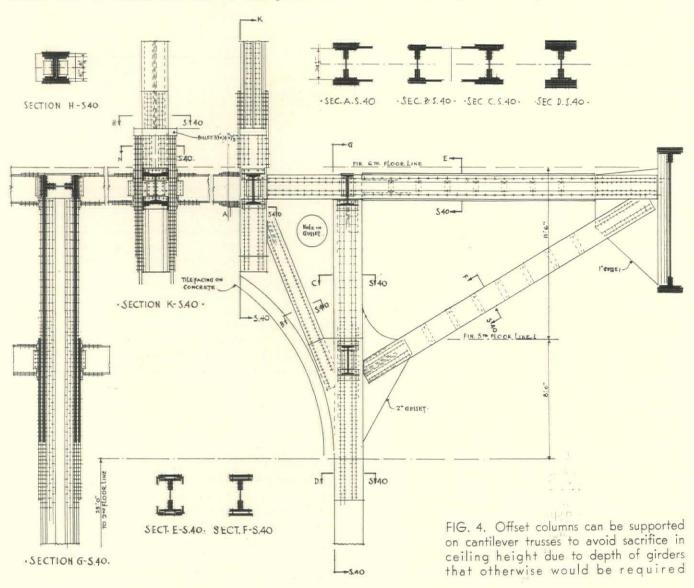


FIG. 3. Girder supporting an offset column designed with three webs to reduce depth of girder. Slitting the column web to receive the web of the girder, as shown at left, simplified the girder-column connection



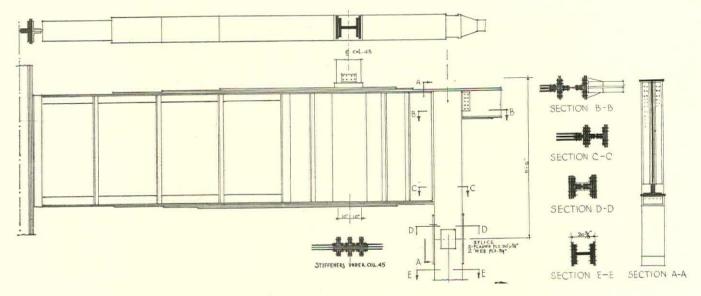


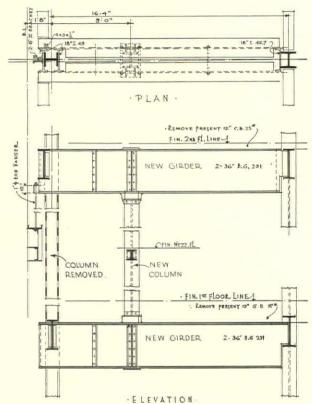
FIG. 5. Field connections of girders with heavy reactions can be simplified by building a short length of column on the end of the girder. This reduces the field connection to an ordinary column splice

FIG. 6. Change demanded by tenant in new building under construction was solved by welding new girders in first and second stories, building in new column and removing existing column

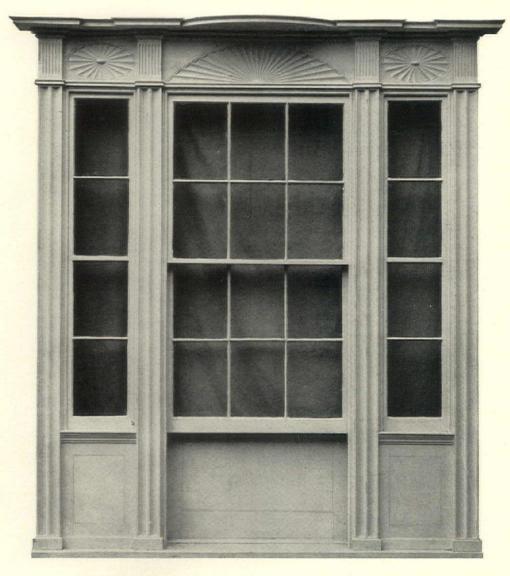
the architectural designer what he wanted and at the same time give a satisfactory wind bracing connection as well as avoid excessive obstruction inside of the building, a column section as shown in Figs. 1A and 1B was developed. Note that the webs are on the same center lines as the other wall columns and that the spandrel beams can be connected just the same as to an ordinary H column.

N a large bank building it was desired to have two banking floors one above the other, the lower or secondary banking room a short distance below the street level, and the upper or main banking room a few feet above the street. With the lobby located at the street level it was desirable to keep the floor to floor height to a minimum and at the same time give all possible head room for the lower banking room which is about 150 feet long by 44 feet wide in the clear, with a short span along either side. The floor construction which seemed to meet these requirements better than any other is shown in half section by Fig. 2A. Fig. 2B shows a small structural cross section of the building with this particular floor construction dotted in. Note that an area 150 feet by approximately 44 feet is floored over by a solid slab, without beams, and having a thickness of only nine inches at the center. The ceiling treatment was applied directly to the underside of the concrete.

In many cases it is desirable to have beams of shallow depth and occasionally it is almost necessary that the depth be kept small. In such cases, why not use a column section for a beam if the deflection does not become excessive? An 8BH91 with a depth of $9\frac{1}{2}$ inches has 95% as much strength in bending as an 18BI47, and a 16BH427 with a depth of 187/16 inches has 5% more strength in bending than a 36BI190. It is believed that a more liberal use of H's for beams, where shallow depth is essential, would be a reasonable solution.



In the construction of tall buildings it is often necessary to offset columns in the lower stories and in many cases this requires short heavy girders. Also there is usually a premium on a shallow girder. The ordinary plate girder has a center web, flange angles on each side, and cover plates. The rivets connecting the flange to the web are in double shear. In short heavily loaded girders there is usually little difficulty in getting covers enough to take care of the bending moment, even with a shallow depth, but the difficulty comes in taking care of the horizontal shear, or in other words with the connection of the flange angles to the web. Fig. 3 shows a girder with two additional webs added outside the flange angle legs at the end where the shear is excessive, thus putting the rivets connecting the flange to the webs in quadruple shear in place of double shear. This design makes it possible to build a much (Continued on page 88)

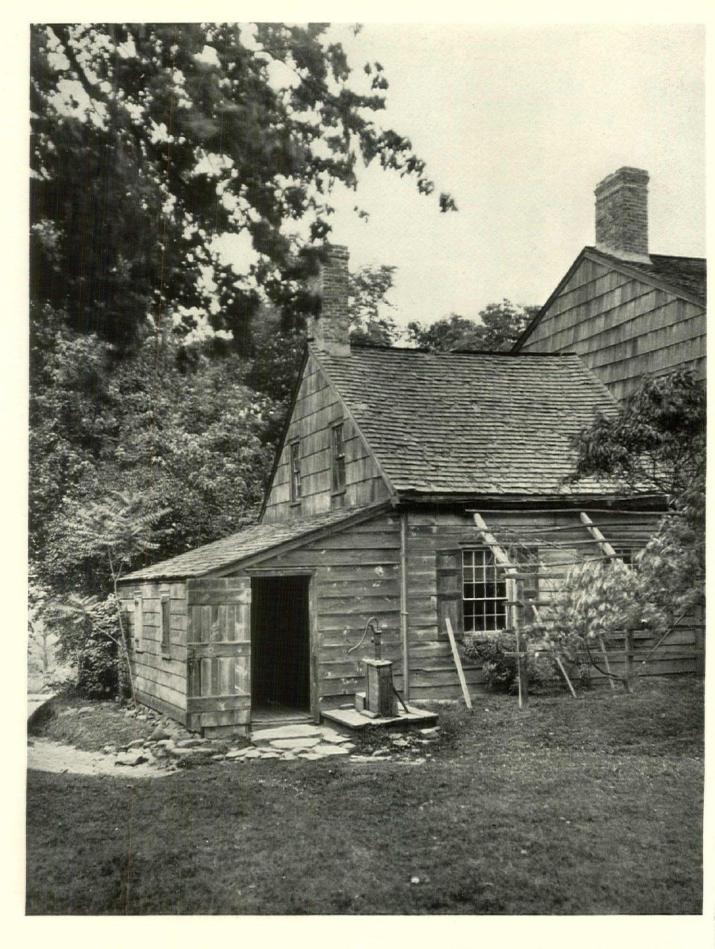


Triple window from Vaucluse, Portsmouth, Rhode Island, about 1800. Courtesy The Metropolitan Museum of Art

PLATE SECTION

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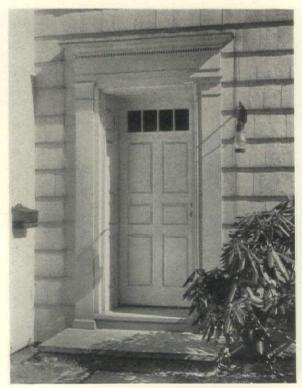
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DETAIL OF AN OLD HOUSE NEAR FOREST HILLS, LONG ISLAND

PHOTOGRAPH BY GEORGE VAN ANDA



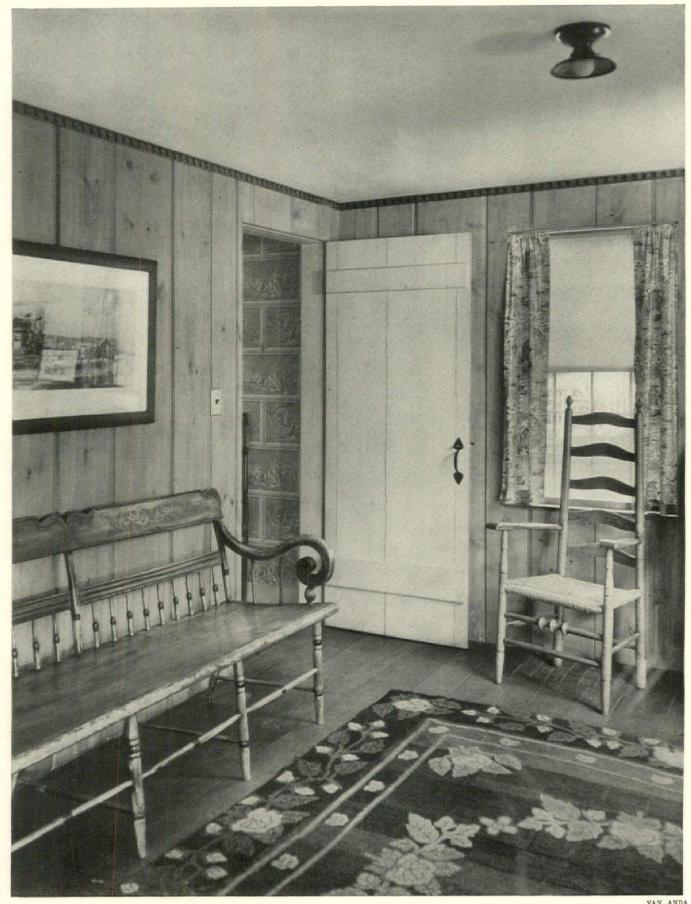




MAIN ENTRANCE

HOUSE OF LEWIS F. BEERS, DANBURY, CONNECTICUT

WILLIAM WEBB SUNDERLAND, ARCHITECT



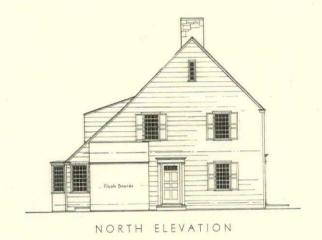
STUDY, LOOKING TOWARDS HALL

HOUSE OF LEWIS F. BEERS, DANBURY, CONN. WILLIAM WEBB SUNDERLAND, ARCHITECT 46 AMERICAN ARCHITECT

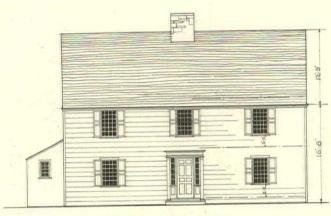


VAN ANDA

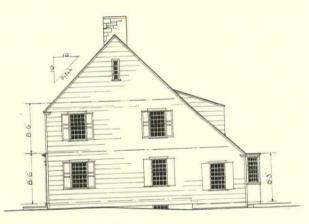
ANOTHER VIEW OF THE STUDY



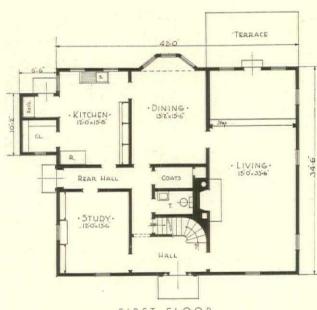
EAST ELEVATION



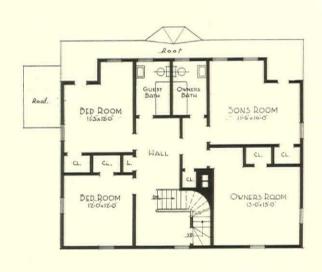
WEST ELEVATION



SOUTH ELEVATION

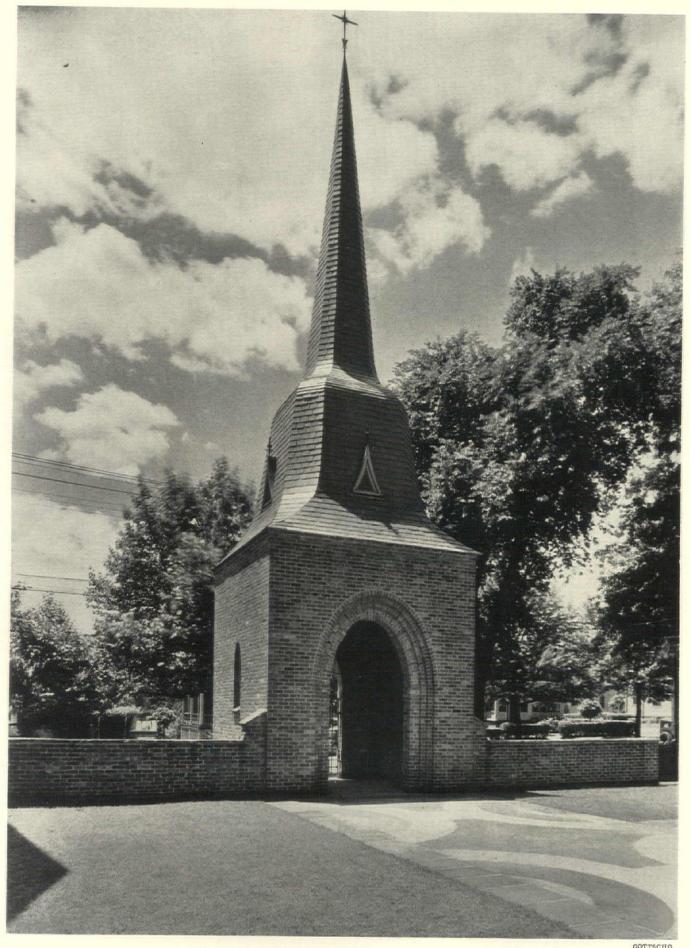


FIRST FLOOR



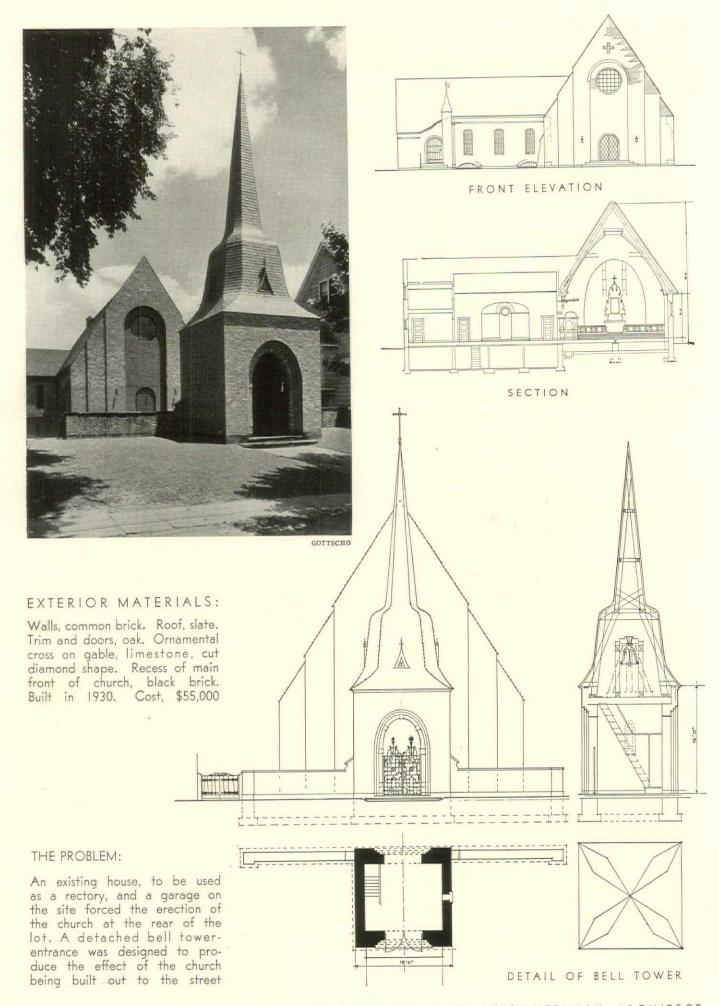
SECOND FLOOR

THE PROBLEM: To design a house which should be in harmony with a fine collection of early American furniture. Roof, wood shingles left unstained. Exterior walls, 24" cedar shingles laid 10" to the weather and painted white. Bay window and lean-to, matched fir boards. Interior trim, white pine painted dark ivory. Doors, "butt and bead," and battened. Built 1929; 41,500 cu. ft. Cost, excluding finished grading and decorating, 53 cents a cu. ft.

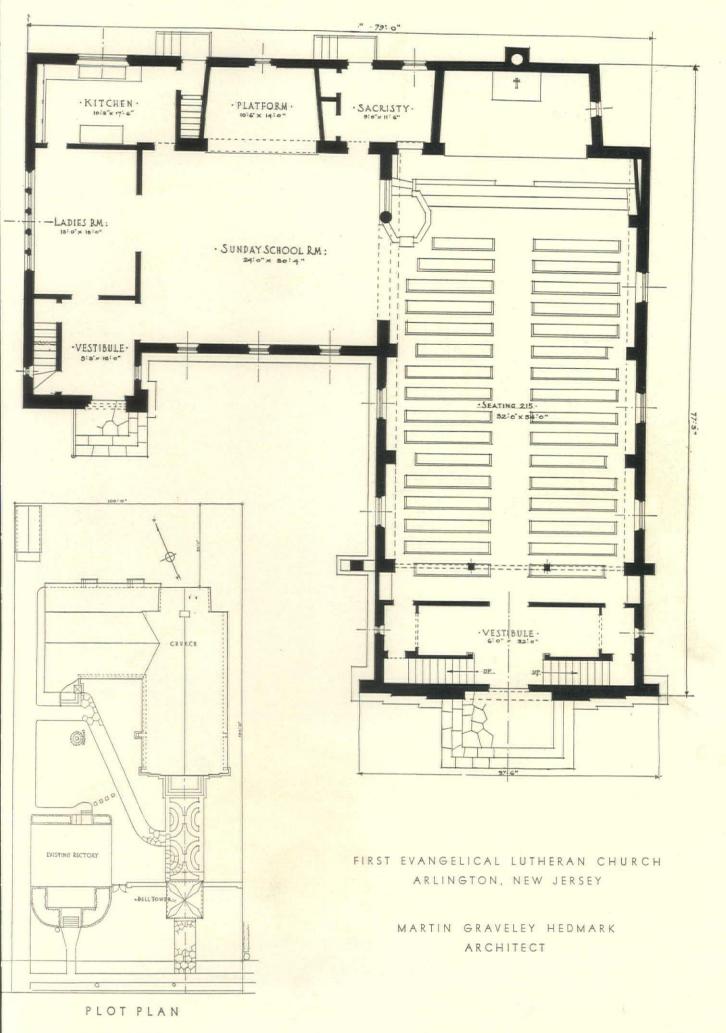


FIRST EVANGELICAL LUTHERAN CHURCH, ARLINGTON, NEW JERSEY

MARTIN GRAVELEY HEDMARK, ARCHITECT

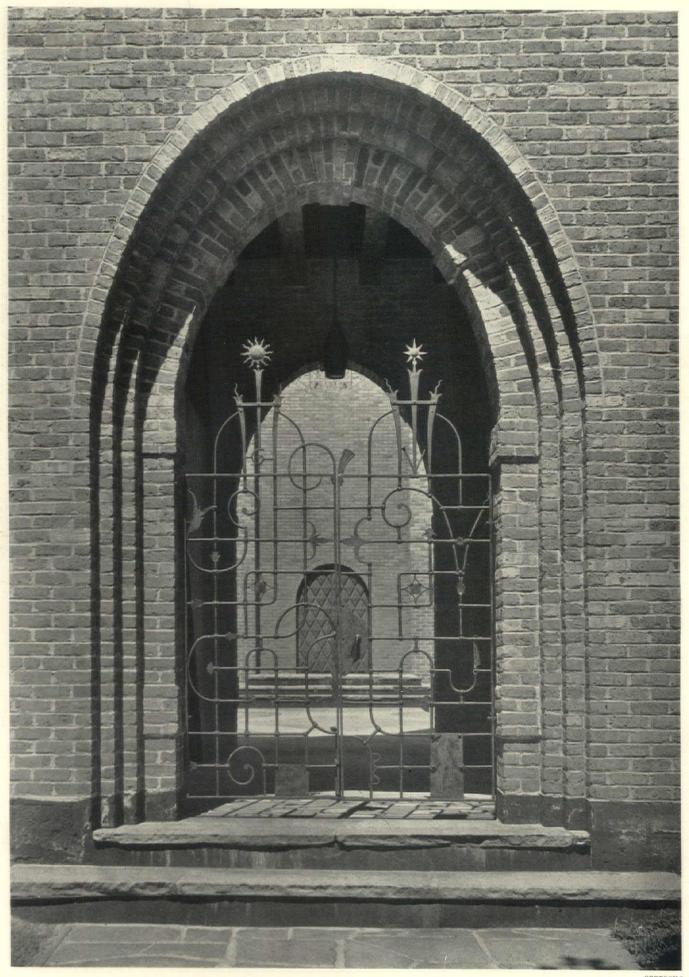


FIRST EVANGELICAL LUTHERAN CHURCH. MARTIN GRAVELEY HEDMARK, ARCHITECT





FIRST EVANGELICAL LUTHERAN CHURCH. MARTIN GRAVELEY HEDMARK, ARCHITECT AMERICAN ARCHITECT 52



GOTTSCHO

WROUGHT IRON GATE AT BELL TOWER, FIRST EVANGELICAL LUTHERAN CHURCH FOR OCTOBER 1932



INTERIOR MATERIALS: Walls are of hand troweled plaster, sand finish. Ceiling is of wood boards covered with a transparent thin paint, the beams being decorated in American Indian motifs. Lighting fixtures are wagon wheels. Doors are painted black and polychromed. Aisle floor is of cast composition. The sanctuary ceiling is decorated in color. The arch is built of brick and covered with plaster



AFTER



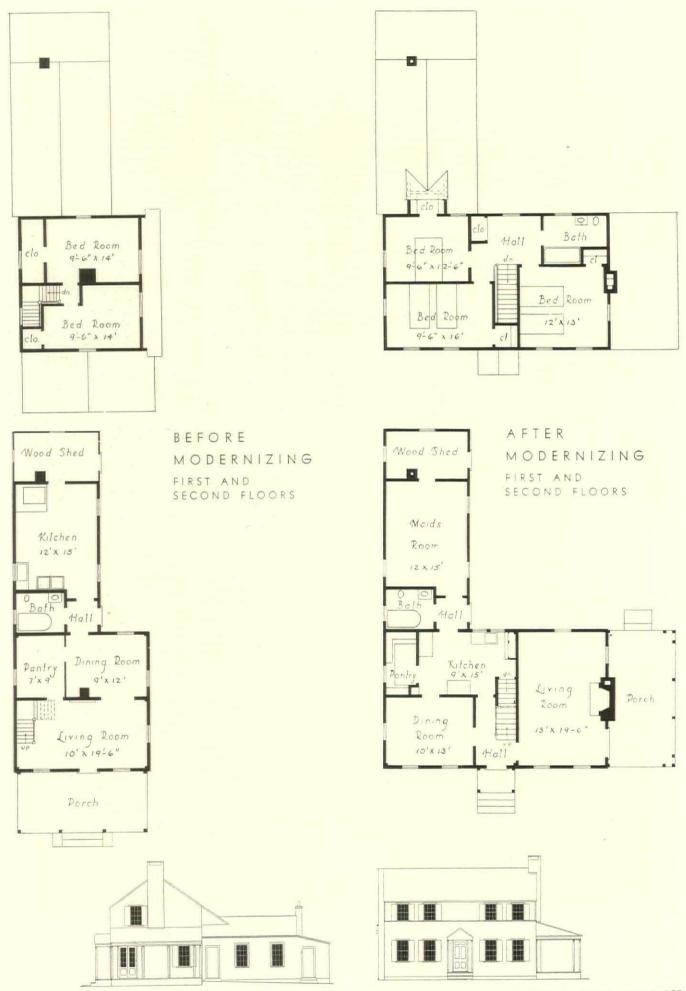
BEFORE

The outmoded original house was difficult to rent. Modernization more than doubled the rent return. Work was done in 1930 at a cost of less than \$6,000.

The original house contained 13,600 cu. ft. The modernized house contains 22,600 cu. ft. Work included new floors, trim, doors, windows, etc., also steam heat, bathroom, kitchen sink, range and similar equipment

ALTERATIONS OF A HOUSE FOR J. ALBERT NELSON, SOUTH NORWALK, CONN.

CHARLES S. KEEFE, ARCHITECT



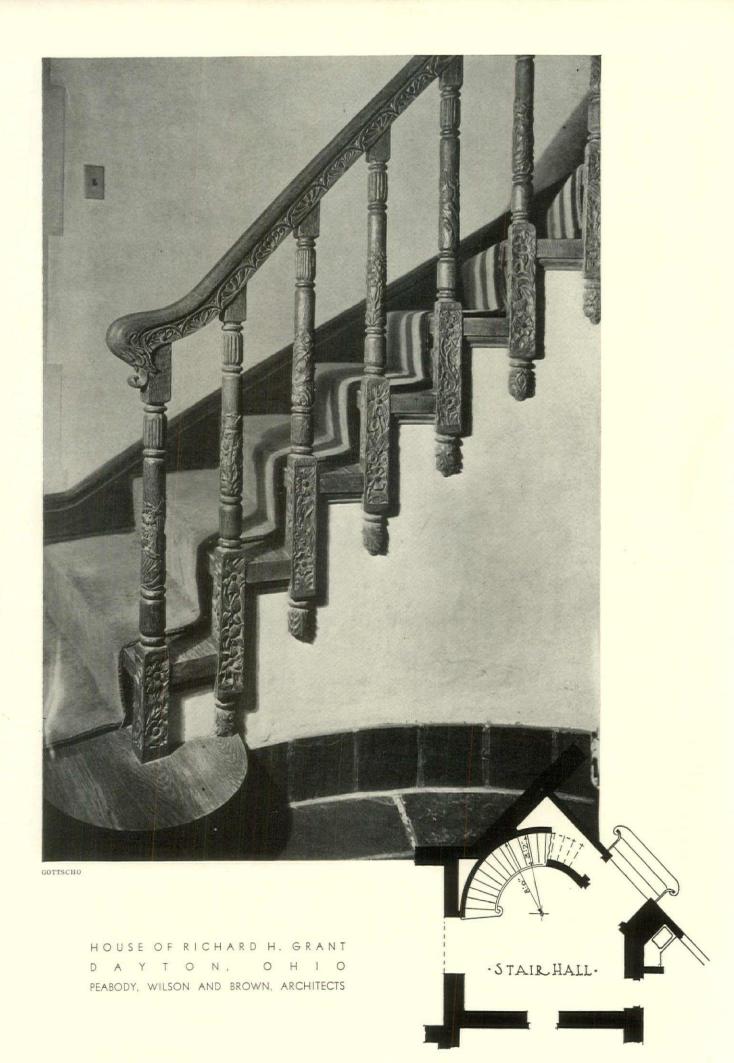
ALTERATIONS OF A HOUSE FOR J. ALBERT NELSON, SOUTH NORWALK, CONN. CHARLES S. KEEFE, ARCHITECT



GLASGOW

Monticello. Thomas Jefferson, Architect

SIXSTAIRWAYS





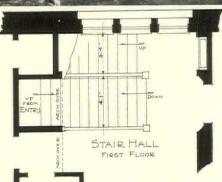
HOUSE OF RICHARD C. BONDY GOLDEN'S BRIDGE, NEW YORK LEWIS BOWMAN, ARCHITECT

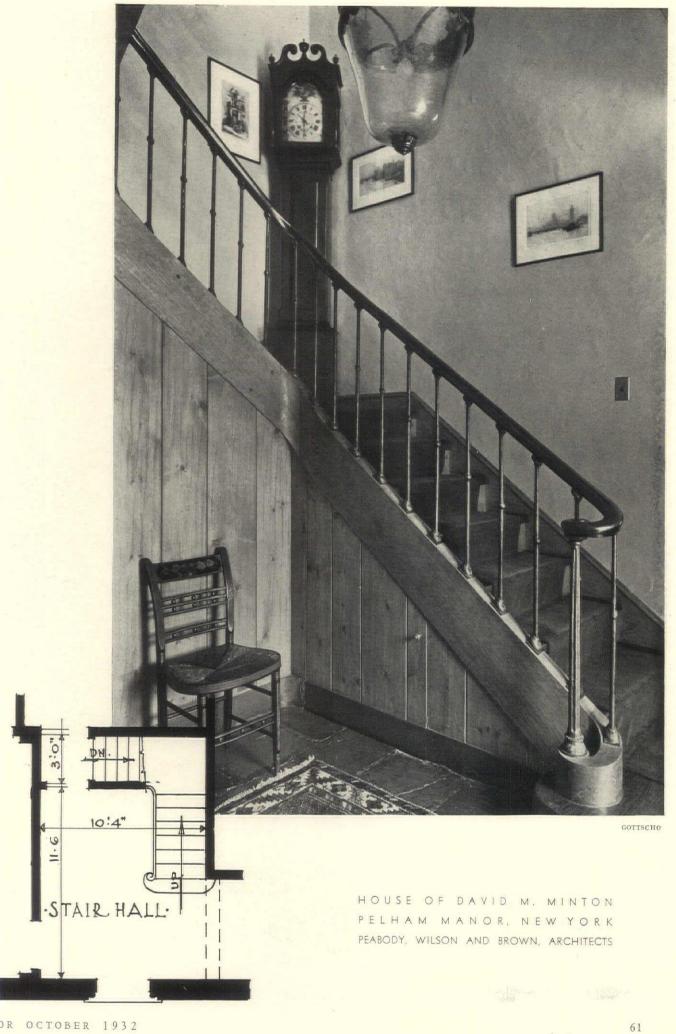
· COURT ·



GOTTSCHO

HOUSE OF LEAVITT J. HUNT GREENWICH, CONNECTICUT TAYLOR AND LEVI, ARCHITECTS







NATIONAL SOCIETY OF COLONIAL DAMES, NEW YORK. RICHARD H. DANA, JR., ARCHITECT



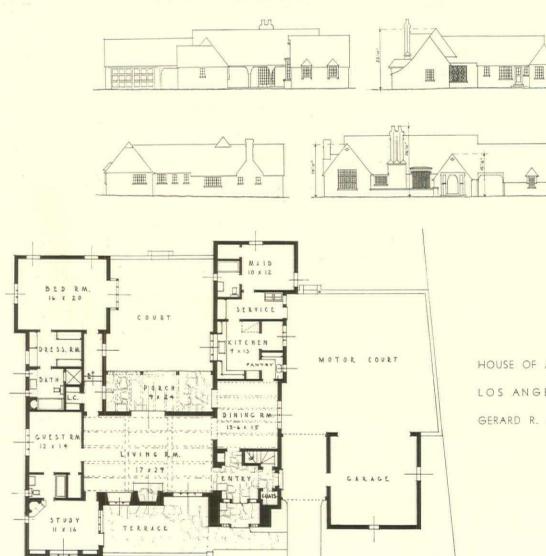
MOTT



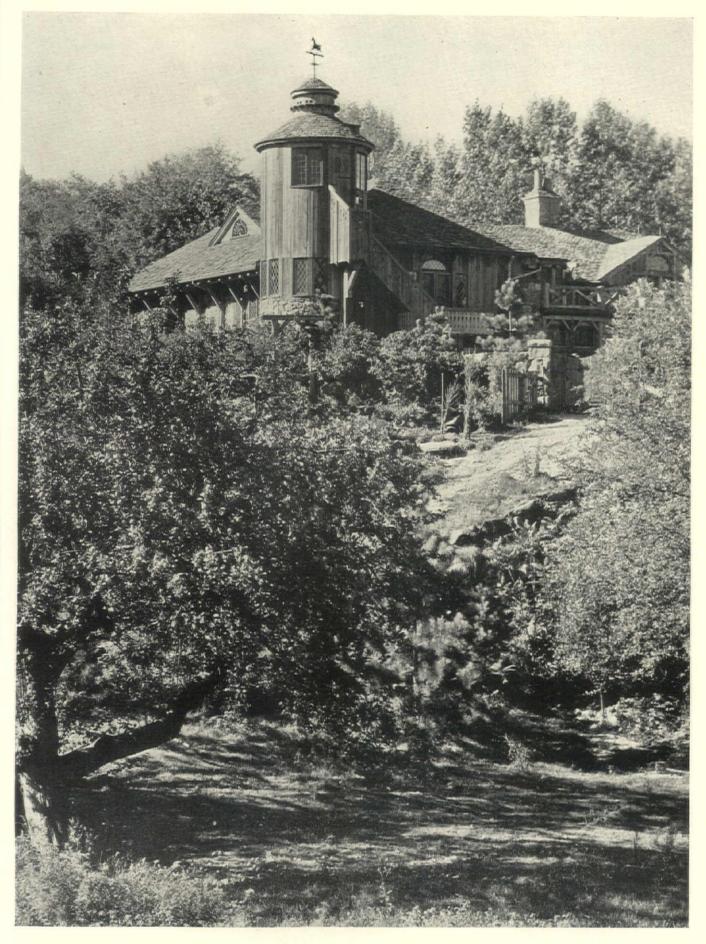
Exterior walls, brick, whitewashed. Roof, hand split cedar shakes with heavy butts stained in various shades of brown and laid irregularly. Timbers and beams, hand hewn. Porches and terrace, also entry hall floor, stone flagging in dull reds and browns. Study, at left, panelled in knotty white pine oiled and waxed to a soft satin finish. Living room, dining room and entry hall have hand hewn beamed ceilings. Living room is a story and a half high

HOUSE OF ALLERTON H. JEFFRIES LOS ANGELES, CALIFORNIA GERARD R. COLCORD, ARCHITECT



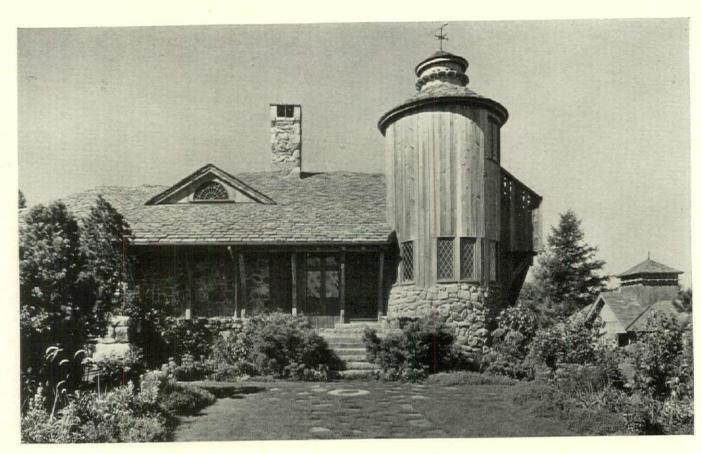


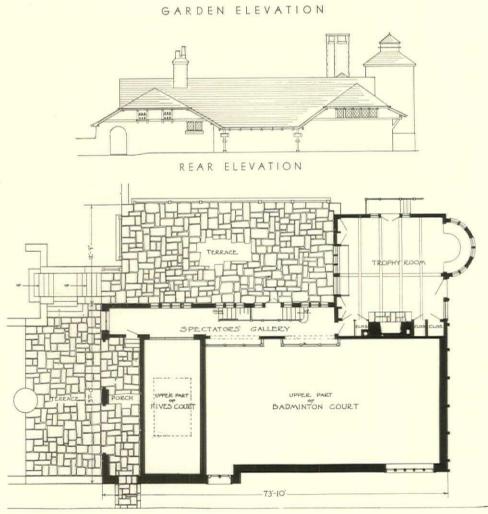
HOUSE OF ALLERTON H. JEFFRIES LOS ANGELES, CALIFORNIA GERARD R. COLCORD, ARCHITECT



SPORTS BUILDING, ESTATE OF STARLING W. CHILDS, NORFOLK, CONNECTICUT TAYLOR AND LEVI, ARCHITECTS

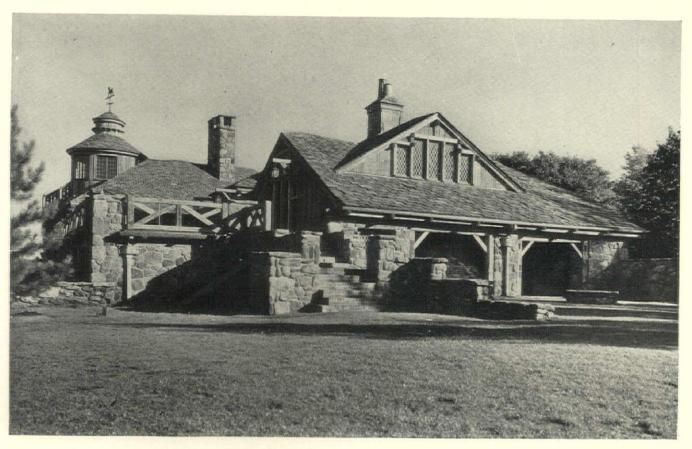
Photographs by Samuel H. Gottscho



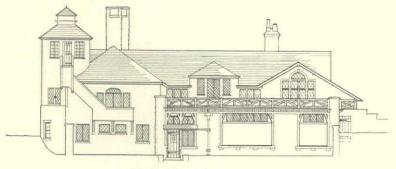


FIRST FLOOR PLAN

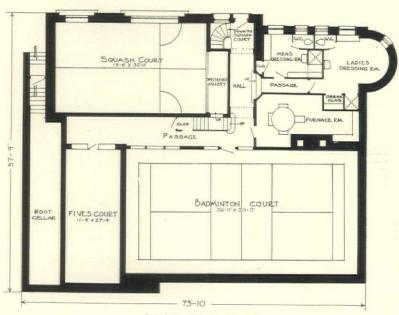
SPORTS BUILDING, ESTATE OF STARLING W. CHILDS, NORFOLK, CONN. TAYLOR AND LEVI, ARCHITECTS



SOUTHEAST ELEVATION

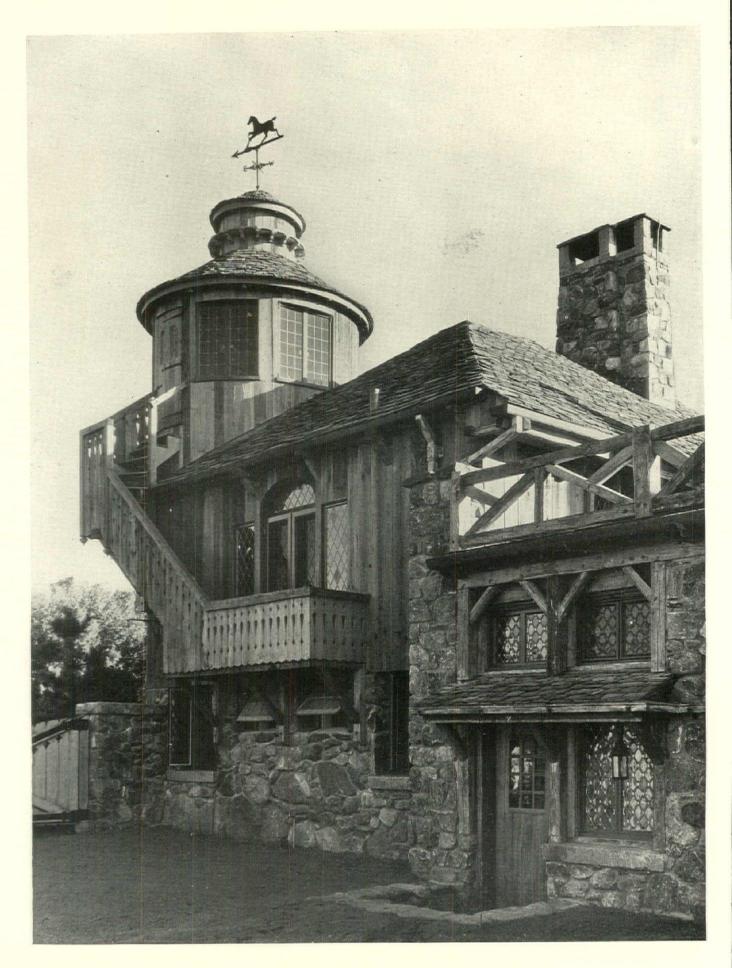


FRONT ELEVATION



BASEMENT PLAN

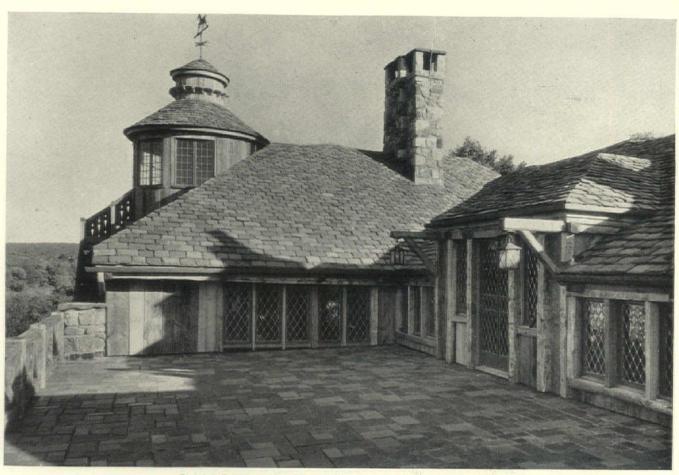
SPORTS BUILDING, ESTATE OF STARLING W. CHILDS, NORFOLK, CONN. TAYLOR AND LEVI, ARCHITECTS



NORTH ENTRANCE TO TOWER

SPORTS BUILDING, ESTATE OF STARLING W. CHILDS, NORFOLK, CONN. TAYLOR AND LEVI, ARCHITECTS

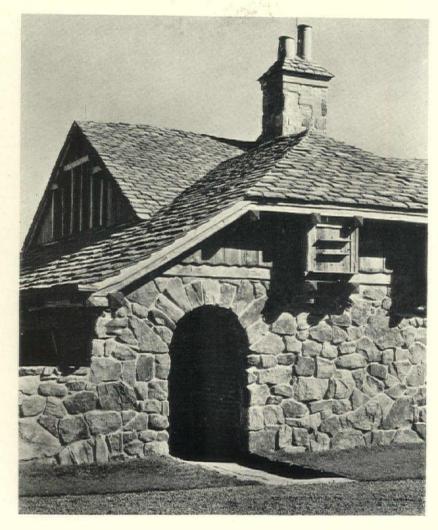
AMERICAN ARCHITECT



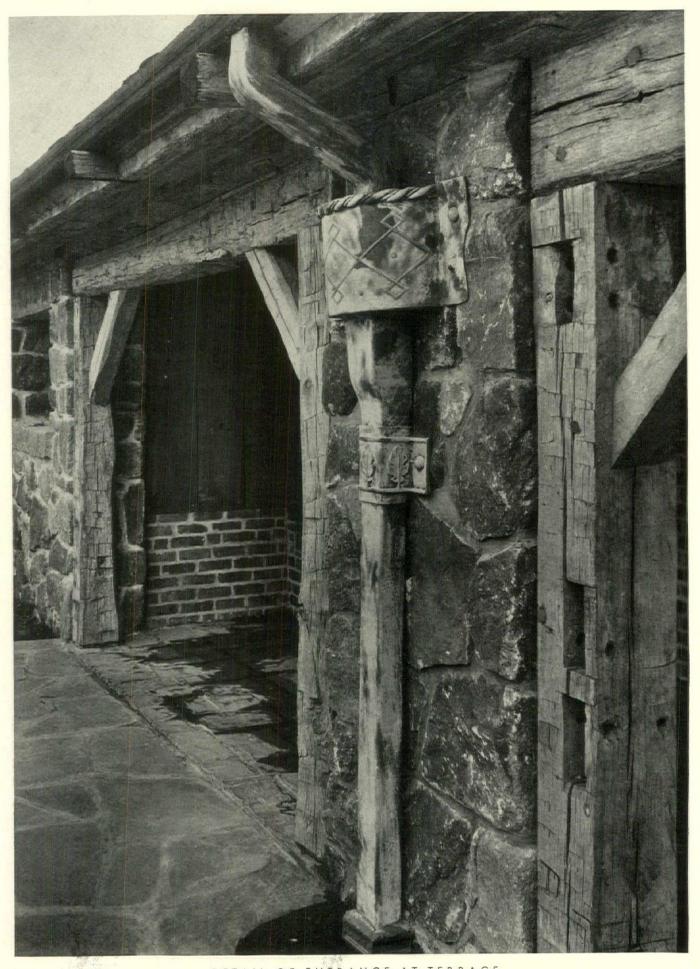
GALLERY AND TROPHY ROOM TERRACE

EXTERIOR MATERIAL: Field stone walls, hand hewn oak and chestnut timbers, boarding removed from old barns. Slate roof variegated in color, a large proportion of the slate being 2" to 21/2" thick. Leaders and gutters, ornamental cast lead. Steel sash. Flat roofs and floor of veranda over root cellar covered with slate laid in mastic.

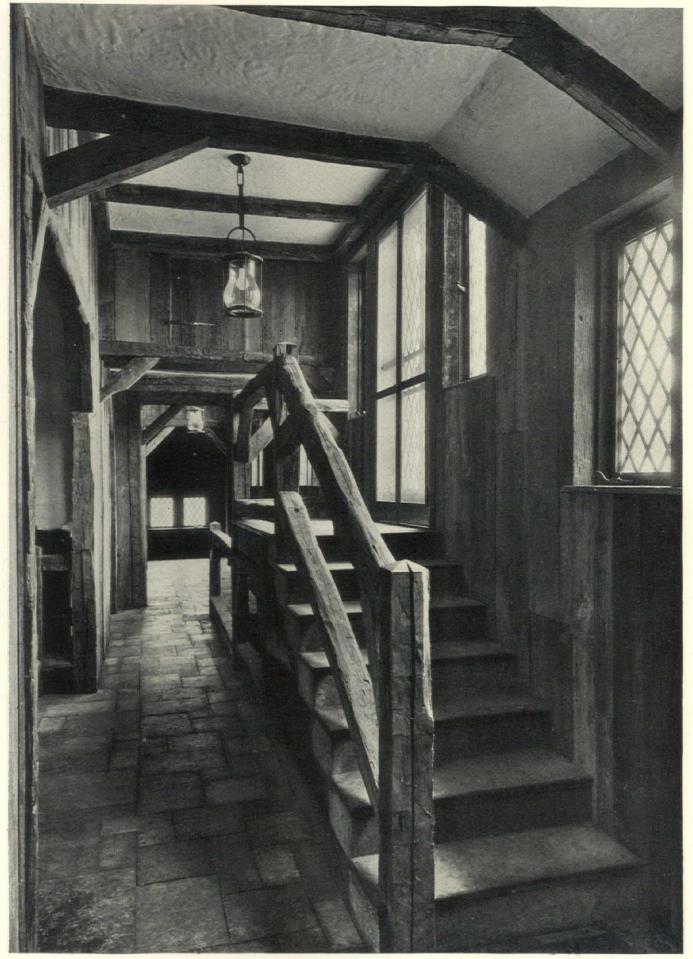
INTERIOR: Floor under game court unexcavated, a continuous air space being provided under floor and in back of walls to prevent warping of wood lining; vented by registers in walls. Mastic applied to rough concrete floor and to inside of stone walls before sleepers and wall furring were installed. All interior woodwork, hand hewn timbers and boarding of chestnut and oak removed from old barns. Contains 94,900 cubic feet. Built 1930.



DETAIL OF ARCH AND CHIMNEY
FOR OCTOBER 1932



DETAIL OF ENTRANCE AT TERRACE
SPORTS BUILDING, ESTATE OF STARLING W. CHILDS, NORFOLK, CONN. TAYLOR AND LEVI, ARCHITECTS



SPECTATORS' GALLERY AND STAIR

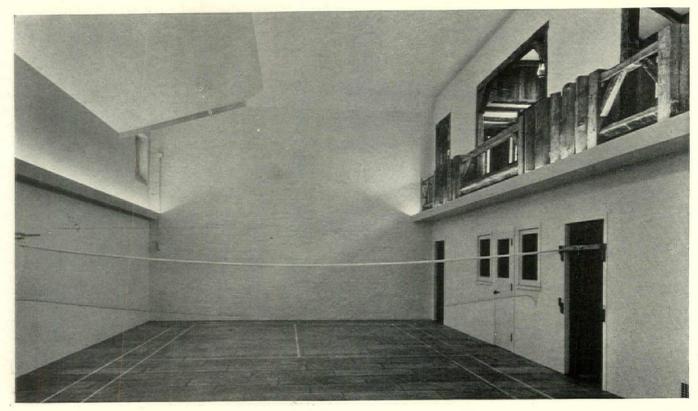
SPORTS BUILDING, ESTATE OF STARLING W. CHILDS, NORFOLK, CONN. TAYLOR AND LEVI, ARCHITECTS

FOR OCTOBER 1932

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DETAIL OF GAME AND SPORT ROOM



INDOOR BADMINTON COURT

SPORTS BUILDING, ESTATE OF STARLING W. CHILDS, NORFOLK, CONN. TAYLOR AND LEVI, ARCHITECTS

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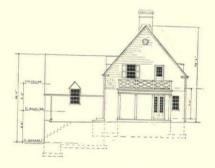
AMERICAN ARCHITECT



VAN ANDA



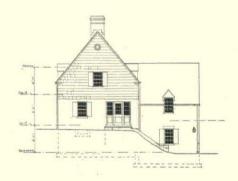
FRONT ELEVATION



SIDE ELEVATION

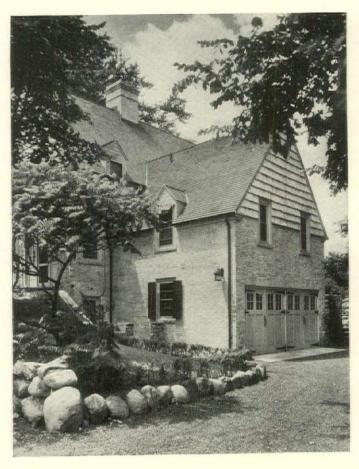


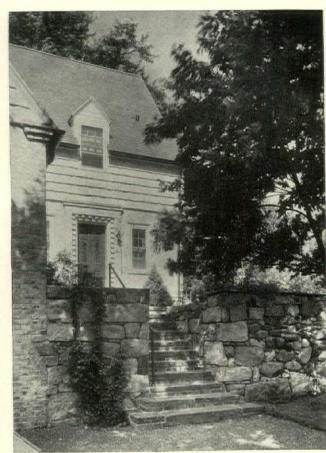
REAR ELEVATION



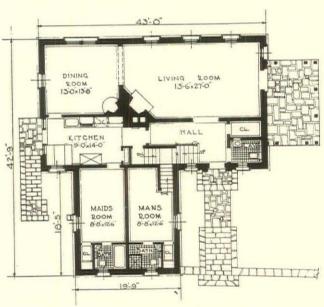
SIDE ELEVATION

HOUSE OF HELEN WILLOUGHBY SMITH, DARIEN, CONNECTICUT





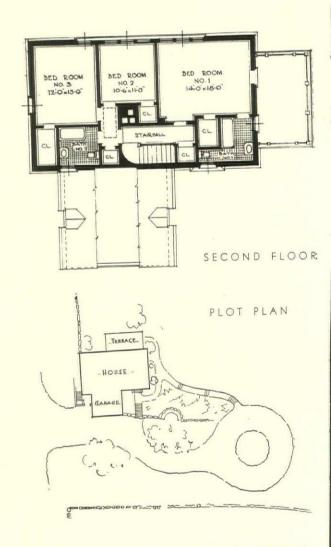
VAN ANDA



FIRST FLOOR

CONSTRUCTION: Walls of cinder blocks, floors of junior steel beams and reinforced concrete. Wall shingles, light grey whitewashed. Roof, black slate. Interior plaster, slightly rough. Contents: 37,443 cu. ft. Cost 551/2 cents a cubic foot. Built in 1930. Site was small and sloping, offering a difficult problem

HOUSE OF HELEN WILLOUGHBY SMITH JULIUS GREGORY, ARCHITECT



AMERICAN ARCHITECT

THE READERS Have a Word to Say

 KYSON IS "TOUGH ON US STUDENTS"

Editor, AMERICAN ARCHITECT:

DOES not any one pity the poor student? Judging by Charles Kyson's article in the July issue of AMERICAN ARCHITECT the first thing a group of architects who are "cursed" (I would say) "with a reform complex" think of is piling six or seven more required subjects upon the already overladen students. Everyone wants to tell him what to study as though he had absolutely no ideas on the subject himself.

Consider the plight of an entering freshman at the University of Illinois, for instance. He must pile up 148 credits before he can graduate, seven of which may be of his own choosing. If he feels that he would like to gain a little additional knowledge, in some field in which he is particularly adept, he may do so by extending his course to five years, but in no case will these additional courses be recognized as credit towards his degree

This extension, however, will not relieve his quota or what is known on the campus as "gripe" courses. Such courses are courses which at one time were offered for the benefit of students who wanted to learn something in a particular field, but by putting them on the required list the interest of the student is destroyed and so is the subject. But this does not daunt our godfathers who gather together at every chance, it seems, in an effort to increase the already overburdened list of required subjects and, I fear,—nothing will.—Gus Ford, New York City.

DOES NOT AGREE THAT STOCK PLANS ARE UNNECESSARY

Editor, AMERICAN ARCHITECT:

FEEL driven to make some comment on your leading editorial in the August number headed by your dogmatic assertion that "Stock Plans Are Not Necessary," with a further statement to the effect that it is a fallacy to suppose that architects cannot otherwise provide a service which the public can afford.

These dogmatic statements undoubtedly conform to your editorial policy and find favor with many architects who are not interested in getting architectural service to the millions of would-be home owners in our sparsely settled districts. Architects who believe in meeting the conditions that exist and recognize the responsibility of the profession and the Institute toward getting architecture to these millions who have not the access to architectural service which we all realize is necessary to get the best results, have given the subject their attention, study and personal effort.

I will not attempt to argue the matter with you in this letter as you already have full access to my ideas on the subject. In the August 1929 issue of the Architect and Engineer, I presented the situation as I saw it with the need for stock plans in answer to some expressions in their columns in line with the statements in your editorial. I asked some direct questions which I hoped would occasion reply in a subsequent number, but no attempt at reply appeared in any subsequent issue or in the discussion in "Pencil Points," which copied what I had said in the Architect and Engineer as a contribution to their discussion.

So far, to my knowledge, no attempt at reply has been made to these reasons for stock plans, nor have any constructive suggestions been made to otherwise meet the actual conditions throughout the country. Without these, I do not believe the assertions in your editorial can be expected to settle the matter in the minds of many of us who have given much earnest study to the subject. —Charles H. Alden, F. A. I. A., Seattle, Washington.

DISAGREES WITH MR. DALTON

Editor, Motor:

REFERRING to your interesting article in the September issue of American Architect, you seem to have reversed your opinion, as only some three months or so ago you seemed to think there could be no recovery until building costs and rents were further drastically reduced.

However, they have not since been reduced appreciably, and if your present opinion is correct, they are quite likely to stiffen and then increase.

I do not agree with you when you refer to a "saner estimate on the part of the architect as to the value of his professional services," as the architect is decidedly the most underpaid professional man there is, and even at the inadequate fees mentioned in the New York A. I. A. Schedule. Apparently you are very much misinformed on this subject.—Arthur T. Remick, Architect, New York.

Editor's Note: A copy of the above letter was sent by Mr. Remick to the Editor of AMERICAN ARCHITECT.

WILL FEDERAL GOVERNMENT EMPLOY ANY OUTSIDE ARCHITECTS?

Editor, AMERICAN ARCHITECT:

N the absence of Assistant Secretary Heath, acknowledgment is made of your letter of August 22nd stating you have been informed "The U. S. Treasury Department at Washington has decided to design all new public buildings as they claim no money was appropriated for the work to be done by outside architects."

In this connection you are advised that the question is now before the Comptroller General for a decision.—
F. A. Birgfeld, Chief Clerk, Treasury Department, Washington, D. C.

American Architect Reference Data

NUMBER TWO-OCTOBER, 1932

INTERIOR WALLS AND WALL FINISHES

A Guide to the Selection and Use of Wall Construction and Finishing Materials

The purpose of this study of materials used in the construction and finishing of interior walls is to bring together and collate for the architect's convenience information of reference value for use when selecting and specifying such products. The following text and reference tables cover the basic considerations involved, while the advertising pages that follow have been especially prepared to give the architect factual data relating to the materials herein presented.

ODAY any type of decorative effect can be produced on any type of interior wall without much regard for the character of the underlying construction. This freedom from limitation in selecting decorative treatments has resulted from the development of many new materials, including some that are logical alternates for conventional products, or that reproduce their appearance with more or less fidelity. Nevertheless, there is often a direct relationship between the ultimate wall finish and the character of the wall construction, which, if properly recognized, may result in definite construction and decorating economies.

SELF-FINISHING MATERIALS

A GROUP of structural products such as brick, terra cotta and stone in suitable forms are self-finishing in the sense that they require no surface treatment after erection, and at the same time are self-supporting.

Into this category of self-finishing structural walls and partitions fall a number of very recent developments in construction methods involving two or more materials, each especially adapted to the others and assembled to constitute a complete wall. Such, for example, are the new light steel partition frames with special attachment devices for carrying asbestos cement, plywood or other rigid panel materials which may be self-finished, lacquered or painted, or prefinished before erection. Heavy plywoods, metal or veneer faced, may also form self-supporting partitions after the manner of marine practice.

Otherwise, between the structural framework of a building and the finished decorative surface, there must be an intervening foundation material. The selection of this base is affected both by the nature of the construction and by the character of the finish to be ultimately superimposed.

This relationship of wall finishing materials to the underlying foundation or intervening base is developed in

reference form in Table I.

CHARACTERISTICS OF WALL FOUNDATION MATERIALS

NE purpose of interposing a base material between the structural frame or wall and the finished decorative surface is to secure true wall planes. It is mechanically difficult to align wood studs in frame construction so that their faces touch a common plane at all points. Unless special care is taken in the erection of the frame, the use of a base material of uniform thickness, such as a wallboard, may reveal the structural irregularities in the finished wall surface. It is for this reason that plaster is commonly employed to take up and to conceal the imperfect alignment of a structural wall and to produce through its plastic character a working surface that is substantially a true geometric plane.

The same condition usually holds with respect to structural masonry walls, such as those of brick, terra cotta, hollow blocks or monolithic concrete. In both masonry and wood frame construction, however, furring strips may be employed to take up the irregularities of the structural wall, as well as for attachment or insulation purposes.

PLASTER BASES . . . Plaster may be applied direct to any masonry surface having sufficient texture or porosity to provide a bond; to lath in any of its numerous forms or to plaster boards and many types of insulating boards.

Lath-type plaster bases, including wood lath, metal lath and wire fabrics, hold plaster to the structural wall by means of a *mechanical* bond. Certain of the metal laths and wire fabrics become so completely embedded in the plaster as to make them serve as a reinforcement as well as a bonding material. Recent developments in metal laths and wire fabrics largely center around the addition of a backing material designed to eliminate waste of plaster required for bonding purposes, to assure complete embedment of the metal for reinforcing and

protective purposes, or to act as a heat insulator or dampproof membrane.

The reinforcing qualities of metal lath have led to their general use for protecting places where plaster comes under stress, such as at ceiling lines, at reentrant and exterior angles, and over the joints of plaster boards or insulating boards used as plaster bases. Metal lath is also generally employed throughout where maximum plaster reinforcement and fire protection are required. Accessory elements include protective corner beads and metal base mouldings, trim, etc.

Board-type lath, including gypsum wall boards, fibrous plaster boards and insulating boards used as plaster bases, hold and support the plaster by *surface adhesion* rather than by embedment or mechanical bond. The rigidity and strength of the plaster base is imparted to the plaster surface, the weakest point normally developing in the joints between boards, which are usually reinforced or thickened for this reason.

True plaster boards are made of gypsum plaster enclosed between two sheets of paper to which plaster will adhere. Many fibrous, rigid insulating boards are used as plaster boards in addition to their primary function as an insulating material. Board form insulation used as a plaster base is usually furnished in small sizes (approximately 18"x48") with ship-lapped, beveled, or other prepared edges. The joints thus formed give added thickness to the plaster at these points. Such boards are laid to break joints on the wall. The choice between these various board type plaster bases should be based first on their strength, rigidity and bonding characteristics as a support for plaster, and on their fire resistance, freedom from the deleterious effects of moisture and the means employed to secure adequate strength at the joints.

PLASTERS . . . The basic types of plaster are lime, gypsum, and Portland cement plasters. In addition there are Keene's cement (a dead burned gypsum) and many forms of ready-mixed and patent plasters.

Characteristics of lime plasters are: No water is actually used in the hardening process; hence all free water must be evaporated. Setting, however, will not take place unless water is present; hence quick drying as well as excessive dampness is detrimental to proper curing. The relatively slow setting characteristics of finishing lime plasters permit them to be used for work that could not be accomplished with quick setting plasters, such as gypsum and Portland cement. Since lime plaster is weakly alkaline when wet, it aids toward preventing the corrosion of metal in contact with it. Lime plasters are not usually recommended by insulating board manufacturers because of their excessive water content. Quick lime and hydrated lime should conform to the current specifications issued by the American Society for Testing Materials, Nos. C5 and C6 respectively.

Characteristics of gypsum plaster are: Pure calcined gypsum paste hardens in ten minutes, requiring the use of a retarder to extend the setting period to two hours or more for proper working. The hardening reaction is completed before the water gets a chance to evaporate; hence gypsum plaster can be used in excessively dry locations. It will not harden properly under excessively

and continuously damp conditions. It is less resistant to heat than lime plaster. Unless hydrated lime is employed in the gypsum plaster mix, an acid reaction injurious to metals may develop under certain conditions. Gypsum plasters should meet the requirements of the standard specifications issued by the American Society for Testing Materials, Nos. C28-21.

Characteristics of Portland cement plaster are: Portland cement uses a large amount of water in its hardening process, and for complete hydration a sufficient supply of water must be maintained for many days. Consequently, Portland cement plaster is peculiarly adapted for use under continuously and excessively damp conditions. It is the strongest and hardest of the plasters, but its use is ordinarily limited in interior work to the formation of a base or mortar for setting ceramic tiles and other masonry products.

Ready-mixed and patent plasters may be either of gypsum or lime character, or mixtures of these materials in various proportions with or without Portland cement. Complete ready-mixed dry plasters have the proper proportion of sand or fibre and require only the addition of water. Advantages include machine mixing under expert supervision with assurance of greater uniformity than hand mixed plasters. Where a good local sand can be obtained cheaply it may be disadvantageous to pay the extra cost of transporting the sand employed in these ready-mixed plasters.

Wallboards and Insulating Boards (used with-OUT PLASTER) . . . Wherever the satisfactory alignment of the wood framing or structural wall can be secured (either in construction or by the use of furring strips), wallboards of any type may be employed as the intermediate foundation for decorative finishes without the use of plaster. Practically all plaster boards and rigid insulating boards may be used for this purpose. Properly installed, they will serve as a satisfactory base for plastic paints, for the heavier wall fabrics and wall compositions, as a support for wood blocks, leathers and phenolic (hard fibre) wall panels. With carefully filled and sanded joints they may also be used as a base for wallpapers and wall fabrics. In the latter cases, however, slight imperfections in the surface of the boards or in the formation of the joints will show through the wallpaper or fabric. A lining of heavy fabric or a strong (1½ pound or heavier) dry building felt is recommended under all wallpapers and the lighter wall fabrics. For low cost work these wallboards, preferably lined with a strong cloth fabric, may be employed to receive painted finishes. Furthermore, many insulating boards have surface textures and colorings permitting them to be used for finished effects in their natural state, or they may be painted, stained or glazed to achieve distinctive decorative effects without the use of any covering material. Joints may be covered with mouldings or batten strips of the same material or of wood.

Plywood constitutes a distinct type of wallboard having uses and applications identical with those above enumerated. It is frequently employed for ceilings where maximum durability and freedom from cracking is sought. Commercial plywoods may be left natural, or stained or painted; or they may be veneered.

TABLE I . . . TYPES OF WALL FINISHES

According to Underlying Foundations

I. SELF-FINISHING STRUCTURAL MATERIALS (forming structural walls or self-supporting partitions)

Common and face brick. Enameled and porcelain glazed brick.

Salt glazed brick.

Architectural terra cotta (finished two sides or double layer for partitions).

Structural terra cotta building units with finished faces. Concrete ashlar masonry (with finished faces).

Structural stones: Including limestone, granite,

etc. with finished faces. Rigid wallboards (cement-asbestos, etc.) prefinished or natural, applied on special light steel partition frames.

Plywoods, veneer or metal faced. Structural glass masonry.

Structural acoustical stones and tiles.

2. APPLICABLE DIRECT TO WOOD FRAME OR FURRING STRIPS

Wood paneling, solid or plywood (preferably backed by plaster, metal, or wallboard as firestop).

Composition paneling: Asbestos-cement and other pressed, moulded and formed sheet paneling (if fireproof, requires no backing).

Fabric panels: Decorative fabrics, usually on stretchers fastened to furring strips or nailing strips. Must be backed by plaster or wallboard firestop.

Insulating boards (natural or decorated).

Decorative wallboards: Including corative wallboards: Including veneered, pressed and otherwise self-finished wallboards, plywoods, and synthetic wall panels.

Decorative compositions: Including synthetic nailable compositions (resembling stone), cork-boards, acoustical compositions of nailable

Sheet glass: Including mirrors held with metal pins or fasteners.

3. APPLICABLE ON STEEL OR MASONRY STRUCTURAL FRAMES AND WALLS (without furring strips)

Brick: Common, face, enameled, porcelain glazed or salt glazed.

Architectural terra cotta.

Concrete ashlar masonry Cement or composition blocks. Rigid acoustical tiles and stones: Usually masonry type. Opaque structural glass.

4. APPLICABLE TO CEMENT PLASTER OR MASONRY (without furring strips)

Ceramic tiles.

Enameled metal and synthetic hard compositions in tile forms.

Quarried stones: Such as caen stone, travertine,

limestone, marble, granite, slate.

Architectural terra cotta (facing or veneer units). Enameled and porcelain glazed veneering brick.

Synthetic or artificial stones. Vitrified compositions: Including opaque glass and vitrified artificial stone.

Opaque structural glass. Plastic paints and finishing plasters (direct on

Rigid acoustical tiles and stones.

5. APPLICABLE TO LIME OR GYPSUM PLASTER

Paints, varnishes and lacquers. Plastic paints. Wallpapers. Wall fabrics. Wall compositions: Rubber, cork, linoleum. Leathers: Genuine and artificial. Metal foils.

6. APPLICABLE ON WALLBOARDS, INSULAT-ING BOARDS, ETC., WITHOUT PLASTER (joints filled)

Plastic paints. Wallpapers. Wall fabrics.

Wall compositions: Rubber, cork compositions, linoleum.

Enameled metal tile (on special wallboards). Wood blocks.

Leather: Genuine and artificial. Phenolic (hard fibre) wall panels. Metal foils. Paints, varnishes and lacquers.

Wallpapers.

Paints (direct where joints are battened, and over lining fabrics where joints are filled).

WALL FINISHES HAVING RELATED APPEARANCE CHARACTERISTICS

OTHING so far has been said regarding the selec OTHING so far has been said to the architectural tion of wall finishes according to the architectural. This subject style of the intended decorative treatment. This subject is too familiar to all practicing architects to warrant treatment here.

However, when a definite design effect has been determined upon the architect can today find a multiplicity of materials which may be employed to achieve the desired architectural or decorative character. In Table II wall finishes are classified according to the character of their finished appearance. Reference to this table and to the preceding text will assist the architect in selecting materials of various types, qualities and costs which, nevertheless, are of related appearance when installed.

UTILITARIAN CONSIDERATIONS

HE selection of wall finishes is governed by certain utilitarian considerations in addition to the appearance or style factor. The principal matters to keep in mind are the following:

PERMANENCE AND DURABILITY . . . In most building projects where there is not a frequent change of occupancy the first practical consideration is to secure the most durable and permanent decorative finish that can be secured within budget limitations. This involves

TABLE II . . . TYPES OF WALL FINISHES

According to Character of Finished Appearance

I. WOOD CHARACTER

Solid wood paneling. Solid wood planking. Solid wood blocks.

Plywood paneling.

Composition paneling: Synthetic compositions of asbestos-cement and other products in wood stained and often carved wood effects. Wood veneer wall fabrics (genuine veneers on a

flexible fabric base).

Wood veneer wallboards (genuine wood veneers

Wood veneer wallboards (genuine wood veneers on rigid wallboards).
Wood reproductions on wallboards: Including rigid, fibrous and hard plaster boards and phenolic sheet paneling.

Wood color and graining on resilient wall com-positions, such as cork composition and lino-

leum base materials.

Wood effects produced in special plastic paints.

Painted wood paneling effects produced in plaster with wood or composition applied mouldings. Paint-grained to resemble wood.

2. STONE AND MARBLE CHARACTER

Genuine quarried stones and marbles: Including caen stone, travertine, limestone, marble, granite, slate.

Synthetic (or artificial) stones and marbles, including cast stone.

Concrete ashlar masonry.

Vitrified stones or opaque structural glass.

Architectural terra cotta in stone character. Enameled and porcelain glazed brick units in stone effects

Compositions of stone character (usually of magnesite or cement base with wood fibre producing stone-like appearance).

Marble and other stone colorings in wallpaper and wall fabrics.

Marble and other stone colorings on rigid wallboards or phenolic wall panels.

Marble or decorative stone colors on structural slate.

Marble colorings in tubber tile, cork compositions and linoleums.

Plastic paints in stone colors and textures. Interior stucco or plaster finished in stone colors and textures.

Paint, marbleized. Acoustic stones.

3. TILE AND MOSAIC CHARACTER

Acoustic tiles.

Ceramic tiles and mosaics.

Cut stone (genuine or artificial) in tile sizes.

Architectural terra cotta in tile or mosaic patterns and colorings.

Porcelain glazed or enameled brick.

Structural glass.

Opaque structural glass or vitreous stone in tile sizes or patterns.

Porcelain enameled metal tiles.

Baked enamel metal tiles.

Asbestos-cement and other hard composition sheets in tile patterns.

Wallboards embossed in tile patterns. Compositions in tile sizes: Cement, magnesite terrazzo, etc.

Linoleum or rubber in tile forms: Linoleum or rubber in sheet form with inlaid or embossed tile patterns.

Glazed and washable wallpapers and coated fabrics in tile or mosaic patterns.

Gypsum plaster or Keene's cement marked in tile patterns.

4. PLASTER CHARACTER

Lime, gypsum or patent plasters and interior stuccos in smooth, sanded or textured surfaces. Precast plaster mouldings and ornaments applied to textured plaster or plastic painted walls. Plastic paints.

Wallpapers and wall fabrics in textured plaster effects.

Acoustic plasters.

5. METALLIC CHARACTER

Sheet metals, such as copper, aluminum, monel metal, stainless steel, etc. applied with adhesives or metal fasteners, or veneered in thin sheets to composition wallboards or plywood base. Also in strip and moulding forms.

Metal foils (gold, silver and aluminum leaf, etc.) applied in place.

Metal surfaced or metal printed wallpapers and fobrice

fabrics.

Metallic paints and lacquers.

Phenolic base panels and other hard wall compositions in metal colors or finishes.

Architectural terra cotta in metallic finishes Acoustical tiles and stones with metallic finishes.

6. PAINTED CHARACTER

Paints, enamels, lacquers, glazes, waxes, on appropriate bases.

Wallpapers and coated fabrics in solid or blended colors.

Phenolic and other self-finished wallboards and panels in solid or blended colors.

7. PAPERED EFFECTS

Wallpapers engraved or printed in patterned or scenic effects.

Wall fabrics in patterned or scenic designs. Wallboards with stenciled or printed patterns. Phenolic base sheets or panels in patterned designs. Paint with stenciled patterns, or mural paintings.

8. FABRIC CHARACTER

Wall fabrics hung or stretched on panels, includ-

ing silks, damasks, velvets, etc.
Wall fabrics (pasted to wall), including grass cloths, burlaps, linens and many treated fabrics reproducing silk, damask and other fabric designs, textures and finishes. Wallpapers in fabric effects.

9. LEATHER CHARACTER

Genuine leather.

Artificial leathers and leather-finished fabrics. Embossed or printed wallpapers and fabrics in leather textures and colors.

10. NON - CONVENTIONAL MISCELLANEOUS **EFFECTS**

Architectural terra cotta in non-imitative textures and colors. Cork: Tile or panels of compressed or ground

cork left unfinished.
Glass: Mirrors, sheet glass in structural thicknesses, glass tiles and opaque glass.

Laminated and moulded phenolic base sheets and panels in solid colors.

Linoleum or cork composition wall coverings in colors and designs not imitative of conventional products.

Rigid cement-asbestos wallboards or panels, natural colors.

Insulating boards with edges beveled or joints battened, in natural colors or decorated.

balancing initial cost against normal life, cost of replacement and the intervening costs of maintenance.

Ease of Replacement . . . In buildings subject to periodic changes of occupancy, such as rented space in office and apartment buildings and in rented dwellings, durability and permanence may be of limited value. Decorative treatments that will have a useful life only slightly in excess of the normal period of occupancy by a single tenant may be more desirable from an economic point of view than superior materials, the useful life of which cannot be fully realized. Similarly, where style changes become a factor as in many private homes and in hotels, department stores and shops, a material that can be inexpensively renewed in different colors or designs may possess distinct advantages over less adaptable materials, regardless of their cost.

CLEANING AND MAINTENANCE . . . Except where the life of a wall finishing material is expected to be very short, consideration should be given to ease of cleaning and maintenance. The cost of cleaning and maintaining certain low grade and inexpensive marbles, for example, may very soon offset their initial price advantage as compared with more expensive marbles that are less subject to staining or abrasion.

Sanitary Qualities . . . In hospitals and institutions and in many areas in homes, apartment buildings, hotels and other structures, wall surfaces may be required to possess sanitary qualities beyond normal ease of cleaning. Such surfaces must be free from pores or textures in which dirt will readily collect and usually must be cleanable with disinfecting liquids.

LIGHTING CHARACTERISTICS . . . The color and texture of wall finishing materials have a marked effect upon lighting. The effect of reflection factor upon the resultant illumination is very great indeed. If all surfaces of a room were black with no reflecting power the illumination on any surface would be only that received direct from the lamp. If all surfaces had a reflecting power of 50%, the illumination would be practically doubled; if the reflection factor of surroundings was in the order of 90% the illumination would be increased nearly ten times. A flat white paint may reflect as high as 82% of the light, and dark walnut wood as little as 7%. Some paints depreciate very much more rapidly than others.

From an illumination standpoint, ceilings should always be very light in color. Side walls should be slightly darker and of a neutral tint. A light colored room is much more cheerful than one with a dark finish. Glossy surfaces should be avoided as far as possible for they show reflections of the light sources.

Acoustical Characteristics . . . The sound-absorbing or acoustical properties of wall finishing materials vary over a wide range. They may become important factors in the selection of materials for certain types of space. The decorative aspects of materials primarily

employed for acoustical treatments so definitely influence their selection that they must be considered also as wall finishing materials in this study. Their acoustical properties will be discussed in a future issue.

Insulating Characteristics . . . The insulating characteristics of wall construction and finishing materials is a matter of growing importance. There is a definite tendency toward employing materials that in addition to their structural or decorative qualities have appreciable heat insulating values. The insulating value of construction and finishing materials will be discussed in a future issue.

FIRE RESISTANCE . . . Building codes and local ordinances may restrict the use of combustible wall finishes in certain classes of fireproof and semi-fireproof buildings. This restriction applies chiefly to the use of wood paneling and planking in fully fireproof structures and to the use of combustible materials that may be employed for sound absorption.

PAINTS, VARNISHES AND LACQUERS

NLY secondary consideration has been given to the decorative applications of paints, varnishes, lacquers and stains. The decorative value of these materials is thoroughly understood by all architects. In a future issue, however, the technical considerations involved in their selection and employment will be given adequate treatment.

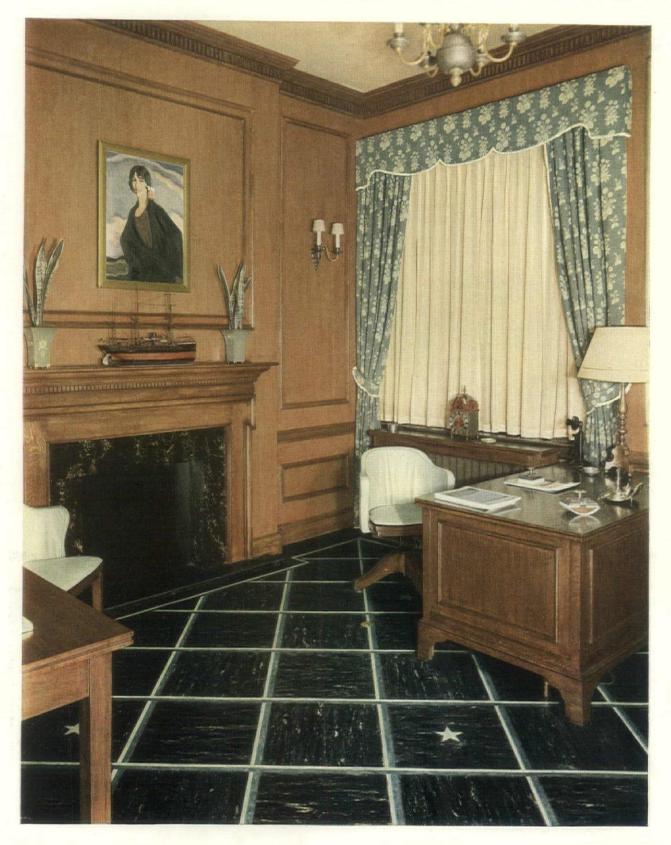
ECONOMIC AND TRADE FACTORS

THE cost of a given wall treatment can seldom be accurately determined by the retail cost of the finishing material itself. As already noted, the installed cost of a given material may be influenced by the character of the building construction and the character of the intermediate base material, as well as by such obvious matters as the cost of the product itself and its installation.

Installation cost is definitely influenced by the trade employed to apply the material. Trade allocations have been very clearly established for the conventional and well-established staple products. In the case of some of the newer materials, trade allocations have not become uniform throughout the country. In certain sections, for instance, linoleum and cork composition wall coverings may be applied by paperhangers, while in other sections they are applied by linoleum layers. Similarly, wallboards or panels marked in tile patterns may usually be installed by carpenters (which is true also of certain porcelain enameled metal tiles mounted on special wallboards), while individual composition tiles may be allocated to tile setters, and tile patterned fabrics may be allocated to paperhangers. Under the circumstances the cost of installing some of the newer products will be affected by local trade regulations.

This analysis was prepared in consultation with authorities on each type of material

SEALEX WALL-COVERING



Note how the Sealex Walls, in one of the attractive wood-panelling patterns, harmonize with the Sealex Floor and with the entire decorative scheme of this room. Even after years of exposure to brilliant artificial or sun light, these walls will keep their original beauty and color—since the decoration goes through to the backing.

SEALEX WALL COV

DESCRIPTION

HE most fascinating contribution to practical wall decoration in recent years"-this is only one of many tributes paid by architects and decorators to the beauty of Sealex Wall-Covering. The range of patterns includes the amazingly close reproductions of natural wood, the textured all-over designs in soft, pastel shades, the marbleized effects, and the striated designs in blended colors. Small wonder that this entirely new and unique material is called into use for both new construction and the renovating of older buildings.

Sealex Wall-Covering is employed most attractively as a full wall treatment. It may be applied plain or in panels with wood or metal moulding. If desired, a wainscoting application can be used with a cap moulding of the same material.

Made of a specially prepared composition of linseed oil, cork, and fine color pigments, Sealex Wall-Covering is as serviceable as it is beautiful. It is keyed to either a fabric or burlap base and can be applied to any type of wall. The burlap base (heavy weight) is ideal for walls receiving harder usage, in public buildings, stores, theatres, hospitals and banks.

All Standard Weight (fabric base) patterns are illustrated in this supplement. Heavy Weight material is obtainable in an equally wide range of patterns.

DURABILITY AND FLEXIBILITY

HE material can take more wear than it will ever actually receive. It easily withstands ordinary stresses and strains. It can be cleaned repeatedly. Where wear occurs, its surface appearance remains the same since the decoration runs completely through the material. Its natural flexibility permits it to take ordinary expansion and contraction in walls. It will not crack, split or warp. It hides small plaster cracks and staining of the old wall. A strong, lasting bond is secured when applied to any hard, dry, smooth wall.

CLEANLINESS

T is inherently sanitary, having some germ-killing properties of its own. Properly installed, it presents a smooth, unbroken surface impervious to the entrance of dirt. Insects and vermin cannot subsist behind it. It is moisture-proof, spot-proof, and stain-proof. Surface dirt is wiped away with a damp cloth or washed off with water and a mild soap. For additional gloss, the surface may be waxed. No other maintenance is required.

SOUND-QUIETING, HEAT INSULATION

T decreases the transmission of sounds through walls and is therefore of particular value in apartment houses, hospitals, and offices. The low heat transfer of this material gives it an insulating quality which aids in maintaining even temperatures and reducing fuel costs.

EASE OF APPLICATION

NY trained mechanic can install Sealex Wall-Covering quickly and easily by following specifications. In applying it on old walls, there is an entire absence of dirt and muss such as is necessary with any other comparable material. The average-sized room installation can usually be completed in one day.

PHYSICAL ADVANTAGES

HE structural load is lessened considerably, not only by the lighter weight of the material but also by the elimination of hundreds of pounds of cement backing. Where breaking into walls is necessary, sections of Sealex Wall-Covering can be cut out and replaced without destroying the material.

PERMANENT BEAUTY, REASONABLE COST

CEALEX Wall-Covering will not fade even after years O of use on walls reflecting brilliant artificial or sun light. Generally speaking, Sealex Wall-Covering is substantially less expensive than any comparable material. Specifically, it costs about the same as a first-class decorative paint job where several coats are applied.

INSTALLATION DATA, GUARANTY BOND

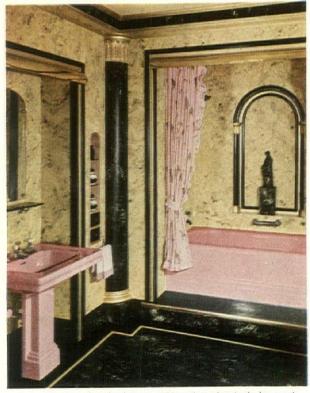
S EALEX Wall-Covering is installed by specially trained distributors, located in various parts of the country. It may be applied over practically any type of new or old wall-plaster, painted surfaces, wall-board, etc. It is hung as one would hang wall-paper, from ceiling to baseboard. and cemented in place with a paste manufactured for the purpose-Congoleum-Nairn's Green Label Paste. Ordinary wall-paper or linoleum pastes are inadequate. Where our Bonded Walls specifications are followed, we are prepared to furnish a Guaranty Bond, issued by U. S. Fidelity and Guaranty Co.

FURTHER INFORMATION

WE endeavor to cooperate with architects in every possible way. A request to our Wall-Covering Division will bring literature or a qualified representative.

CONGOLEUM-NAIRN INC.

General Office . . . Kearny, New Jersey



A luxurious, modern bathroom, achieved at pleasingly low cost by the use of Sealex Wall-Covering.

SEALEX WALL COVERING



"Garnet" — Pattern No. 7965. These light, dainty colorings seem particularly suitable for a bedroom or surroom. Ideal, also, for a distinctive tearoom or beauty shop.



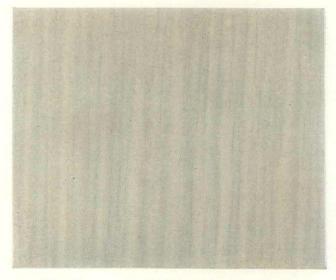
"Light Pine"— Pattern No. 7981. A wall-covering that closely resembles natural or oil-rubbed wood—this will harmonize perfectly with Early American furnishings.



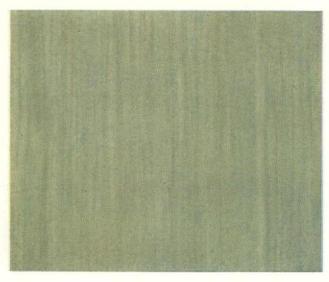
"Moss Agate"—Pattern No. 7966. Sealex Wall-Covering is ideal for remodeling all types of interiors. It is quickly and easily applied over practically any old wall.



"American Walnut"— Pattern No. 7982. With this distinctive material, the luxurious effect of fine walnut paneled walls may be achieved at relatively small cost.



"Pearl"—Pattern No. 7980. Something entirely new in wall decoration—a striated pattern in soft, blended tones of gray. A very good design for modernistic interiors.



"Jade"— Pattern No. 7983. Sealex Wall-Covering will not crack or fade. It lasts as long as the building in which it is installed and never needs decorating as most walls do.

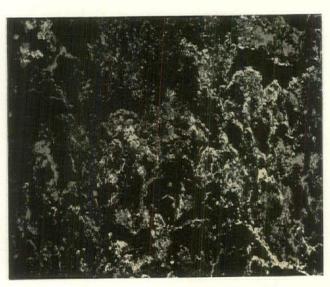
SEALEX WALL-COVERING



"Carnelian"—Pattern No. 7958. Sealex Wall-Covering may be wiped clean with a damp cloth. Thus even light-colored patterns will always look fresh and new.



"Green Beryl"—Pattern No. 7961. Sealex Wall-Covering, Standard, is so flexible that it permits the rounding of inside corners without additional expense or trouble.



"Black Onyx" — Pattern No. 7959. Architects and decorators frequently combine two or more colors—for example, pilasters of Black Onyx against a light background.



"Turquoise"— Pattern No. 7962. Note the very delicate color blending in these pastel effects—a vast improvement over the dull, flat look of ordinary painted walls.



"Sunstone" — Pattern No. 7960. A pattern that realistically simulates the veinings and markings of rare marble —a beautiful background for costly furnishings.



"Sardonyx"—Pattern No. 7963. As Sealex Wall-Covering is spot-proof and stain-proof, these soft pastel shades may be used in any location without hesitation.

Continued from Preceding Page



PLIABLE CABINET WOODS FOR WALLS

Description of the New Waterproof Flexwood:

The world's finest woods have been chosen for Flexwood. From selected logs carefully chosen for their beauty of grain and figure, thin veneers are cut. Flexed by a patented process, the veneers are not only rendered whether the flower than the flower tha pliable but the flexing removes any tendency to warp, crack, check or shrink

Each sheet of veneer is then mounted on waterproof fabric with a water-proof glue. Wood and fabric are practically inseparable, providing a unit that can easily be bent around angles and curves.

Flexwood may be applied on any smooth, flat or curved dry wall or other surface. It inexpensively provides beautiful walls of conventional paneling or lends itself admirably to unlimited decorative effects of modern design.

Ease of Application:

The new waterproof Flexwood is very easily applied. No priming is necessary. No lining cloth is required. Just brush on the patented waterproof cement to Flexwood and the wall, and then hang using a broad-knife to smooth down the surface and butt edges.

By following the simple directions for applying Flexwood, any good paper hanger can achieve walls of permanent beauty. When desired, United States Plywood Co., Inc., for a nominal charge, will supervise application. All supervised work is guaranteed by the Company.

Woods and Sizes:

Flexwood is made in two types, Standard and De Luxe. Standard Flexwood is produced in 18 and 24 inch widths, 8 and 10 foot lengths, in the following woods: Walnut, Mahogany, Plain Oak, Quartered Oak, Knotty Pine, Flat Prima Vera, Ribbon Prima Vera and Lacewood. De Luxe Flexwood is made of beautifully figured veneers embracing practically the entire field of rare and exotic woods. Figure and veneer widths of De Luxe Flexwood may be selected within the limitation of the woods chosen. the limitation of the woods chosen.

Finishing:

The finishing of Flexwood should be done by a competent wood finisher. The natural beauty of the wood is best revealed by transparent varnishes and lacquers which preserve without hiding the pattern of the grain. Waxing adds charm to the dull or flat finish. Any finish used on wood, however, may also be used on Flexwood.

Inasmuch as Flexwood is natural wood, it is never difficult to secure base mouldings, wainscot panel mouldings, cornices, etc., in the same or contrasting woods to conform with the architectural period of the room.

Flexwood Creates No Fire Hazard:

Because Flexwood is applied directly on the wall with no air spaces between, it may be hung without fireproofing treatment. It is accepted for fireproof structures in the City of New York and in the most restricted zones of large cities. It creates no fire hazard.

The Wide Use of Flexwood:

The rare beauty of Flexwood is ideal for homes, offices, display rooms, elevators, hotels, theatres, stores, etc. Its economy in application, its versatility of design lends itself admirably for new construction or for remodeling interiors.



James Hudson, Architect Matched Walnut Flexwood Paneled Design

Since its introduction two years ago, over three million feet have been installed in leading buildings in the United States and Europe.

Permanent Architectural Exhibit

In Suite 810, at 103 Park Avenue, New York City, United States Plywood Co., Inc., maintain a permanent exhibit of Flexwood and Laminated Products. Here, as in its nine strategically located plants and offices throughout the United States, Flexwood offers to the architectural profession its complete facilities and cooperation in helping to solve any architectural problem. You are as near to this service as your telephone.

FLEXWOOD DIVISION

UNITED STATES PLYWOOD CO., INC.

103 PARK AVENUE, NEW YORK, N. Y.

OFFICES: NEW YORK . CHICAGO . BOSTON . LOS ANGELES . DETROIT . ROCHESTER . BALTIMORE . WASHINGTON . PHILADELPHIA Also Manufacturers of PLYWOOD . FLEXMETAL . PLYCRAFT . ARMORPLY . WELDWOOD

Chicago Architects Develop Ideas

(Continued from page 13)

CHARGE FOR CHANGES

N connection with changes in drawings and specifications necessary for a proposed change in work, it is recommended that when an architect advises the owner what the extra or credit will be from a contractor, that the architect simultaneously advise the owner what his own expense will be for necessary changes in or additions to the drawings and specifications, and indicate the total *net* extra or credit to the owner for making the change.

EFFICIENCY

THE architect hereafterwill be forced to give increased attention to the efficiency with which he does his work, fo rself-preservation if for no other reason. Suggestions advanced include:

Budget each job. Some approximations may have to be made, but each department should be given a limit which it must not exceed. Where a margin of profit is unusually small, an architect might be justified in actually contracting with each department to complete its portion of the work for a fixed lump sum.

Make no unnecessary details. If details are made after bids are received, any necessary changes in original conception of details may be accomplished in their first drafting at a saving in cost.

Prepare small scale drawings preliminary to working drawings. It is recommended that 1/16 inch or other small scale drawings be made outlining room subdivisions with enough detail to establish the plan in order to secure the owner's approval before the project is turned over to the drafting room for further development.

Furnish no free sketches.

Require increased personal efficiency, and insist upon maximum service from every man in the office.

Keep abreast of the times and thoroughly familiar with newly developed materials and methods of construction.

Be businesslike. The architect who is so esthetic in temperament that he cannot give proper attention himself, or see that someone in his office with authority does so for him, to carry on the routine of his office in a strictly orderly, prompt, businesslike fashion, simply will not be present in future architects' rosters.

The committee in charge of the investigation, under the chairmanship of E. C. Jensen, consisted of M. C. Chatten, G. W. Carr, T. J. Ferrenz, J. R. Fugard, F. B. Long, R. E. Schmidt and H. J. White, with F. Charles Starr, secretary.

Le Coq Gaulois Comes Down From Its Perch

(Continued from page 14)

the winding steps leading to the bell tower. Taking them three at a time, he dashed upward and passed through an opening on the highest platform before the startled sexton could catch his breath. Climbing like an ape from crocket to crocket, he finally reached the huge ball of copper which caps the masonry. This ball is about four feet in diameter, a formidable obstacle at such a dizzy altitude. It has a ridge on its upper surface, which is about eight feet above the last crocket. By a heroic and almost suicidal effort, the climber got his fingers on this ridge, and then threw up one knee. There was an agonizing moment when the man's strength seemed to desert him, but with a final burst of energy he squirmed over the ridge. Once on top of the ball the rest was easy. He performed a few gymnastics to the awestruck witnesses below, and then boldly unfastened the weathercock, strapped it on his back and crawled down to face the irate sexton. By this time all the population of Senlis was a gaping, horror-struck gallery including, unfortunately for the intrepid climber, the bailiff who promptly clapped him in jail.

For more than a century the noble bird was unmolested by such adventurers. But in 1856 an agile person named Antoine Senaut made a wager that the Prince

Imperial, awaited with such impatience by the French noblesse, would be a Princesse. Senaut lost, and to pay his bet he was committed to climb the cathedral spire, straddle the weathercock and then beat a drum. The news got about and the doorway to the tower was padlocked. But Senaut was not discouraged. A few friends boosted him up to a buttress and there he began the tortuous role of human fly, a drum strapped on his back. After hours of agonizing effort he reached the weathercock and climbed upon it as though it were a lofty steed. A hush came over the breathless crowd below as the faint, far away beat of the drum became barely audible. Not content with this, Senaut attached a pennant 54 feet in length to the standard, and this flapped in the wind for years until it was disintegrated by the elements. The daughter of the reckless Senaut is still living in Senlis. She is 86, clear-eyed and vigorous and she tends her vegetable garden eight hours a day.

The weathercock returned to his perch early in May, with the silk ribbon of the tri-color around his neck. The date of his next visit to the calm streets of Senlis is most conjectural. If it is delayed as long as was his last, in 1810, our great grandchildren may be the next to gaze at close range upon his nicked and battered sides.

THERE IS NO SUBSTITUTE FOR GENUINE ENAMELED BRICK

ENUINE enameled brick in both the standard size and TUBRIC have definite places in modern construction where permanent light reflection, beauty, sanitation and imperviousness are required at the minimum of final cost.

A FEW SUGGESTIONS

SUBWAYS—platforms, tunnel linings, corridors, mezzanine wall facings, telephone booths: New York City Subway System.

SCHOOLS—swimming pools, gymnasia, laboratories, class rooms and wash rooms: *High School, Cayahoga Falls, Ohio.*

HOSPITALS—operating rooms, X-ray film storage, stair wells, elevator shafts, halls: Ford Hospital, Detroit, Michigan.

GARAGES—wall linings, offices, waiting rooms, pits, filling stations: L. B. Garages, New York.

FIRE HOUSES—apparatus and recreation rooms, dormitories, locker rooms: Fire House, Hillcrest, Long Island.

DAIRIES — refrigerators, loading platforms, bottling rooms: Grandview Dairy, Maspeth, L. I.

ICE CREAM PLANTS—work rooms, refrigerators, packing department, freezing rooms: Borden's Farm Products Co., Bronx, N. Y.

BAKING PLANTS—oven facings, mixing rooms, locker rooms, delivery department: Cushman Baking Co., White Plains, N. Y.

HOTELS—laundries, light courts, driveways, kitchens, storage rooms, boiler rooms, corridors: New Waldorf Astoria Hotel, New York.

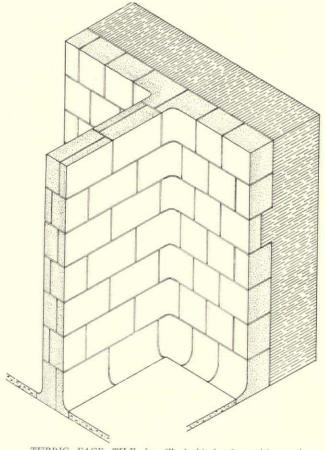
THEATRES—lobby entrances, back-stage walls, stair wells, basements, wash rooms, partition walls: Rockefeller Center, New York.

PUBLIC BUILDINGS, POST OFFICES, OFFICE BUILDINGS, POWER PLANTS—for interior and exterior walls, where an attractive face brick as well as a load bearing unit is required, or with brick or stone to add color decoration.

While American size genuine enameled brick is our basic product, where the trend is toward greater economy in building, the porcelain glazed finishes are furnished. Moreover, changes in architectural design incline toward units with larger face sizes than standard brick, a need that is most adequately met by TUBRIC.

Colors range in all products from white to black and in 25 vivid and pastel colors, including mottles, speckles and stipples. Necessary shapes include quoins, bullnose, cove base, necessary stops, starters, angles, mitres and others which eliminate unnecessary cutting at the job.

Our plant at South River, N. J., with a capacity of a million enameled brick per month is the largest in the country. Modern tunnel kiln firing assures uniformity in colors and sizes and permits shipments on very short notice. Rail, water or truck deliveries are available.



TUBRIC FACE TILE for 6" double-faced partition and as a part of bearing wall. Showing full size TUBRIC and the 17%" veneering size units. sanitary Cove at base and internal Bullnose at corners.

T U B R I C

17/8", 3" and 37/8" Depths 8" x 43/4" Face Size

TUBRIC Face Tile, in both genuine enameled and porcelain glazed, is developed for use where very close mortar joints and accurate bonding are specified. These are ground to exact size on edges and ends and with top and bottom beds at right angles to the ends. Such accuracy in manufacture aids considerably in reducing the cost of laying.

Standard size American genuine enameled and porcelain glazed brick are 8" x 2½" x 3½" and weigh about 4 lbs. each American TUBRIC, the height of two bricks but laid like one, is 8" x 4½" x 3½" and weigh about 8 lbs. each. Both standard brick and TUBRIC are supplied in the "soap" or veneering depth of 1½".

WRITE FOR ILLUSTRATED BOOKLET

AMERICAN ENAMELED BRICK CORP.

GRAYBAR BUILDING, NEW YORK

BRANCH AND DISTRIBUTING OFFICES: Baltimore— Boston — Buffalo — Chicago — Cincinnati — Cleveland — Detroit Hartford — Indianapolis — Kansas City — Milwaukee — New Haven — Philadelphia — Pittsburgh — Providence — Rochester St. Louis — Syracuse — Washington — CANADA: Montreal and Toronto

Archaeology Mostly American

(Continued from page 21)

very remote. Inspired by a misdirected zeal, the Holy Fathers gathered together all the native codices, books and documents that they could locate and burned them. Little remained; the books of Chilan Balam and three codices, the Dresden, Perez and tro-Cortesianus, all of which are in European museums, I think, complete the list.

The incendiary orgy of the good Fathers was not entirely successful in stamping out the ancient religion. There is some evidence that would tend to show that the natives in some of the most isolated villages simply translated the chief figures in their ancient hierarchy into the Roman Catholic calendar of saints and go placidly on, their religious perspective essentially that of the precolumbian Maya. Frans Blom tells an amusing story in this connection. A Maya village, a mere half dozen palm thatched huts buried in the jungle, boasted of one tiny shrine, also palm thatched, housing a small statue of St. Anthony of Padua, the patron saint of the village. After long and unavailing prayers to St. Anthony for relief from a really serious drought, the village headmen in solemn conclave decided that the drought was entirely due to the fact that St. Anthony was lonesome! A committee of three was immediately dispatched on foot to the nearest town, some thirty kilometers away through the jungle, to buy a consort for their saint. They returned the second day bearing, in triumph, an eight inch statue of the Virgin Mary!

All that we know of the great Maya civilization of Middle America has been gleaned from the rather meager sources available, the books of Chilan Balam and the three surviving codices, the manuscript of Bishop Landa and the Maya inscriptions which have been translated, which last amounts to little more than dated monuments. All of this that we know is absorbingly interest-

ing, but it is the pre-columbian history yet to be written that stirs the imagination. What do the small red and green handprints sometimes found under the stucco on Maya walls mean? How was all the incredibly elaborate stone carving accomplished without the aid of hard metal tools? Was the stock of our native American Indian evolved in the Americas, or was the new world populated by successive waves of migration from other lands? If by migration, to what stage of civilization had the people attained before arriving in the new world? From what country or countries did they come? All of these questions and many more are crying for answer. To some of them satisfactory answers will probably never be found, but to scores of other important questions the answers lie in the ruins of the Maya area.

It is generally conceded, I think, that it is only a matter of infinite patience and time until the Maya glyphs will be read with the same facility with which the Egyptian hieroglyphics and cuneiform are read today. When that day dawns we will have spread before us on stele and wall, on lintel and jamb, the first real American history, the long-drawn struggle of a race from agriculuralists to city dwellers; from the first potter to the fine craftsman in gold, silver, copper and jade; from the first builder of crude shrines to the architect of the Castillo at Chichen-Itza or the Temple of the Dwarf at Uxmal; from the first groveling supplicant before the image of the rain god to the priest-astronomer capable of evolving a calendar more accurate than the Christian calendar, in the days of Cortez; a history of migrations, of wars, of conquests; a history leading up through the Nahuatl invasion and extending back through the centuries to the early years of the Christian era, and perhaps many years before that. Quien sabe?

Unusual Solutions of Unusual Structural Problems

(Continued from page 42)

shallower girder or pair of girders than would be the case if the ordinary type of girder were used.

When an extremely heavy and relatively shallow girder connects to the web of a column, difficulty is often experienced in taking out the reaction without the use of large seats or brackets. At the left end of Fig. 3 is shown a simple way of getting around this difficulty. The column web is slit, the center web of the girder is extended through and a pair of connection angles provided.

In a large bank building it was necessary to offset certain columns in order to provide sufficient width for the lobby. Ordinarily a pair of heavy girders would have been used to carry each column but in this case the girders would either have made the lobby ceiling height too little or they would have destroyed valuable space on the floor above. To solve the problem special cantilever trusses as illustrated in Fig. 4 were used.

When a girder having a heavy reaction connects to the flange of a column, difficulty is sometimes found in making the connection strong enough to take care of both the shear and moment without using large brackets or other objectionable and cumbersome details. Fig. 5 shows a satisfactory solution of this problem. A short length of column is built onto the end of the girder in the shop, the center web of the girder running through this short column to form the column web. This web is valuable as a means of providing for both shear and moment. The field connection of the girder at this end now becomes merely an ordinary column splice.

A six-story building was nearing completion when the owner closed a lease for the first floor and the tenant objected to a certain column in the front of the building, saying that it must come out or be moved back five or six feet. An estimate was made and it was found that it would cost several thousand dollars to move the column. The owner and tenant decided that it was worth the cost and ordered the column moved. A pair of girders were placed in the second floor and also in the first floor and welded in place, then a new first story column was placed between the girders, the load put into it and the girders by jacks and the offending first-story column burnt out. See Fig. 6.

Ease of Hearing is Essential

but Beauty also must be served



Exterior and interior of the Scottish Rite Cathedral, Indianapolis, Ind., where Acousti-Celotex Sound Absorbing Tiles are applied to the ceiling to assure ease of hearing and talking. Architect: George F. Schreiber, Indianapolis

ACOUSTICS is a practical problem that architects are solving by the application of Acousti-Celotex Sound Absorbing Tiles to the ceilings of auditoriums, and all rooms where ease of talking and hearing is a first essential.

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Its easy application to existing surfaces, without the necessity for alterations, makes it equally in demand for the correction of acoustics in buildings already in use.

But beyond its practical effectiveness are its decorative possibilities—its complete adaptability to design—its genuine contribution of beauty to interiors of every style.

And, finally, Acousti-Celotex Sound Absorbing Tiles offer no after-problems. There is no deterioration of material; no repairs. Their high sound absorbing efficiency, predetermined and fixed by the patented perforations is permanent. Painting and repainting will not impair it in the slightest degree.

For complete information write the Acousti-Celotex Service Bureau, 919 North Michigan Avenue, Chicago, Illinois.



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Carter Bloxonend Flooring Co.
General Offices, Kansas City, Mo.



Damage Suits Against Architects for Negligence

(Continued from page 23)

difficult for an experienced architect to read the signs and sense the development of one of these more serious situations. When he does see one of them in the offing, it is important that he should at once set about putting his house in order and making sure that the record is clear.

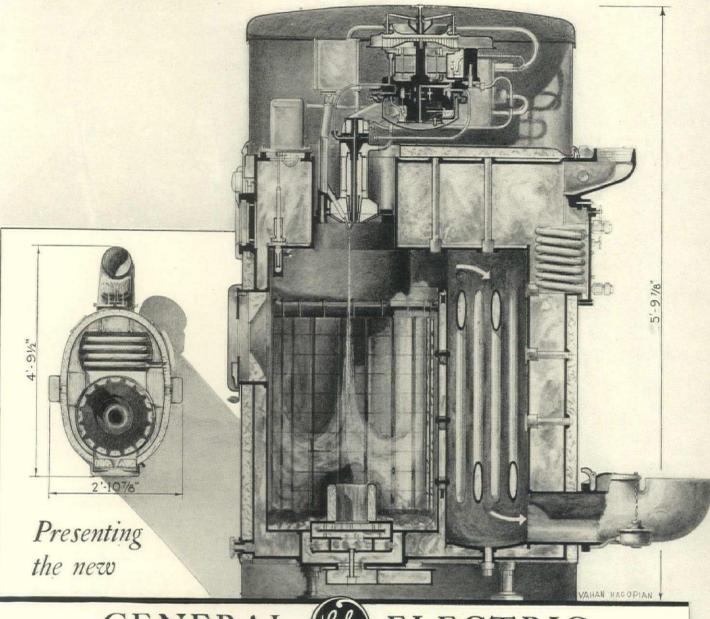
Where the client, for example, insists that certain changes be made of which the architect does not approve and from which he believes trouble may result, the architect should be careful to go on record in writing to the effect that the changes are being made at the instance of the client and on the latter's responsibility. Where the client gives indications of an attempt to build up a claim of improper supervision, the architect can quite easily and naturally make a record of his supervisory visits, not only in his office records, but in the form of letters to the client, reporting that he has on such and such days inspected the job and thus inform him of how the work is progressing. The same is true where other claims are advanced by the client. If they be serious enough, the architect will do well to take advice before he proceeds and thus be sure that he is protecting himself as best he may. It is extraordinary how a few well-considered letters, written at the right time and in the right way, will serve to demolish a claim by the client which might otherwise be dangerous and certainly troublesome and also will protect the architect from future loss and difficulty.

A word of caution is in order, however. It is probably better to write no letters than to write them carelessly or without proper advice, where advice is indicated. An ambiguous or thoughtless letter or memorandum can easily spoil what would be otherwise a perfect defense.

CERTIFICATES . . . I should add a final word with respect to the issuance of certificates. If the certificate is issued carelessly and without just cause and paid, the client will have a valid claim for damages against the architect. This would unquestionably constitute negligence. In too many cases certificates are issued more or less as a matter of course and rather casually. This is dangerous practice. The architect should in every case be in a position to prove, if necessary, that the certificate was issued after careful consideration and with the exercise of all reasonable care. To follow any other course is directly to invite trouble and litigation.

Housing Committee Meeting November 4

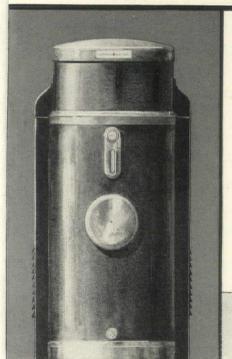
CINCIDENT with the National Conference on City Planning to be held in Pittsburgh in November the Committee on Economics of Site Planning and Housing of the American Institute of Architects will hold a meeting on November 14, 1932. The session will be devoted to a discussion of housing and slum clearance. The session will be open to all architects who are interested in this subject and they are cordially invited to be present. Information relative to the time and place of the meeting can be obtained by addressing the Committee Chairman, Frederick Bigger, Westinghouse Building, Pittsburgh, Pa.



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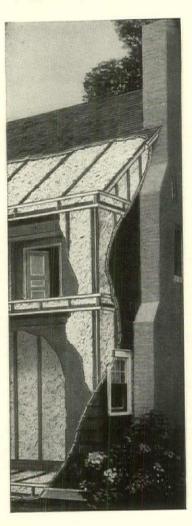
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Deaths

JOHN K. STACK, architect, died August 15 at the age of 74. He had been practicing in Baltimore, Md., where he designed and built St. Mary's Star of the Sea, St. Anne's, St. Charles, St. Gregory's and St. Paul's churches.

HARRY ALLAN JACOBS, architect, died August 21 at the age of 60. He had designed the Marseilles Hotel, the Seville Hotel, the Friars Clubhouse, the Hardman-Peck Building, three houses for Otto H. Kahn and houses for Adolf Zukor and Lieutenant-Governor Herbert H. Lehman. Last year he was nominated a fellow of the American Institute of Architects and was a past president of the alumni of the American Academy in Rome. Mr. Jacobs was born in New York, graduated from the School of Mines at Columbia University, studied for five years at the Ecole des Beaux Arts, Paris, and in 1897 was awarded the Prix de Rome in architecture. Some ten years ago he suggested making Fifth Avenue a double-decked street with four sidewalks. In 1926 and 1927 he was a member of Mayor Walker's Committee on City Plan and Survey.

SEATTLE architects recently held an exhibition on the fourth floor of the Frederick & Nelson Department Store. Preliminary sketches, perspectives and plans were presented as well as working drawing and models.

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NEW MATERIALS & EQUIPMENT

BRIEF REVIEWS THAT MAKE IT EASY TO KEEP IN TOUCH WITH THE PROGRESS MADE BY PRODUCERS

Improved Enameling Iron

120 An improved enameling iron to be known as "Crystal Etched," possessing exceptional bonding qualities, has been placed on the market by the American Rolling Mill Company, Middletown, Ohio. It is said to have greater resistance to chipping and flaking, there being greater adhesion between metal and enamel.

Residence Steel Boiler for Oil Burning

121 Automatic combustion control with the built-in Combustrol and instant hot water supply are the features of the new boiler, designed specifically for oil burning, now being marketed for residence use by the Fitzgibbons Boiler Company, New York. It is called the Fitzgibbons Oil-Eighty Automatic.

New Home-Size Petro Oil Burner

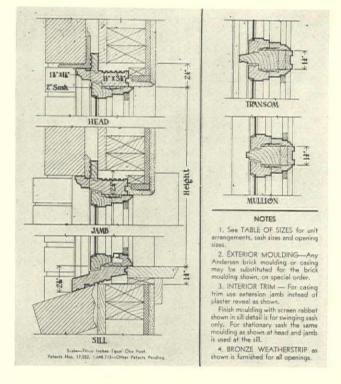
122 The Petroleum Heat and Power Company, Stamford, Conn., has introduced a new oil burner utilizing the same principle of design as in the Petro oil burners in large industrial plants and office buildings. This burner is especially intended for residences and to secure exceptionally economical fuel consumption.

New Celotex Sanitary Processed

A process by which fungus growth and termite damage may be prevented is now used in the manufacture of all Celotex cane fibre products made by the Celotex Company, Chicago. It is called the Ferox process and is a method whereby the individual fibers, in their wet state and before formation into a board, are coated with a chemical complex which is toxic to fungi, termites and other cellulose destroying organisms. The process is declared to be insoluble in water, non-volatile, odorless, permanent and not to alter the physical properties of the finished products. It is also said to present no hazards to humans or domestic animals.

New Type Sealex Wall Covering

124 A new type of Sealex Wall Covering has been introduced by Congoleum-Nairn, Inc., Newark, N. J. It is called "standard" and has a light fabric backing instead of the burlap backing. It is especially adaptable for residential work and for fine offices. The material is declared to be permanent, non-fading, stain-proof and moisture-proof, and to act as a heat and sound insulator. It is furnished 36" wide and comes in 22 patterns. Where a paneled design is desirable, the material may be used with wood or metal mouldings.



New Anderson Casement Completely Fitted

Minn., has placed on the market a new casement which includes, in addition to the frame and sash, weatherstrips, complete hardware, screen and removable double glazing. The stiles and rails of the sash are made of clear pine primed with aluminum paint; muntin bars are of solid aluminum. Improved reinforced joints eliminate exposed end wood. Wood members have greater thickness than width, which increases strength yet maintains narrow lines. Extension hinges permit easy cleaning of outside glass from the inside. Made in single and multiple units.

New Hospital Plumbing Fixtures

A new line of hospital plumbing fixtures has been announced by the Kohler Company, Kohler, Wis., and is stated to be complete in every respect. Over-rim supply, a feature of most of the fixtures, eliminates the danger of cross-connection and possible contamination of the regular water supply. All the flush valves are furnished with syphon preventers and as an added precaution vacuum breakers are available for supply lines and flush valves.

To Get More Information, Use Post Card on "Catalog Insert" Preceding

Rare Woods Reproduced in New Material

127 A new material that reproduces rare woods in their actual color and texture has been placed on the market by the De Vos Company, Inc., Long Island City, N. Y. The material is called "Horneer Panels" and is shipped ready for application by the paperhanger.

Fire-Retarding Paint

for some years has been used in the railroad field for some years has been introduced into the building industry by the Lundy Corporation, New York. It is called BurNot Fire-Retarding Paint and is declared to protect wood surfaces from fire because extreme heat melts down certain of its mineral constituents to form an enamel glaze which cuts off the air supply and prevents combustion. It is declared to be highly weather-resisting and to protect against decay. It comes in various colors and is adaptable to both exterior and interior work, either gloss or flat finish. May be applied by either brush or spray and the coverage is approximately that of any high grade linseed oil paint.

General Electric Announces Humifilter

humidify air in a home without the use of a duct system, using electric power at the same rate as a single incandescent lamp, has been announced by the General Electric Company, Schenectady, N. Y. The device is capable of producing a complete change of air in the lower part of a house in 40 minutes. It is called the "humifilter," and has an evaporating capacity which will supply an adequate amount of moisture to homes with a volume not exceeding 50,000 cubic feet.

Wall Covering Developed by Armstrong Cork Co.

130 A wall covering and wainscoting possessing the sanitary qualities and durability found in linoleum has been announced by the Armstrong Cork Company, Lancaster, Pa. It is called "Linowall" and will be offered in designs and colorings specially suited to wall use. The new line is made up of two types of material—one, a linoleum mix keyed to a fabric back; the other, a special embossed lacquered material which simulates glazed tile, being intended to meet the public demand for a reasonably priced wall material which closely approximates the hard glazed surface of ceramic tile. Necessary accessories are also included in the line, including wood cap moulding, metal cap strips, etc.

New Type Table and Counter Top Construction

131 The Vitrolite Company, Chicago, has announced a new type of table top and counter top construction. In this construction, the corners of the Vitrolite are rounded and the Vitrolite affixed with plastic cement to an underslab of Presdwood and bound around with a metal moulding. The metal moulding is connected from opposite sides with metal bands to stiffen the construction. On counter tops the joints in the moulding are covered with metal clips. Advantages claimed are that the tops are protected against chipping, danger of breakage is practically eliminated, and sound is deadened by the cement and Presdwood.

Fireproof Insulating Board

132 The United States Gypsum Company, Chicago, has developed an insulating board called "Insulating Sheetrock" and making use of a new principle. The product consists of a 3/8" thick gypsum board with one surface having the same finish as ordinary Sheetrock, and is applied to studs and joists in much the same manner. But the reverse side or side placed next to the studs has a shiny metal surface. It is declared that about 75% of heat-travel across the space between inside and outside of studs is by means of radiation, which the new shiny metal surface stops.

Low-Cost Photoelectric Relay

A new low-cost photoelectric relay has been announced by the G-M Laboratories, Inc., Chicago. It is called the Foto-Switch and embodies an electromagnetic switch which is opened or closed by the interruption or variation in the illumination on the photoelectric cell. With the device, any sort of electrical device may be controlled through the medium of the light beam. The Foto-Switch is also suitable for automatically turning on and off artificial lights when the daylight drops below or rises above a pre-determined level. The system may be provided with an invisible infra red light beam.

New Process of Freezing

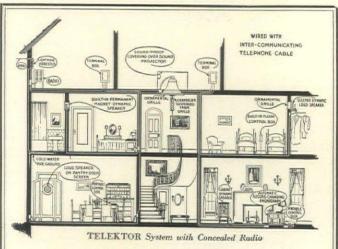
134 The "Z" process of freezing, which is in commercial operation in England, Norway, France, Italy and Australia, has been introduced into this country by the American Z Corporation, New York. The Frick Company, Waynesboro, Pa., has made arrangements to produce all apparatus and equipment used in connection with the Z process in this part of the world. This process, in order to effect rapid cooling without the necessity for maintaining extremely low temperatures, employs at one and the same time all three of the known methods of heat transfer—radiation, conduction and convection.

Safety Boiler Control

A safety boiler control, or low water cut-out, which contains a precision fuse that melts at a definite temperature in a definite time, has been placed on the market by the Petroleum Heat and Power Company, Stamford, Conn. This fuse is in the electric circuit operating the burner, shutting it down when excessive temperature or pressure causes the fuse to melt and break the circuit. It is called the Kelley safety boiler control and is suitable for the protection of high or low pressure steam or water boilers fired with gas or oil burners or mechanical stokers.

Masonite Cushioned Flooring

An all wood fibre floor covering declared to be both resilient and impervious to moisture has been placed on the market by the Masonite Company, Chicago. This flooring is made possible by the recent development of tempered Presdwood, which forms the outer surfaces of the three-ply laminated flooring block in which the inner section is a resilient wood fibre material called QuartRboard. The result of the combination is a block with outer surfaces of the hard smooth tempered board and with the resilient inner layer acting as an in-built shock absorber. Laid in mastic cement over concrete or wood subfloor.



High quality reproduction of radio and phonograph programs is made available throughout the residence with TELEKTOR control of the distant instruments. Outlet plates available for standard one to four-gang switch boxes. Write for the new TELEKTOR Booklet describing the acoustic effects and convenience a Telektor System makes available.



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one shirt has the built-in quality that will enable it to outlast the other by a good many washes.



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The Merits of Kliegl products and craftsmanship won the hearty approval of executives responsible for the erection and operation of the world's greatest theatres now under construction in Rockefeller Center, New York—and both playhouses will be fully equipped with the very latest improvements in Kliegl stage lighting equipment and apparatus, including many new lighting devices never before used:

Footlights Spotlights Program Lights Stage Pockets Borderlights Floodlights Stage Lamps Control Boards Cyclorama Lights Strip Lights Scenic Effects Auto Calls, etc.

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UNIVERSAL ELECTRIC STAGE LIGHTING CO., INC. 321 WEST 50th STREET NEW YORK, N.Y.

What Architects Are Talking About

(Continued from page 27)

JAMES MONROE HEWLETT, who sailed September 20 to assume the duties of resident director of the American Academy in Rome, expresses the hope that during his regime he may "offset the rather unfortunate tendency in all the arts, along with the modern movement, to scorn the things of the past." He stated: "We've made more progress in architectural education during the last forty years than any other country in the world, and yet we absurdly go abroad to copy some modern fad for our interiors. Modernistic art is barren of originality and thought. And yet even in our most commercialized and practical buildings we find a distinct need for freshness, originality and beauty."

A further thought expressed by Mr. Hewlett was that: "Our greatest need in the arts of design in this country today is to educate a generation of painters, sculptors, architects, and landscape men who regard their art as something intimately connected with the other arts. For the last 500 years there has been a tendency for artists to paint and sculptors to sculp, whereas in Egypt, Assyria, Greece and Rome, and even in the nations of the Middle Ages, you find the artists working together and that is inherent in design. Rome can impress upon the mind of the able sculptor or architect the vital dependence of his own art upon other arts.

"That is particularly necessary if modern art is to last. We've got to have sculptural forms that are not based on copies and the only way we can do it is to get all artists working together."

EXHIBITIONS are being booked in the art galleries of Sears, Roebuck and Company, 1106 Connecticut Avenue, Washington, D. C. Artists who desire to exhibit are requested to communicate with Theo. J. Morgan, director. There are no charges for use of the Galleries, hanging of works, etc., nor commission on sales.

THE American Water Color Society will hold its sixty-sixth annual exhibition October 27 to November 13 at the Fine Arts Society, 215 West 57th Street, New York. Exhibits will be received on Wednesday, October 19, only, between 9 a.m. and 5 p.m., at 210 West 58th Street, New York.

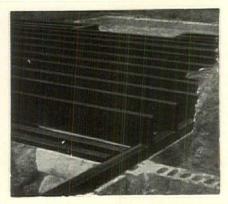
RIVET heads may now be protected from corrosion, according to the American Zinc Institute, Inc., New York. The individual units of riveted steel structures may be hot-dip galvanized before assembling, joined together by riveting in the usual manner with ordinary uncoated rivets, and the exposed rivet heads then sealed from the weather after the entire job is assembled in the field.

THE world's largest chandelier will be installed in one of the theatres in Radio City. It was designed and is being built by Foster Gunnison, lighting engineer, and will provide enough illumination to allow 4,000 people to read their newspapers. By it, the theatre may be illuminated with any intensity of red, blue, green or amber.

A N International Institute of Steel Construction has been organized. It is proposed that executive offices shall be established in The Hague under the direction of E. A. Van Genderen Stort.

DRINKING fountains that flow only when a person's head is bent to drink are a recent development of the photoelectric cell. In the main office building of the General Electric Company, Schenectady, N. Y., is a drinking fountain operated by "black light," so that the beam of light usually associated with the photoelectric cell is not visible.

FRAMELESS steel house is now nearing completion in Solon, a suburb of Cleveland, Ohio. It is being constructed by the Insulated Steel Company in cooperation with the American Rolling Mill Company. As the weight of the structure is carried by the walls, the erection of the conventional structural frame is unnecessary. A large part of the frameless steel house is factory produced. There is no field cutting nor fitting. The walls are made of steel sheets in which channels are pressed to give rigidity; after forming, wall sheets come in four different widths, further adjustment being secured by telescoping the channels. The walls are assembled in sections room wide and story high with win-



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dow or door frames in place, the various pieces being welded in place. The completed wall weighs slightly more than 2 lbs. per square foot. Floor sheets are formed longitudinally in the shape of a long "Z" and lapped one over the other and welded together, forming a series of metal boxes. One welding outfit and two workmen were employed in the erection work, 17 tons of steel being required to form the "chassis" of the house which contains seven rooms, two baths and a double garage, with recreation room, boiler room, laundry and other storage rooms in basement; approximate size not including garage, 39'x28'. The exterior is insulated and covered with porcelain enameled shingles. Completed wall is less than 4" thick. Ceiling will be finished with an acoustical tile cemented to the lower plane of the steel floor above. A four ply asphaltic roof will be applied over an insulating slab 2" thick, thin pieces of slate being embedded in the asphalt to provide a walking surface. This method of construction was developed by Mills G. Clark, former president of the Cleveland Real Estate Board.

A LTHOUGH the automobile is doing its part towards increasing the trend of decentralization, the railroads must do their part in order that the time separating a man's home and his job may be lessened. A new development in this field is a rail car that is no more like that of yesterday than the 1932 motor car is like that of 1901. Instead of weighing 130,000 or more tons it tips the scale at 13,500 lbs. Instead of requiring 300 horse-power or more, 90 is sufficient. Against an operating cost of 35 cents a mile, 12 cents is stated to be the limit. And it has pneumatic tires. This may do much to comfort the harassed commuter and increase his numbers.

THE possibilities of laminated timbers for use as columns, beams, etc., are being studied by the Forest Products Laboratory. Such timbers with low grade material in the center are from 70% to 90% as strong as solid material.

Personals

DODGE AND MORRISON, architects, after being for thirty-five years in the Wall Street district, are moving to 198 Broadway, New York.

HARRY B. AARENS, architect, announces the removal of his offices to the Hollywood Professional Building, 7046 Hollywood Boulevard, Hollywood, Cal.

ROBERT N. SHELEY, architect, 215 East Second Street, Belvidere, Ill., would like to receive manufacturers' samples and catalogs.

NORMAN W. SOREY, architect, has removed to 628 Rock Creek Church Road, N. W., Washington, D. C.

STURGIS ASSOCIATES, Inc., architects, successors to the Office of R. Clipston Sturgis, 120 Boylston Street, Boston, request that in the interests of economy manufacturers send literature addressed to the firm instead of to individual members. Members of the firm include Wm. Stanley Parker, William B. Coffin, William Adams, S. Winthrop St. Clair, Alanson H. Sturgis.

COMMISSIONS TO BE AWARDED

The transformation pictured here suggests a world of possibilities in remodeling work to discerning architects. Otherwise barrenentries, when framed with artistic cast iron verandas, become quaintly charming and inviting. Leading



The entry as originally constructed.

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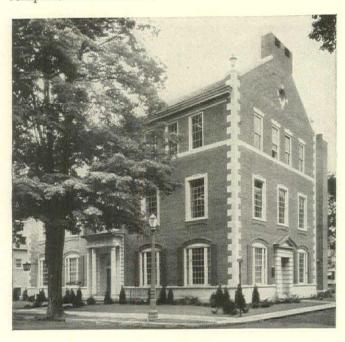
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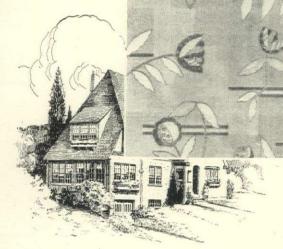
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See Sweet's Page C-3414

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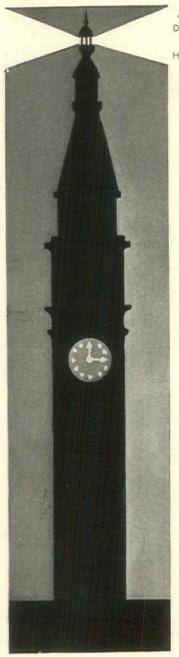
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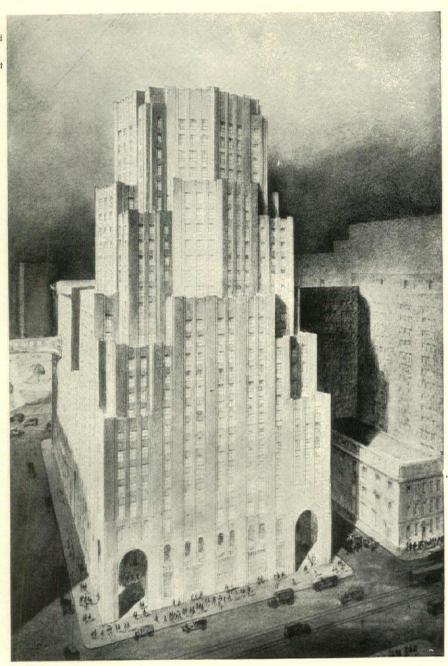
GOOD HOUSEKEEPING Everywoman's Magazine



WISH to direct your attention to this photograph because it illustrates an important building trend of today namely, the use of escalators to supplement elevators. These escalators handle the heavy traffic of lower floors and leave the elevators free to serve upper-floor tenants. Photograph of the new Cities Service Building, of New York City. Sixty Wall Tower. Escalator and elevator installation by Otis Elevator Company.



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Stone Vaulting, Washington Cathedral. From "Materials and Methods of Architectural Construction"

MATERIALS AND METHODS OF ARCHITECTURAL CONSTRUCTION

By Charles Merrick Gay, A.B., B.S., and Harry Parker, M.S. Published by John Wiley & Sons, Inc., New York. Illustrated; indexed; 639 pages; size 6 x 9; price \$6.00

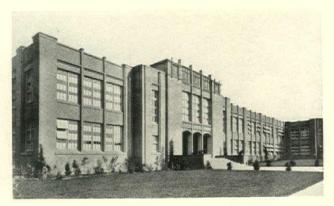
RITTEN primarily as a text book for courses in Architectural Construction, this comprehensive volume will be found equally valuable to the practising architect both as a reference source and as an aid in the solution of structural problems. In Part I materials of construction are authoritatively discussed in relation to their structural use. In Part II methods of construction are similarly related to the basic materials employed. A chapter is devoted to the Mechanics of Materials. Of outstanding importance is the fact that the authors have given due recognition and treatment to accepted modern methods and materials.

METHODS AND PROBLEMS OF MEDICAL EDUCATION—Twentieth Series

Edited and published by The Rockefeller Foundation, New York. Illustrated; indexed; 250 pages; size 8 x 11; free to interested persons.

THIS volume continues the series of descriptions of medical schools, laboratories, clinics and other institutions, in which the Rockefeller Foundation has sought to collect and publish data of value to those planning improvements in buildings and methods for

medical education. Plans and illustrations of many hospitals here and abroad are included, accompanied by brief descriptions of the facilities in use. While not primarily intended for use by architects, the entire series should prove helpful to those specializing in the medical field.



Eureka Junior High School, Eureka, California. From "Planning School Buildings"

A METHOD OF PROCEDURE AND CHECKING SCHEDULE FOR PLANNING SCHOOL BUILDINGS AND THEIR EQUIPMENT

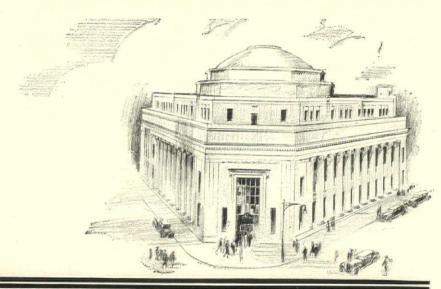
By John J. Donovan. Published by The Bruce Publishing Company, New York. Illustrated; 361 pages; indexed; size 73/4 x 101/2; price \$6.50

ERE is a practical working check list and guide for architects who may be planning school buildings of any type. No matter how efficient an architect's office may be, the human mind is not capable of recalling and recording, unaided, the many thousands of details, large and small, which are or should be included in a school structure of any magnitude. Also it is hardly to be expected that school officials and building committees should be able clearly to state their problem in all of its aspects, without the aid of a comprehensive check list such as this.

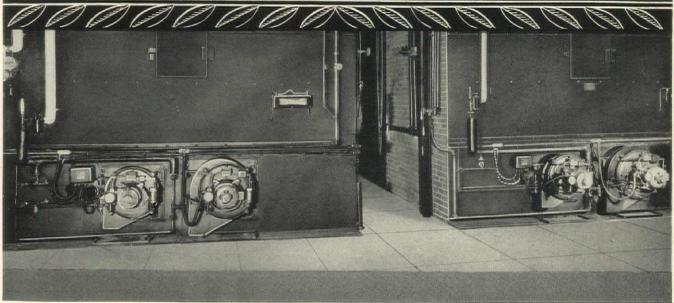
The check list here given is carefully annotated at points where explanations and notes would appear to be helpful. Most of the pages are ruled to provide for the insertion of notes and references on a particular project, so that each copy of the book will serve as a permanent record of a single school building. Columns are provided for indices to "statement of problem," "preliminary drawings" and "working drawings."

The author had four objectives: to aid school officials and educational planners in stating their problem clearly to the architect; to serve as a counter-check to the preliminary drawings; to provide means of checking working drawings and specifications; and as an aid to the clerk of the works or supervisor of construction.

In the organization of the material, recognition is given to the various functional parts of the school plant and to the special conditions affecting the planning of class rooms, kindergartens, laboratories, gymnasiums and many other special purpose areas.



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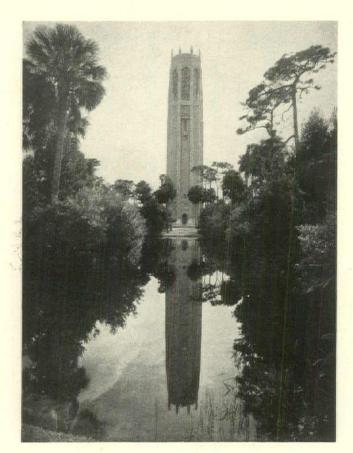
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The Singing Tower, Lake Wales, Florida. From Year Book, "American Society of Landscape Architects"

OF MEMBERS, AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS

By the Year Book Committee, Clarence Fowler, Chairman, with an Introduction by Henry Vincent Hubbard. Published by The House of J. Hayden Twiss, New York. Illustrated by 214 photographs and plans; size 10 x 123/4; price in boards, \$4.00

THIS monumental yearbook is composed chiefly of a notable collection of plans and photographs of current work of members of the American Society of Landscape Architects, together with a list of its members. The plates are handsomely printed in duotone ink on

fine paper. The volume is replete with inspiration for architects, and demonstrates the fundamental importance of specialized training in landscape work. The results of proper collaboration between architect and landscape architect are made evident by the character of the work illustrated. This is a book to be possessed and enjoyed by every architect.



Pomona College, Claremont, California. From Year Book, "American Society of Landscape Architects"

THE DESIGN OF STEEL BUILDINGS

By Harold Dana Hauf, M.S. Published by John Wiley & Sons, Inc., New York. Illustrated: 222 pages; size 6 x 9; price \$2.75

T is the purpose of this text to present the general principles of structural steel design as applied to the more common types of buildings such as apartment houses, schools, offices and institutional buildings. The book was developed from notes used in the third year course in architectural engineering in the Department of Architecture, Yale University. It is designed to meet the requirements of architects and engineers entering professional practise, and to this end, presents the theoretical material in a concise manner. The author has sought with success to bridge the gap between academic work and professional practise.

REPORTS OF COMMITTEES ON HOME MAKING, HOME FURNISHING AND INFORMATION SERVICES

President's Conference on Home Building and Home Ownership, Washington, D. C.; Prepared for the Committee by Martha Van Rensselaer, Ruth Lyles Sparks, and Pearl Chase, chairmen; edited by John M. Gries and James Ford. Illustrated; indexed; 238 pages; size 6 x 9; price \$1.15

THE reports of the three committees included in this volume are crowded together because they cover three important aspects of home making. The Committee on Home Making has felt that the home and the development of family life is the end product of a well-conceived housing problem. This report touches upon the effect of housing on family life in cities and rural areas and includes a chapter on suggestions for further research of considerable value to sociologists.

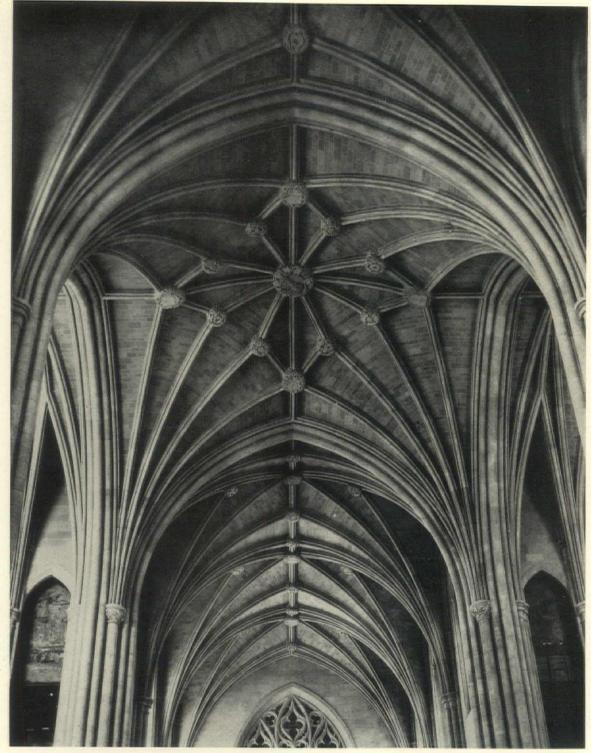
The Committee on Home Furnishing and Decorations has laid particular stress upon the importance and possibility of bringing beauty as well as convenience, comfort and appropriate furnishings within the reach of families of moderate means. The responsibility of manufacturers for providing well designed low cost furniture has been developed.

The Committee on Home Information Services and Centers has sought to encourage the establishment of local sources of data and guidance to aid home owners in all communities in the betterment of their dwellings.

THE COLLEGE LIBRARY BUILDING, ITS PLANNING AND EQUIPMENT

By James Thayer Gerould. Published by Charles Scribner's Sons, New York. Indexed; 116 pages; size $51/2 \times 81/2$; price \$2.00

A RCHITECTS facing the problem of designing school or college libraries will find in this book the observations and considered findings of a man who has personally studied the libraries of more than fifty American colleges and universities. The author is the Librarian of Princeton University. He has analysed the planning requirements of each department of the complete library, in terms of direct utility to architects. His chapter on materials and equipment contains many helpful and critical observations. Printed on antique finish book paper. without illustration.



Detail of Crossing
DUKE UNIVERSITY CHAPEL
Durham, North Carolina

HORACE TRUMBAUER
Architect

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During a 26,000 mile sketching tour of the United States, A. C. Webb's interest was intrigued by the colors and composition of the stables and garage of Cheekwood, the estate of Mr. Leslie Cheek near Nashville, Tennessee. This month's cover reproduces Mr. Webb's painting of the group. The entire estate, in-



cluding the landscape work, was completed this Spring by Bryant Fleming, architect, of Ithaca, New York. Mr. Webb is a native of Nashville, an architect who has practised in Chicago, New York and Paris, and an etcher and artist with a number of notable exhibitions to his credit here and abroad.

AMERICAN ARCHITECT

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NOVEMBER 1932

Cover-A Water Color by A. C. Webb

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'THE ARCHER''

CARL MILLES, SCULPTOR, STOCKHOLM, SWEDEN

A camera study by Sigurd Fischer

In Times Like These

BY BENJAMIN F. BETTS, A.I.A.

RECESSION in business is not new to members of the older generations. They know that history is merely repeating itself. To the younger men it is a new experience. But all are learning lessons in business and thrift which, if they are wise, will stand them in good stead in the years to come. Everyone is faced with new problems and temptations and many listen to the dolorous words of the pessimist.

Among other things, architects have learned the danger of excessive office overhead and the importance of building a financial reserve when business is good. Some will remember this when business improves.

A danger to be guarded against in times like these is the possible letdown in professional ethics. Many are no doubt tempted to cut fees, make free sketches and enter into practices that are harmful to the individual as well as to the profession as a whole. As morale is weakened, high ideals are endangered. To maintain high ideals and regard for professional ethics requires considerable moral courage. This is essential right now.

N times like these the pessimist finds willing listeners when he fore-casts that everything is "going to the dogs" including the existence of the architectural profession. Statements are made that standardization will no longer provide a place for architects. This might deeply concern architects if human beings, physical environment, construction and design could be standardized. Human beings accept standardization up to a certain point. After that they insist upon remaining individuals. Environment certainly cannot be standardized. Building construction has been largely standardized. Further standardization—admitted as desirable—will have no adverse effect on the demand for architectural service. As a matter of fact, standardization has greatly simplified the work of the architect and he should assume his proper place in relation to it. In the matter of buildings, standardization of certain types is possible and economically desirable. Recognizing this fact, architects can well assume the responsibility of seeing that they are well designed.

The pessimist complains that the profession is overcrowded. He forgets that every line of human endeavor is overcrowded at the bottom and that there is plenty of room at the top. Do not take him too seriously.

Times like these demand clear thinking, a return to fundamentals and a readjustment to new conditions. They require the preservation of professional ethics and high ideals so that the profession of architecture may not retrogress. It is a time for self-analysis so that one may profit from mistakes of the past. In times like these men learn new things; dreamers are brought back to earth; the wheat is separated from the chaff.

A Professional Fee

Years of experience have proven

BY R. CLIPSTON STURGIS, F.A.I.A.

Past President of the American Institute of Architects

F all the vexed questions connected with the practice of architecture probably none has been so fruitful of trouble as the payments to the architect for his service.

A commission, based on a percentage of the cost of the work, is not only utterly unsuited for general application, but is open to the very real objection of the architect's financial interest in the cost of the work.

Attempts have been made to classify work according to its complexity and establish different rates of commission, and also to make sliding scales to obviate the inequalities of a commission as applied to works of greatly varying costs.

Architects have been faced with a new aspect of the problem, that is, work in which the repetition of units makes a commission on the cost peculiarly inapplicable. This is not a wholly new problem because lofty office buildings have floor after floor exact duplicates, but this is not quite the same as building a hundred houses all alike, which is a situation developed since the war.

The United States Housing Corporation followed a method in handling wartime housing which had but recently received the consideration and endorsement of the A. I. A. of a fixed professional fee for the service of the architect, and then the payment of all costs of performing the professional service required.

A few architects had been using this method of charging for many years, and with such success, and such unfailing endorsement from clients, whether public or private, that some account of the way in which the method developed may be of interest.

The first step was based on the fact that the draughting of a job was a fair measure of its complexity, and that the fee should bear some relation to this. A study of the fees on completed work led to the conclusion that the average job netted the architect about one-half his commission. If he actually lost money on some small and complicated job, he made enough on the large and simple ones to even up, and the average job yielded half the gross fee as profit. It was also found that in offices of fair size, in large communities, the draughting payroll about equalled all other expenses, i.e.—rent, light, heat, clerical assistance and supplies. Therefore, draughting times two was the actual cost, and a similar amount would give the architect his fee, so draughting times four was tried as the gross fee.

The first trial of this proved that too much depended on the draughting pay-roll, and that this was as objectionable and as unfair as the commission basis. From this point the attempt was made to determine the fee irrespective of the draughting, leaving the draughting doubled to cover the cost. The first measure tried was the old commission basis, applied, not to the final cost, but to the estimated cost of the work, and, as it was the professional fee only, it was half the commission. That is, with 6% on a \$100,000 job, 3% was the fee. This, however, was still not entirely satisfactory.

The next step then was to fix the fee tentatively on this half commission basis and then modify it by two other considerations, first, the complexity, and second, the length of time of the service.

This sounds complicated, but is really fairly simple, because it so readily falls into terms of an annual salary, and a salary is the sort of thing that every one is used to and accustomed to measure by. An annual salary then, based on the character of the service, its length and the approximate financial responsibility involved, seems to be the best way to determine the fee.

Incidentally on this basis some fees are shown up as unreasonably large—an office building costing \$3,000,000 and carried through, from first drawings to completion, in two years would mean at 6% a fee of \$180,000; half of this at least clear profit, would mean a fee of \$90,000, or a salary of \$45,000 a year, and this generally for but part service of the architect, who undoubtedly would have other work. The average business man would at once question whether the service to be rendered by the architect was worth this, where he might not question the accepted rate of commission.

Monthly Payments an Advantage

THERE are various advantages in this method which will be touched on later but one which influences the determination of the fee may be mentioned here.

Under this plan both the cost of the architect's force, and the architect's fee are paid monthly from the start. Under the commission system an architect used to wait for a first payment until a contract was signed. Theoretically this was because until the contract was signed there was no amount on which to base a commission. The older men know what a burden this was when work dragged and many changes multiplied drawings with no prospect of compensation for the redrawing unless the cost of the building exceeded the amount originally proposed. Then there came a time when the architect received a part payment when preliminary sketches were accepted and this commission was based on an approximate estimate. Even this, however, was but a step toward the good business principle of paying as you go, and not making bargains which involve the furnishing of capital and interest on it.

Under the fee system payments are made monthly from the beginning of the work, covering a portion of the fee, and the whole cost of draughting to date. It is

For The Architect

fee plus cost to be good business

customary to reserve a fifth of the fee payable at the end and divide the remainder into monthly payments.

As examples of the application, assume two pieces of work, one a house estimated to cost \$100,000, and one an office building, of ten stories of which eight are duplicates, estimated to cost \$500,000. The time for each being estimated at eighteen months, it may be fairly assumed that these two involve an equal amount of service on the part of the architect. The first costs but one fifth of the second, but will require the constant personal attention of the architect, from the first sketches to the last finishing touches, while the second, once past the stages of study of plan and design, will be executed by the office with but little further attention from the head. The question then would be to determine a fair fee for the eighteen months' service, bearing in mind that the first involves more personal attention, and the second responsibility for a greater investment. In fixing the value of this service one will also bear in mind that the architect assumes no risk of having his profit eaten into by draughting, that he will not have to carry his office expense except month by month, and that he will receive a share of his fee each month. Assume that \$4,000 a year-that is \$6,000 for a year and a halfwould be a fair professional fee. Twenty per cent reserved, \$1,200, would leave \$4,800 to be distributed in eighteen monthly payments, \$266 a month.

Compare this with the commission basis.

The average house would be at least ten per cent and the office building six per cent—10% on \$100,000 is \$10,000 and the architect would be fortunate if his expenses did not run over half of this. Six per cent of the \$500,000 would be \$30,000 and it is unlikely that the expenses would be even half this amount, and the architect would net on the office building three times as much.

A somewhat extreme contrast is taken here merely to emphasize the comparison. Probably in practice one would be more influenced by the actual expenditure, and would place a somewhat lower fee than \$6,000 on the house, and a somewhat higher fee than \$6,000 on the office building, but it is surely obvious that the service of the architect, himself, is not worth two or three times as much, on one as on the other and that \$5,000 and \$8,000 would be a fairer ratio between the two.

Advantages of Fee System

THE great advantage of the professional fee then is the ready means of gauging it according to the character of the service to be rendered and the length of the service, in place of depending on the cost of the work.

The second advantage is its ready adaptation to partial service. The reserved twenty per cent is a convenient amount with which to terminate the work at any period. If but two months' work has been rendered and only the preliminary drawings are complete, when the

owner abandons the work, he pays the reserve, twenty per cent, and the two months' fee and expenses, and the whole matter is closed. At any stage of the work this is a fair settlement.

The fee applies also to work which is originally partial service; professional advice, a preliminary survey and report, consultation, judgments and arbitration. All of these would carry a fee based on the character of the service and its duration, and often there would be no expenditure at all on the part of the owner, and never any reason for basing the value of the professional service on the cost, even when there is any.

It applies also to work involving almost nothing except the architect's personal work. When an architect charges twenty-five per cent for designing, detailing, and following the execution of a carved screen which costs but \$1,000, the percentage seems huge; but the payment of \$250 for such service is, if anything, small. If a design, involving no more service, is executed in a material that makes the screen cost \$5,000, it is absurd that the architect should receive five times as much for exactly the same service. If, however, he told the owner at the outset that for this personal intimate service, where design, details, and the supervision of models and execution were to be wholly his own, he proposed to charge \$500, the owner would compare it with the fee for an operation for appendicitis and probably conclude that it was fair enough.

Typical Examples of Fee System

THE following figures are typical examples of various pieces of work executed by my office which were based upon this system.

	E-tit-1	A . 1 C .
(1) 1 7 1 7 1 7	Estimated	Actual Cost
(1) A Bank Building		
Building	. \$600,000	\$592,494
To take		24 months
Fee	. 16,000	16,000
Draughting		15,218.46
Engineers	. 2,700	2,680.32
Incidentals	. 2,700	496.50
Clerk		1,960.00
Models		414.00
Rendered perspective		520.50
(2) A Small Country House	e	
Building		\$32,025.49
To take		12 months
Fee	1 000	2 100 000

Building	\$20,000	\$32,025.49
To take9		12 months
Fee	1,800	2,100.00x
Draughting	1,000	1,501.42
Engineers	300	456.30
Incidentals	250	191.98

(x—the increase in fee represents three months more service.) (Continued on page 92)

"The old order changeth"

T is not easy to realize that the tendency towards a modern style—as we choose to call it—so dominant in our architecture today, has been in evidence only about six years. For, as you will recall, it was in 1925 that this country declined with thanks the invitation to be represented at the exposition of L'Art Moderne, held in Paris in that year, because we admitted that we had nothing of "modern design" to exhibit. Previous to that time, American architecture was largely a matter of turning out a design—I purposely avoid the term "creating"—that would bear the character of some one or another of the historic styles or periods. In fact, we may well designate that era of architecture in this country which begins where the Victorian leaves off (wherever that may be) and continues up to 1925, as the Age of Period Influence.

In those days, which we may now record as a thing of the past, originality and creative ability were almost obsolete terms. In fact, we had every reason to believe that architects in this country were not possessed of the creative urge, as we supposed all architects were, and they gave us very little evidence of being endowed with that which is biggest in the tempera-

ment of every artist-imagination.

But a change has come over American architects during these last six short years! They come out boldly today against precedent and tradition and their one idea seems to be to do something that has never been done before. Sometimes, in their eagerness to dispense with columns and cornices, they overstep the mark, but, at least, the average American architect today cannot be called a copyist and that is more than can be said of his prototype of twenty-five, fifteen and even ten years ago.

The interesting part of this modern movement is the way it started. An architectural style generally develops gradually over a period of years. Few people really see the change coming and the few who do seldom live long enough to see the style perfected. But this modern movement had quite a different origin. The people seemed to rise up *en masse* and cry; "We want a modern style of architecture that is American!"

This demand on the part of the people was welcomed by architects. Many of them had been forced against their wills

ABOVE, Rand Tower, Minneapolis, built in 1929. At right, the Crerar Library, Chicago, built in 1923. Indicative of the change in six short years. Both designed by Holabird and Root



1929



192





The Break With Tradition Has Spelled Opportunity For Pioneer Spirits R. W. SEXTON

to "design period buildings" and most architects have been overjoyed to find that the people wanted a change. And see what happened! Architects who for years had been disciples of Vignola and Christopher Wren surprised their public-as well as themselves, probably-by creating designs that were expressive of American life of today and were still architecturally sound. Architects who had been acknowledged leaders of the Beaux Arts in this country during a greater part of their professional life brought out designs for buildings that suggested a keen appreciation for the fundamental principles of architecture, but which at the same time reflected the spirit of twentieth century America.

OMPARE, for example, the design of some building in your own city built ten or fifteen years ago, with some other building of a similar type designed during the last five years. In mass and in detail the two buildings are as different as night and day. The architect of the older structure may have been applauded at the time for the clever way in which he "adapted" (a better word than possibly he deserves) the design of some fifteenth century masterpiece in solving a twentieth century problem. He was congratulated on his strict adherence to precedent. And, then, only ten years later, with the conditions of the problem only slightly changed, we find the designer of the later building just as loudly acclaimed for his freedom from stylistic influences. We cannot help wondering what it was that brought about such a change in so short a time. The height of the building has nothing to do with it; perhaps the older building tops the newer one by several stories. It cannot be entirely due to zoning laws, although they may have had some influence on the change, particularly on the mass. How then can we account for such radical departure from what has been done before?

One thing is certain: the change in architecture has not come merely because we have developed a "modern style." That would not be possible in so short a time. In fact, my interest is not in seeing this modern style perfected. My ambition is not in living to see a style of architecture adhered to throughout the country that shall be peculiarly American. But I am glad that I have lived long enough to see something else. I have lived to see the average American architect come out of his

ABOVE, the Panhellenic Tower, New York, an apartment house for women, built in 1929. At left, apartment hotel in Madison Square, New York, built 1915. Both designed by John Mead Howells





1902

ABOVE, office and store building, San Antonio, Texas. Built in 1902 and designed by Atlee B. Ayres. AT LEFT, Smith-Young Tower, an office building in San Antonio. Built 1929, and designed by Atlee B. and Robert M. Ayres

shell. I have lived to see him admit to an ordinary amount of confidence, at least, in his own ability. I have lived to see him exercise his creative genius.

And why, you say, has he finally come into his own? Because he is lending his every effort to the development of a "modern style"? No. That is of secondary importance. But because this modern movement has allowed him to progress. It is not the modern style that he may be developing that is of moment just now, but the more important fact that this modern style is really and truly developing him.

There are many people,—house-owners, prospective house-owners and architects, too,—who still think that this movement is a local fad. They actually object to the development of the architectural profession in this country. They insist upon abiding by that old adage that there is nothing new under the sun, in architecture or in anything else. It is hard to believe that men who have given their lives to the study of architecture now come out firmly against progress. It is the doctrine of these men—many of whom have for many years stood at the top of the profession in this country, many of whom are considered as authorities by the laymen, many of whom exert a tremendous influence on public opinion—that the younger architects must fight.

Last summer I took a trip across the continent, passing through such cities as Chicago, Kansas City, El Paso, Tucson, Los Angeles and San Francisco, and everywhere I went I found that the designers of the new important buildings are "going modern." Archi-

tecture has lost its old-time drudgery; the live members of the profession are designing live buildings. This is the day for the young man in architecture. The older man must change his ways—and many of them have—or he must watch his step.

PLEAD with the young architect to "be yourself." This modern movement is your salvation. Use it as a means of developing yourself. Don't be a copyist. Don't think that because you were taught the orders in school you must make use of them literally in every design. They may serve well to teach you good line and proportion, but, unless you understand the sense of relationship, you might better not have gone to school at all. Learn how the orders were originated to help the architects of those days solve their problems. Then learn to adapt the same principles to the solution of your problems today.

I am not preaching radicalism in architecture; but I am preaching progress. And it is encouraging to see that even young men who have not yet received their degrees, men who are not even taking up the study of architecture in their college courses, are having their minds developed along the right track. Never mind about the "new style" that some of the more radically-minded are talking so much about. But play up the modern movement for all it is worth insofar as it affects your development. After your development is complete, a new style will come about just as sure as you live. And that new style may be very different from what we today designate as "modern."



Even greater departures from tradition are forecast in the buildings being erected at the Chicago World's Fair. Administration Building. Designed by Edward H. Bennett, Hubert Burnham and John A. Holabird, architects

Little Book That Helps Get Jobs

BY W. H. WOLAVER

Smith and Senter, Architects Tulsa, Oklahoma



"Do I? Say, I worked on that job for weeks, made sketches too. Then you came over on the night they were going to select the architect—and got the job. How did you do it? They wanted a lot of building for their money."

"Yes, they did want a lot of building. That's why they gave me the job. I told them plainly they couldn't possibly build what they proposed for the money available. They wanted to know what they could expect. I told them I didn't know—which was the truth."

"You don't mean to tell me they gave you the job on that much information?"

"No, not just that, I tried to make them understand, and I think they did, that a good building costs a certain amount of money. I showed them my cost book. I believe this little book has done more towards getting me jobs than any amount of sales talk."

"What's in it? Let me see it. Could I—or would you mind if I make one like it?"

"Now wait a minute. Of course I don't mind if you make one like it. I'll help you, but you will have to make one for yourself. This one would not help you.

"In the first place, you see, I have classified all the buildings I have built.

"Now take a school job for instance, open the book at the thumb-tab—schools. Here is the one we were just talking about, the Tightville School. There is a space for the owner's name; here in the corner is a space for the date. The date is essential as building costs vary over a period of time. Yes, I'll admit it is the old cube method, but it is different in this respect: it is accurate and it is itemized. I not only list the cost per cubic foot of the building, but the cost per cubic foot of all the major items in the building, including the modest fee of the architect; that is part of the cost.

too. Here at the bottom of the sheet I have a place for special notes, such as: contractor lost money (they all do), any special items of extra cost, certain materials donated free, foundation walls already in place, reinforced concrete, steel, frame, number of class rooms, gymnasium, auditorium, and so forth—any items that make this job out of the ordinary.

"Over here at the right of the sheet is space reserved for a plan showing the general shape of the building.

"This is the book I showed the school board. I showed them photographs too, but they were most interested in this book. This was the first business-like information which had been put right before their eyes where they could see it. One old member, who had been on the board ever since his father died and willed him his place, wanted to know if I knew what a good cow barn would cost. That stumped me a little, but you see I did have one here; why I ever cubed that I do not know, but here it is. Looks silly, doesn't it? Well anyway, it won that board member. There was one woman on the board. She asked about a six room, English brick veneer residence with two baths. I told her I never kept data on residences. The costs varied so much you simply could not depend upon a cube estimate. Now that is a good tip. If you want to get in trouble fast, just try to rely on a cube estimate for a residence. They are in a class by themselves insofar as cost is concerned.

"ETTING back to the school board, they studied those items carefully, especially the cost of the itemized parts of the building: the general contract, the electrical, plumbing and heating contracts, and dropped a few unnecessary remarks about the cost per cubic foot of the architect's fee."

"What did you tell them when they wanted to know

SMITH & SENTER

Board of Education

When

Hanual Arts building

Tightville, Okla.

CONTRACTS	CU. FT	COSTS	DIAGRAM
SENERAL CONTRACT	16.26	\$63,850.00	
EATING AND PLUMBING	3.88	15,000.00	PLAN OF
LECTRICAL WORK	.78	3,012.00	
LEVATORS			BUILDING.
			445
RCHITECTS FEE	1.05	4,093.00	riken)
386,400 CU. FT. AT	22.24	J85,955.00	

REMARKS: Pace brick, Bedford Stone trim, reinforced concrete construction, cement floors in corridors and toilets. memainder wood floors. Composition blackboards. Composition roof.

A LEAF FROM THE BOOK

Costs on all buildings designed by Mr. Wolaver are analyzed and placed in a loose-leaf binder, classification being made according to type of building

how large a building they could build for their money?"

"The truth. I told them I didn't know, but pointed out similar buildings I had listed, showing the number of class rooms, and so forth, and told them about what they could expect. Don't ever make an estimate on snap judgment or guess; carefully study your cost charts, decline or rise in building costs, mechanical equipment, and look out for peculiar building sites and special or unusual items. After cubing your building, add or deduct these as one lump sum.

WENT on to tell the board members that it was beyond the powers of any architect to change the cost of building in their particular case. It was his duty to design efficiently and economically, using materials to the best advantage, and that outside of this the architect was powerless to alter the cost of their building."

"Did you come within your estimate on this job? Can you always rely on this information, and do you always come within your estimate?"

"This job was considerably under my estimate. I knew it would be, but I was a little surprised when the bids were opened. They were a little lower than I expected, but then, to be safe I always make my estimate a little higher than my cube prices show, not much, but enough to feel easy in case they spring on me something I didn't include, which is generally a number of small items. Every member of the board is entitled to think of something to run up the cost.

"And now, let me give you a good tip. Put everything in your plans and specifications. Avoid extras. I know you cannot avoid all of them, but whip every extra you can. Do not leave items out of your plans to keep the initial cost down, knowing that before you finish they must be included. Extras are embarrassing to you, a disagreeable surprise to your client, and are the cause of ninety-nine per cent of the lawsuits arising out of building contracts.

"Yes, I find this system of estimating pretty accurate, and I have never had a job 'run over' since I compiled these figures. Sometimes, when I am a little uneasy—I confess I am at times—I impose on a reliable and friendly contractor to make a preliminary estimate while

the working drawings are in progress. This is a big help, and makes one sleep better.

"I find it a big help in estimating a job to take a blank sheet from the cube book and fill in the different itemized costs, weighing each item carefully by comparing it with the itemized costs of similar jobs.

"Another thing, no matter what your method of cubing is it will work if you are consistent. Always cube the same. Have a set of rules to guide you. I find it good practice to cube from bottom of basement floor slabs to mean height of roof. Look out for deep foundation walls and dirt fill; make a lump sum for these. Don't forget pent houses, sub-basements, machine rooms, and pipe trenches. Make your cube accurate. I cube porches and such open spaces as one-half the actual cube. Use your own judgment and make your own rules."

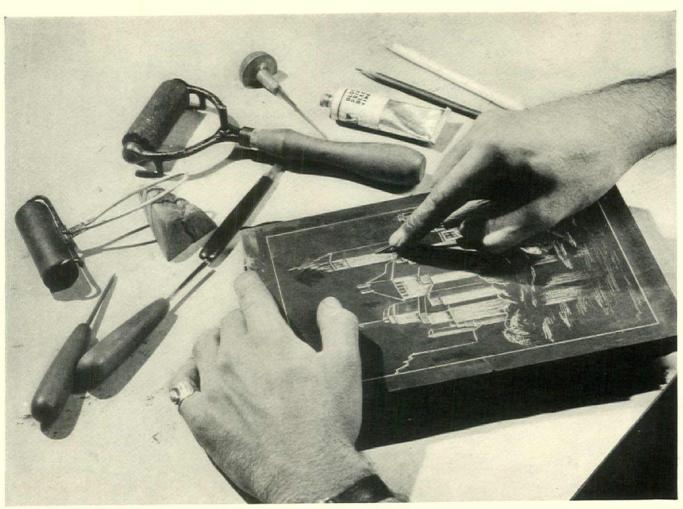
ELL, I always looked upon cubing a building as a pretty rough estimate, but it seems you have made quite a study of it to say the least."

"It is a lot better than a wild guess or snap judgment. It makes you think before you promise anything. You are not a contractor, and besides, many times you have only the roughest sort of a sketch on which to base your estimate. If you will make a study of cubing your buildings you will be surprised how close you can come to the actual cost. Besides, it is interesting and sometimes amusing. There are a thousand ways to subdivide and itemize the cost: cost per story, cost per room, cost per square foot, cost per anything in the building."

"What was it you said about residence work?"

"You can't estimate a residence. It just can't be done, not by cubing, anyway. Some people say weigh the plans and specifications and I believe that is about as accurate a way as any, at least as far as the architect is concerned.

"Best way out that I can see is to call in a local contractor for help, then as soon as he is through add twenty-five per cent to his estimate for the part he forgot; twenty-five per cent for each party concerned in the building, ten per cent for all of their relatives, five per cent for close friends, and then if you are anywhere near it, you are lucky. I don't believe it can be done, though some people say it can."



Wood engraving is an art that requires but few tools — a graver, knife and two or three gouges, a sharpening stone, proof ink, two rollers, burnisher and a block of wood or linoleum

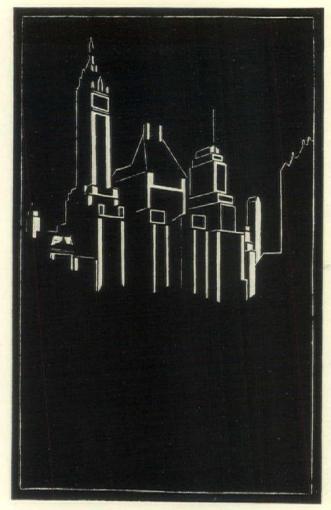
How to Make Woodcuts

Notes and Hints on the Art of Making Wood Engravings

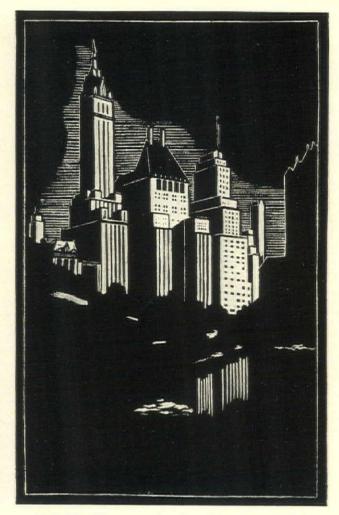
by John Romsey

UTTING a wood block is essentially such a simple process that any explanation of the work must necessarily appear elementary. As nature evolves light from shadow, so the designer constructs his woodcut, throwing light on his subject with each gouge of his instrument. Modeling with light rather than drawing in shadow, he cuts from his composition those portions which he desires to remain white. The limitations of the art make it impossible to secure in a woodcut the delicate half tones of a drawing or etching. All values must be raised or reduced to two tones and in that fact lies one of the greatest merits of the medium: simplification. The essentials of construction, the design as a whole emerge in their clearest terms.

In selecting a suitable block for cutting, any of a number of soft grained woods, such as lime, maple, sycamore or cherry, may be chosen; but the most satisfactory results are obtained from specially prepared blocks made up of a number of small end pieces, usually of boxwood, or from highly polished cross sections of some other hard wood. A soft grain is easier to cut, naturally, but the difficulties encountered in preventing the grain of the wood from guiding the gouges, rather than vice versa, make it less desirable. Or, for the experimenter who wants to avoid the expense of prepared blocks, linoleum provides a splendid grainless medium. Perfectly good "woodcuts" have been produced from it. Thick battleship linoleum is the type which is used.



IST STAGE—defining line cut around composition. Drawing outlined and broadest light areas gouged out



2ND STAGE—more detail in light areas and sky begun. Compare with final stage on page 23

Instruments of all shapes and widths are available for woodcutting. The individual finds which types suit him best after a short try-out, but for general purposes a small burin (or graver), a knife and two or three gouges of different widths suffice. For work on linoleum only the knife and gouges are practicable.

The wood blocks one buys already prepared are usually so highly polished that it is necessary to dull them by rubbing the surface with an India rubber before the drawing is made. A simple outline sketch on the block is all that is needed before the cutting begins. Some designers prefer to black in all the shadows first, leaving no doubt as to which sections are to be removed. Others ink in the entire block with India ink and then draw their lights in white. Cutting on the simple rough design, however, offers more possibilities for accidental discoveries and surprising effects.

When cutting it is well to place some sort of padding under the block. A small sand bag is the usual thing but a piece of heavy rough cloth folded several times serves the purpose. This prevents the block's slipping under the pressure exerted on the gouges and at the same time permits a free turning of it for cutting from any angle.

The ease with which the gouges or burin do their work depends on a number of things. Tools should be selected which "fit" the individual hand when their

handles are braced against the palm and they are more easily managed if their points do not extend more than half an inch beyond the forefinger. The angle at which the instrument is held should not be so great that it gouges too deeply or so small that it merely grazes the surface; in the latter case it may slip and ruin the block.

N cutting, the wood may be held with the left hand while the right guides the tool, or, if the block can be prevented from slipping by the pressure of both hands, one is surer of his lines if the right hand pushes and the left guides the gouge. The mechanics of making woodcuts are more effectively and easily learned through an hour of experimenting than from a volume of words. One rule holds, however, and that is that the instruments must be kept sharp; and to that end a stone and water or oil should be within arm's reach during the cutting.

The method used in removing the white spaces is arbitrary. One may pick out the detail he desires first, thus avoiding the danger of chipping the outlines of the larger black masses, and then remove the more prominent white areas; or he may cut away the greater light masses (such as the sky outlining a building) and add detail later. The latter method is the logical one and is more likely to result in the broad treatment which the term woodcut connotes. In either case, however,

3RD STAGE—showing the block advanced toward the final stage and the effect studied by rubbing talc powder into the cut spaces

a definite incision should be made with the knife (or the smallest gouge) around the general outline of the composition so that the engraver, moved by a sudden enthusiasm in the midst of his work, doesn't cut away more white than he intended in his original plan.

IT is well, too, to make an incision with the knife wherever one wishes to terminate a white line, or series of white lines, so that the gouge does not cut beyond the point desired and so ruin the design or a margin line. These incisions should be made at an angle, away from the design so that the sections left standing will

rest on pyramidal bases.

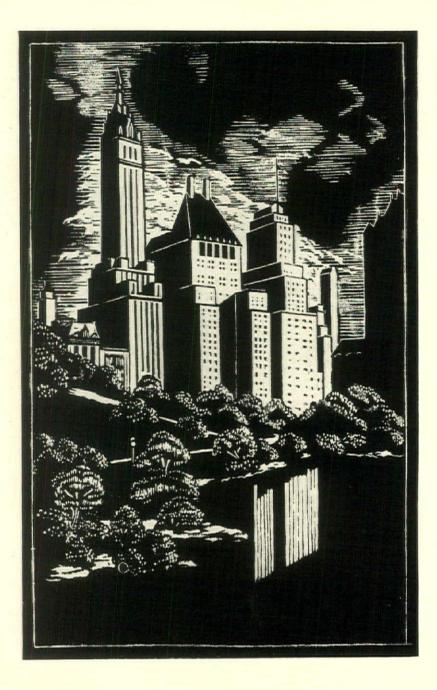
Slips do occur, of course, and if the work already done and the damage caused combine to make it worth the effort, repairs can be made. A definite shape, a square, say, which encompasses the damaged area should be removed. An impression taken of that area on paper and pressed on another piece of wood, or linoleum, before the ink dries, will record the exact shape removed. This portion carefully cut out may then be glued and plugged into the original design. The process requires some skill but is feasible and may cover over successfully what seemed irremediable.

As one works he may, without taking a proof, see what effect he is getting by sprinkling a quantity of talc powder on the block and rubbing it into the cut spaces. The result is more satisfactory

than a hastily made hand proof and is much less trouble.

The business of drawing proofs when the design is finished is simplified if one has access to a press or if he puts his plate in the hands of a job printer. But very good prints can be secured, with few essentials and the application of a little pressure, by hand. A tube of proofing ink, a roller for inking and one for printing, and a steel, fivory or bone burnisher are all the materials required.

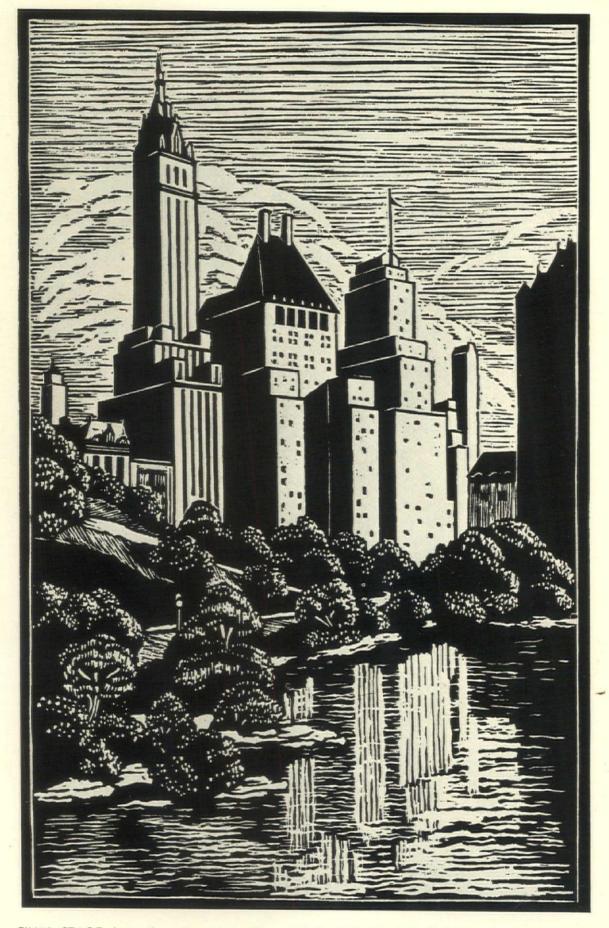
The ink should be mixed on a piece of glass, or a smooth slab of stone, by passing a roller over it until it is evenly distributed over the cylinder. Then the roller is applied to the block, being sure that all surfaces of the cut receive an equal amount of ink. Care should be taken in placing the paper on the block to avoid smearing. A smooth, clear paper is preferable to one with a grain or flecks in it for clear-cut results. A piece of cardboard is next placed on the paper and a roller passed; over its surface. Considerable pressure is required. The friction of the burnisher is then applied to insure the



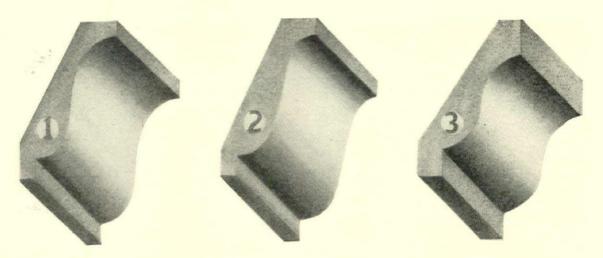
absorption of all the ink. If the paper is thin one can see the progress of the proof by lifting the card, for the design will print through. If the paper is thick it is well to dampen it before putting it on the block, as one does in drawing proofs from etchings.

OME woodcutters apply a piece of cardboard which has been rubbed with beeswax on top of the proof; after passing the roller over the card they remove it and use the printing roller and burnisher directly on the proof. The direct contact insures a clear printing of all portions of the block and the beeswax absorbed by the proof prevents the paper's rubbing up under the friction of the burnisher or the pressure of the roller.

But here again, once started, one discovers his own methods and "tricks." And through experience he learns the value of saving seemingly hopeless proofs which he was about to discard. Oftentimes in their crudeness, their errors, if viewed later with a fresher eye, lies the seed of some new idea.



FINAL STAGE shows the entire composition carried out to the incised defining line made when the block was begun. To print, printing ink is evenly distributed over the block. Paper and a sheet of cardboard are placed over it and printed by rubbing with a roller and burnisher



Figures 1, 2 and 3. Beauty of form in mouldings depends upon the gradient effect produced by contour

Architects Must Know Their Mouldings

As representative of the American Institute of Architects, Mr. Hall, in cooperation with the Department of Commerce and the National Lumber Manufacturers' Association, was instrumental in securing a revision of the lumber manufacturers' "Universal Moulding Book" which was completed in 1931. In this article Mr. Hall presents basic facts on the design of mouldings

BY EMERY STANFORD HALL, F.A.I.A.

Hall, Stromquist & Rice, Chicago - Drawings by Victor H. Stromquist

N form language, mouldings are the medium by which ideas are expressed. They correspond to words in literature. Their success or failure in expression is due to the skill with which they are put together. Since both mouldings and words are forms of human expression, they are useful, beautiful or valueless according to the way in which they are associated. The combining of words or mouldings is a human art. It is the man back of the expression who is the element that really counts. It is he who has or has not the idea to be expressed.

Through the medium of tangible material one person finds entrance into another person's sensibility by means of the sense of sight or touch. Sight sense is dependent upon light as a medium of transmission while touch is dependent on contact. The sensitizing effect in each case being produced by the configuration of material.

Form, to be most effective in expression, has to be adjusted to the medium of transmission. Where light is the medium, beauty or lack of beauty is brought about by a gradation of shadow and the heightening of reflection. One sees not actual contour but the shadows produced by contour. These are proportionately beautiful in expression, dependent on relative location and gradient effect. Gradient effect is produced by contour.

The contours of curved elements are really various combinations of mathematical curves such as the circle, ellipse, parabola, catenary, etc. It is from various arrangements of these curves and their parts that the signs of form expression are produced. The artist in form depicts his ideas from an innate sense of value without conscious cognizance of his medium of expression. He uses mouldings as the good writer uses words—by mastering them to such an extent that they become his unconscious yet ever obedient servants. The only way to design mouldings is to know mouldings as a painter knows his palette or a literator knows his words.

The architect who is engaged in the travail of design must have mastered the significance of various forms until without conscious effort he can make them speak as he wants them to speak. Mouldings are simply the elements from which forms are made up. It is necessary therefore that every architect should know his mouldings so well that he can be unconscious of that knowledge.

Dr. C. Howard Walker, who is so great in the memory of his contacts that he is no longer "professor" or "Doctor" but plain C. Howard, helped to reinforce the American Institute of Architects' movement for better taste in the design of stock mouldings with the statement:

"I have gone over the sections of mouldings and have

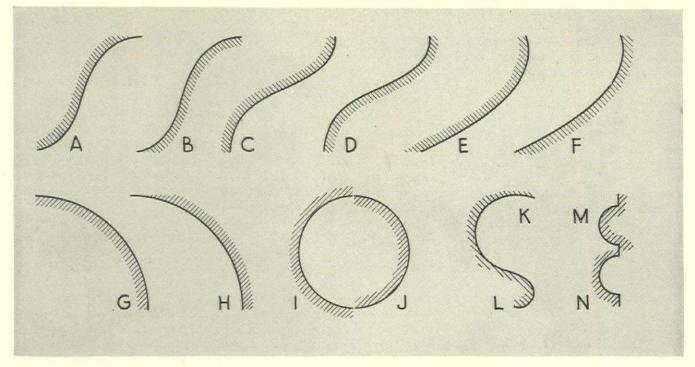


Figure 7

ESSENTIAL SCOPE OF A MOULDING PALETTE

A—Cyma recta or ogee. B—Cyma recta inverta or inverted ogee. C—Cyma reversa or reverse ogee. D—Cyma reversa inverta or inverted reversa ogee. E—Catenary ovolo. F—Catenary cove. G—Quarter-round ovolo. H—Cavetto or quarter-round cove. I—Half-round scotia. J—Half-round torus. K—Scotia. L—Ovolo. M—Bead. N—Flute

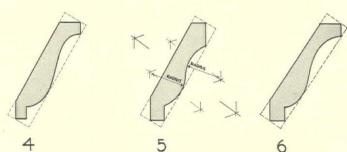


Figure 4. Drawing of crown moulding which convinced lumbermen that stock mouldings such as shown in Figure 5 could be well designed and led to the development of the stock moulding shown in Figure 6

made some suggestions in red pencil, but the objections to stock mouldings are more elemental than such suggestions indicate, so I am writing analyzing the differences between good and ordinary mouldings.

"First-Mouldings are to obtain lines of shadow.

"Second—Fillets are merely conjunctions like 'and' and 'but' in grammar and are to separate sections which would otherwise slur together. But in no case should fillets be large, nor should the under side (the soffite) exceed the vertical face.

"Third—No curved moulding is complete without a fillet.

"Fourth — The difference between commonplace mouldings and fine mouldings is just the difference between Roman and Greek mouldings. The Roman mouldings have sections which are parts of circles; the Greek, parts of ellipses, parabolas and hyperbolas. Parts of circles are of use for large beads and tori.

"Fifth—In any section having a compound curve, i. e., an ogee or cyma, one or the other of the curves should be dominant, either the concave or the convex factor.

"Sixth—Bevels which are not mouldings, and are always mechanical in appearance, should not be used with mouldings, but as chamfers only.

"Seventh-Repeated beads are ordinary. Flutes are

of value, but space between flutes should not be more than one-third of the width of flute. Repeated beads and flutes are to obtain tone value only.

"Eighth—All combinations of mouldings are based upon alternations of concave and convex sections, one or the other of which is dominant in the combination, and the curved sections are separated from each other by one or all of the following factors: First—flat surfaces (vertical) or facias, second—bead and fillet (small), third—fillet only (small).

"Facias show horizontal structural factors. Curved mouldings accent joints. Facias correspond to nouns. Curved mouldings to verbs. Beads and fillets or fillets to conjunctions."

R. WALKER'S statement of principle, while being an observation concerning the fundamentals of art, was also an indictment of existing stock mouldings. It did much to overcome the—"it always has been so."

It was in 1919 that the National Lumber Manufacturers Association asked the American Institute of Architects to appoint a representative of the Institute to sit in conference with representatives of the lumber interests to look into the possibility of developing uniform lumber standards. In the course of this conference

the question of revising the "Universal Moulding" book was raised for consideration. It was pointed out by representatives of the lumber interests that there were a number of mouldings published in that book which were not good sellers. An ambitious young man compiled a list showing the relative thousands of feet of the different types of moulding illustrated in this book that were sold in a given period of time. His idea, and that of the majority of the lumbermen, was that the only consideration that should govern mouldings for the new Universal Moulding book should be quantity of sale.

A feeling of seeming horror spread over the conference when the representative of the American Institute of Architects made the point that place in the moulding book for stock mouldings should be reserved only for those mouldings whose contour was in accordance with the best taste in architecture. The lumber interests of the country had to be sold as to the commercial value of

art in industrial products.

The standardization of lumber of necessity produced new commercial sizes. Mouldings designed to use the old sizes to the highest degree of efficiency were found, by the new standards, to be wasteful of material. In the past the argument against improving the grace of design in stock mouldings had always been the loss of investment in sticker knives. With this change in size of lumber stock, that argument was spiked. New knives had to be ground on account of the changes in sizes of rough stock. This emergency opened the opportunity to secure attention to the claims of good taste in the matter of moulding design.

Inertia is hard to overcome. Dyed-in-the-wool fundamentalists of the lumber trade were shocked at any suggestion of change. These were sure that the buying public wanted the old ugliness. Stock mouldings as they were was the demand of the trade. What was the matter with them anyway? Were they not as beautiful as those

designed by the architects?

N sheer desperation the representative of the American Institute of Architects asked permission to appear before a general meeting of moulding manufacturers that was being held in Chicago. Before going to this meeting he prepared two pantograph enlarged drawings, one (see figure 4) of a crown moulding, prepared, as he saw it, in accordance with the best architectural principles, and another (see figure 5) of a stock crown moulding, selected from the stock moulding book then in use, to exactly fit into the same circumscribing rectangle as required to enclose the first design.

These drawings were placed on the wall in front of the meeting and without suggestion the assembly was asked to vote on which they thought most pleasing. The vote was unanimous for the design illustrated in figure 4. After the vote was recorded they were told that the other design was a perfect enlargment of their pet stock moulding. There being no possible argument against their own taste, they voted to recommend to the standardization committee the redesign of stock mouldings

in accordance with good taste.

The work of this first redesign of stock mouldings was done in good taste and followed Dr. Walker's formula but the designer was careless about designing for membering of parts and unfamiliar with the peculiar problems of quantity production. This work is known

as the first 7,000 series of Stock Wood Mouldings and is typified by figure 4, on page 25. Although the mouldings were of good design, on account of production difficulties, only a few manufacturers would make them.

In 1930 further adjustments and revisions in standard sizes of lumber stock made necessary further revision of sizes in standard stock mouldings. This gave the opportunity to bring nearly all interests together to do a more careful job of redesigning stock mouldings. The work was carried on by a committee representing lumber maufacturers, wholesalers and retailers of various regions as well as a representative of the American Institute of Architects.

The work of selecting and redesigning standard mouldings extended over a period of about nine months. Many compromises and adjustments had to be made to unify all interests but in the end all substantially agreed.

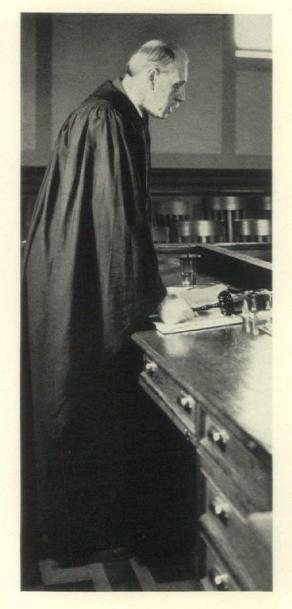
THIS new work is far from perfect. Compromises and adjustments to commercial demands never result in a perfect product. Figure 6 illustrates a stock moulding designed with a concession to the machine demands of quantity production and at the same time approximating, as nearly as possible, a contour in accordance with the principles of good taste. There is in the second 7,000 series moulding book, published in 1931, material that is not in good taste, but most of it is of good design. Certainly there is enough good material to furnish a moulding palette of sufficient scope to interpret almost any ordinary building project. It is now possible for the designer of small houses in remote communities to secure from local yards mouldings designed in accordance with good taste to properly interpret his design.

Manufacturers explained that mouldings requiring large quantity production should be designed, if possible, to produce three point contact on the ways. It will be noted that figure 6 accomplishes this result while figure 4, as used in the first 7,000 series, did not accomplish this result. The difference between figures 4 and 6 is that the convex curve predominates in figure 4 and the concave curve predominates in figure 6. In figure 6 the fillet at the bottom of the moulding is a little out of scale. The crown moulding has been and is a typical example because it is so largely used in architecture, and for convenience of comparison the illustrations have all been made for the same size moulding. It should be understood that the new 7,000 series moulding book contains a choice in size of all of the various types of mouldings.

One thing that this committee accomplished, which should help tremendously toward a better common understanding of the possibilities of the combination of various curves to express different motives, was the preparation of a series of assemblies in the various styles. In these assemblies it is shown that, working with the same stock moulding, diametrically opposite sentiments can be expressed by arrangement of position and relationship.

The method used was first to reproduce a design of a well-known example of period or style architecture, making as faithful a presentation as possible, then selecting from stock mouldings those most nearly fitted in size and spirit to take the place of those designed. The results are surprisingly satisfactory. They demonstrate that the way to design for the use (Continued on page 83)

Unlicensed Architect's Contract With Owner Is Not Enforceable



BY GEORGE F. KAISER, LL.B.

•WHAT HE DID: An architect entered into a contract to prepare plans and specifications, and superintend the construction of an apartment house to cost between \$30,000 and \$40,000. He represented himself to be an architect and capable of undertaking all such services, and signed all the plans and specifications as architect. Although his compensation was to be 10% of the total cost of the building, when the plans and specifications had been drawn and his supervision of the work finished, the owner refused to pay him anything in addition to a small amount that he had already advanced, having learned in the meantime that the architect was not duly licensed under the state law. The architect started suit against the owner for the balance claimed as due him.

WHY HE DID IT: The architect claimed that the building had been accepted upon its completion as being planned and constructed with a reasonable degree of skill and substantially free from defects, and that therefore the owner should be compelled to pay the balance of fees in accordance with the contract.

WHY HE SHOULDN'T HAVE DONE IT: The Court however, refused to listen to the architect's argument when it learned that he was not duly licensed and held that even acceptance of the building by the owner would not render the contract legal, and permit recovery of his fees. In so deciding the court said "The state statutes do not in express terms make the mere rendering of architectural services by one not holding a license certificate illegal, nor do they in express terms make a contract for such services by one not holding a license certificate unlawful and unenforceable, but the language of the act manifestly expresses the legislative intent that it shall be unlawful for one not holding a license certificate to assume the professional title of architect and as such, enter into a contract to render architectural services. This is what this architect did with reference to the construction of the building. We think there is no escape from the conclusion that the contract for architectural services in this case was illegal and void and wholly unenforceable leaving the architect and the owner without legal right of recovery thereon."

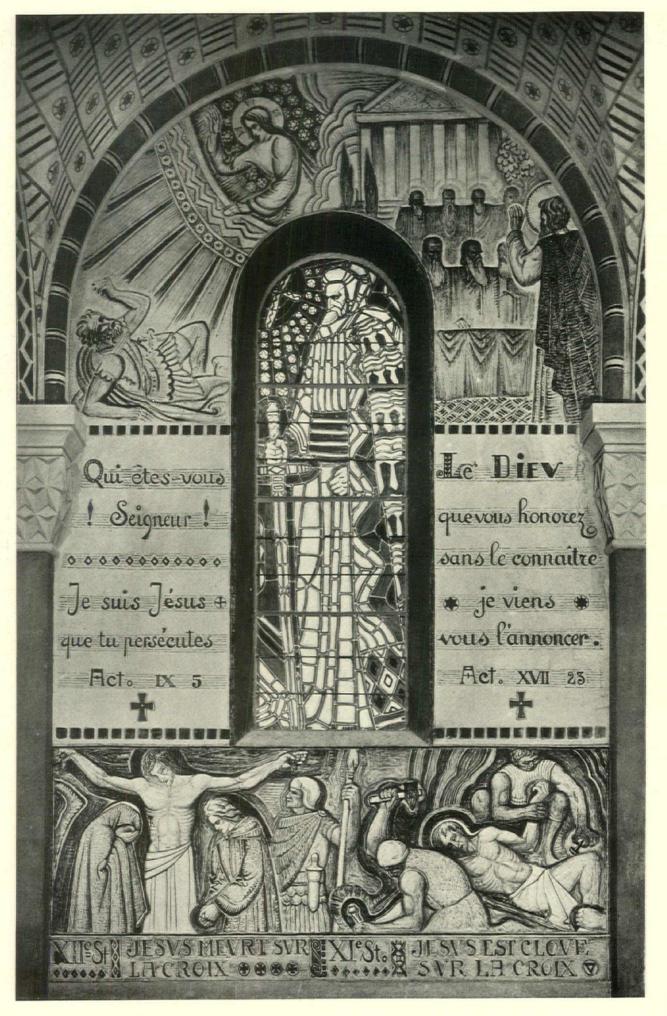
WARNED OWNER OF DEFECTIVE WORKMANSHIP

•WHAT HE DID: An owner had made a written contract with an architect to furnish plans and specifications for, and to superintend the construction of a house. The house when finished was in many places non-resistant to moisture. The owner claimed this was because of the use of porous concrete, which proper supervision by the architect would have avoided and refused to pay the balance due the architect, and when the architect sued, the owner counterclaimed for damages.

WHY HE DID IT: The owner thought that he was justified in his refusal to pay the architect the fee due on the ground that the architect should have given such supervision to the work as would have prevented the defects and alleged that the architect only pointed them

out to him after the damage was done and the expense of remedying them necessarily fell on him as owner.

WHY HE SHOULDN'T HAVE DONE IT: The court said in deciding that the architect was entitled to recover the amount of the fees due him: "When the owner has independent relations with the contractor, the architect of course, does not warrant the construction. He can do no more than warn the owner of defective workmanship, or material or of failure to conform to specifications." As the evidence showed that he had done this, but his advice had been unheeded by the owner, the court held that the architect was entitled to recover the amount due him, and dismissed the owner's counterclaim for damages.



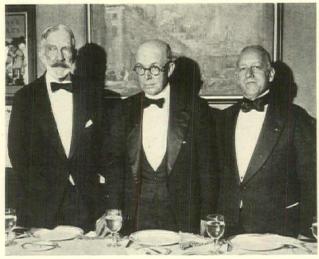


CHURCH OF ST. MARTIN DE BICHANCOURT, AISNE, FRANCE

An example of a church interior in which the walls and windows are designed upon a single theme—a résumé of the Christian religion. The frescoes are executed in black, brown, red, blue and white. The windows are of gray antique glass with small areas of blue, yellow and white. Above: the choir. On facing page: the St. Paul window

RECONSTRUCTION BY C. LUCIANI, ARCHITECT. DECORATIONS, WALLS AND WINDOWS BY LOUIS MAZETIER

What Architects



ACME

Charles B. Platt, president of the American Academy in Rome, James Monroe Hewlett, new resident director of the Academy, and Julian Clarence Levi, president of the Architectural League of New York, at a bon voyage dinner given in honor of Mr. Hewlett

Senator James E. Watson of Indiana, predicted the end of second mortgages on small homes when the homeloan bank becomes operative, and its affect is felt. The Senator in part had this to say:

"The truth is that we have never had sufficiently free capital in this country to finance on a proper scale home building and home owning. Many times the home owner has been compelled to resort to a second mortgage, the terms of which are usually so drastic at times and to be so exorbitant that they make it exceedingly difficult for the home builder to succeed in his enterprise.

"If this law works as we think it will, the second mortgage will soon become a thing of the past, and that specter will not longer confront the man who desires either to buy or build a home."

THE Better Homes in America Small House Architectural Competition which closes December 1, 1932, is intended to discover and call attention to the best small houses actually constructed between 1927 and 1931, inclusive. Awards of medals and mentions will be made to practising architects for the best design for

New Post Office for San Diego, California; William Templeton Johnson, architect

CALIFORNIA ARCHITECTS WELL ADVERTISED

SMALL HOUSE ARCHITECTURAL

COMPETITION

END OF SECOND MORTGAGES

PREDICTED



BONNEY

Wall lighting fixture in forged iron, designed by Szabo

each of three types of houses; one story house, a story and a half house and two-story house. Cubic volume for the first two classes is limited to 24,000 feet; for the third class 26,000 cubic feet is permitted.

A jury of five architects will be appointed by the president of the American Institute of Architects. Entries, consisting of photographs and blue prints or drawings, should be sent to Better Homes in America, in care of the American Institute of Architects, 1741 New York Avenue, Washington, D. C.



FITCH

Are Talking About

DETROIT ADOPTS NEW BIDDING PLAN

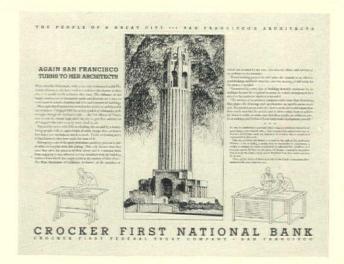
STAINLESS STEEL AND COLORED GLASS
TO FORM PLAQUES ON PRIZEWINNING BRIDGES

MEUNIER WINS TRAVELING
SCHOLARSHIP



Low cost homes for 3,000 families planned by Sloan & Robertson, architects, for the proposed Christie-Forsyth Street Project, New York, sponsored by August Heckscher

N exhibit of Architectural Activities of Civic Interest was held at Philadelphia, September 26 to October 1, in conjunction with the Electric and Radio Show sponsored by The Electrical Association. The exhibit was arranged by D. Knickerbacker Boyd, architectural counsel to the Electrical Association, and a special committee of the Philadelphia Chapter of the American Institute of Architects. Measured drawings of old Colonial buildings in Philadelphia, maps showing the growth of the city, city planning and slum rehabilitation schemes, "before and after" photographs of modernized homes, and examples of night illumination of buildings were among the exhibits shown. The exhibit attracted widespread public attention.



California architects were recognized and honored in this advertisement published by an outstanding San Francisco bank

ALIFORNIA architects, and more particularly those in the San Francisco bay area are the direct beneficiaries of a notable advertisement published in four newspapers by the Croker First National Bank-Crocker First Federal Trust Company, San Francisco. The advertisement reproduces a sketch of the Coit Memorial Tower, soon to be erected. The text stresses the importance of architects and describes their duties and services in this manner:

"Every building project has two aims: the creation of an efficient, good-looking, well-built structure, and the securing of full value for the money expended. Economically, every type of building demands treatment by an architect because he is trained to create an orderly arrangement best suited to the needs for which it is intended. The services of an architect comprise vastly more than furnishing blue prints; the drawings and specifications are merely means to an end. His services are to study the client's needs and to determine how these needs may best be served; and to direct others how to achieve the desired results; to make sure that these results are achieved, insofar as authority and technical knowledge make this humanly possible."

The quoted statement was credited to The State Association of California Architects.

THE efforts of the representatives of the responsible architects and contractors in the city of Detroit to create better conditions in competition in contracts, has resulted in what is known as the Detroit Bidding Plan.

Through appropriate changes in the general conditions of the specifications, this bidding system limits the general bid to that work performed by the general contractor, but includes the handling charge for coordinating the sub-trades by the general contractor. Under this plan the architect will select all bidders, and will divide the specifications into the several headings for the principal trades. The bidding will be upon the separate trades so specified. (Continued on page 90)

· As It Looks

N page 18 of this issue, Jobs Are Not W. H. Wolaver describes So Hard to Get a little book that has proved valuable to him. It is a summary of job costs. It is businesslike and convincing. His story of the school job is reminiscent of another architect who appeared before a school board. Other architects were there with rolls of drawings and rendered perspectives. This particular architect had none and when interviewed flatly refused to consider the board's stipulation that classrooms be designed for fifty pupils. He told them why and went away convinced that he had lost the job. But the reverse proved to be the case as he learned later. His discussion of how schools should be designed and why carried more weight with the board than any drawing he might have presented. It's good to know your subject and be able to convince others that you know it.

An Impossible Suggestion

Suggestion

Suggestion

Suggestion

Suggestion

Suggestion

Suggestion

Subject of printing a filing classification on the plate section pages and also the desirability of perforating these pages or otherwise arranging for their ready removal from the magazine. These features have been advocated for many years. Due to the regulations of the Post Office Department governing the classification under which magazines are mailed neither of these features is permitted. This explana-

Padlock
Specification
Padrock
Specification
Pederal Specifications
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tion is offered to readers who may feel that their sug-

gestions are not given the consideration they deserve.

Dangerous

Use of Codes

In the police power of governments. Their sole function is protection of life and property. By no stretch of the imagination can they be looked upon as fixing other than minimum standards of safety. They give no consideration whatever to durability, maintenance, quality, performance, or economic factors beyond the essential requirements for safety. There is an almost universal tendency, however, to regard compliance with code standards as assurance of adequacy in all respects. Nothing could be more detrimental to good design and construction.

The obvious cause of this attitude toward codes is the common desire to build at minimum cost. Owners feel that if designs and specifications meet code requirements, they are good enough. Operating costs, maintenance, market value, satisfactory service to tenant or owner through future decades are forgotten in the belief that the codes take care of these things. Correction of this condition lies largely in the hands of architects.

Restricted

Definition of Tile

Definition of Tile

N deciding an action against an organization selling "Belgian Tile" or "Belgiantile," a zinc plate marked in tile pattern and coated with enamel, the Federal Trade Commission made the following observation in its findings as to the facts: "Tile' as generally understood in the building trades and by the general public is a clay product, shaped in comparatively small sized units and baked in a kiln. Tile for the covering of walls and ceilings is usually shaped into units of about four inches square, and is installed upon the proper base by being set in cement by workmen who are termed 'Tile Setters.'"

Inasmuch as this case resulted in the issuance of an order to cease using the word "tile" to describe this product unless in conjunction with the words "imitation tile made of metal," a precedent has been established which may result in the restriction of the word "tile" to burned clay surfacing units of limited dimensions. Tile substitutes may have to find new names.

An Achievement CULPTURES for the pediment of the Pennsylvania in Terra Cotta Museum of Art at Philadelphia have been completed after some two years of study and work. C. Paul Jennewin as the sculptor has designed a dignified and beautiful composition using sacred and profane love as the theme. It was executed in terra cotta by the Atlantic Terra Cotta Company. The general color tone of the group has retained that of the stone of which the Museum is built. In consultation with Leon Solon, color, bright but restrained, incorporating red, green, black, blue and gold has been introduced to excellent effect. The group offered many complicated problems in the matter of jointing, firing, anchoring and other details of manufacture. This group is indeed an achievement in terra cotta and one of which all who have labored to perfect it may justly be proud.

The Early

Photographer

Cellence of the photographs, made by Samuel Gottscho, of the Folger Shakespeare Library. There is one interesting thing about the photographs on pages 50 and 51 of the September issue that the average person might easily overlook. The details shown are on the North side of the building, yet the beauty of the details are emphasized by a good contrast of light, shade and shadow. Some of the details were photographed very early in the morning and others by the aid of the last rays of the setting sun.

to the Editors

An Encouraging An architect in the East states,
Sign
"Some time ago we included architect's fees as part of the cost of a building project and were told by the mort-

the cost of a building project and were told by the mortgage company that these could not be allowed, only labor and materials being considered. That company now owns about \$4,000,000 worth of real estate, much of which is pretty terrible. I recently called at the office of this company in regard to a mortgage loan and was informed that practically the only loans being made were on buildings for owner occupancy and that they preferred to make loans on structures designed by architects." Apparently this company has learned a lesson. It should be possible to make other financial agencies see the value of architectural service.

Seeing Is Believing

T was a strange experience to visit the first frameless sheet metal house at Solon (near

Cleveland, Ohio) during its later construction stages and to find floors of twenty gauge metal that could be jumped upon without vibration; sheet metal walls and partitions only two inches thick to which ordinary insulating boards and other common building materials could be firmly nailed at any point without special provision of nailing blocks; walls, incidentally, that were true and plumb and rigid when pounded; and a complete assembly that seemed to go together in a perfectly orderly and normal way. Undoubtedly, the formal opening of this house, which took place in October, caused many visiting architects to revise preformed opinions, and to view this first experiment in all-sheet metal construction as the possible forerunner of a practical and low cost method of building dwellings. Significant are the moderate cost figures and the adaptability of the structural material to any style.

Taxes Rebound on Architects

THE following extract from a letter of an American Architects subscriber brings out another aspect of the vicious taxation circle:

"The writer's opinion is that the building business will not be renewed until there is a radical readjustment of our local taxing system. Real estate has been taxed to the point of confiscation and there is no incentive to build or to invest in land. If taxes on real estate were entirely removed and a sales tax system were substituted, building would soon revive. However, public budgets must be reduced from 25 to 50 per cent before any system of taxation will be effective. Taxes have increased rapidly during the last decade or two with little objection from any source. In fact, architects and those engaged in the building game have rather encouraged it because much of this money was spent for public improvements. All are now paying a dear price for our folly."

Standardized Post Offices

HE Scarsdale, N. Y., "Sun," referring to proposed local post offices, states:

"As soon as sites have been acquired, architectural work can be speeded up, while to reduce the time required for preparation of plans, the Treasury is considering building almost identical offices in each of the four Westchester communities. This was indicated in the specifications for sites, which are practically the same for each place.

"Should this course be followed, the amount of employment furnished private architects would be severely limited, but considerable time would be saved since type plans, suitable tor use in scores of cities will be prepared in one series of operations. This policy also would conserve money, it is believed."

Standardized post offices may save a little money, but when we look to more or less permanent public buildings as setting an architectural standard in a community, is the saving really worth while? As indicated above there arises a curious situation of trying to locate sites to fit a building of pre-established size. Rather like putting the cart before the horse!

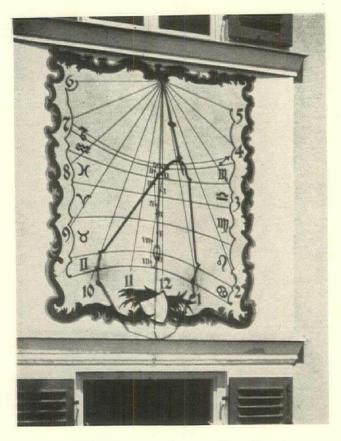
New Data on Refrigerating OLLOWING the plan instituted in the August issue of American Architect of pro-

viding authoritative reference data on modern materials and equipment, there appears in this issue a section devoted to mechanical refrigerating equipment. The subject is one of growing importance to the entire architectural profession, for the great majority of buildings must now contain refrigerating equipment of some sort, either for the preservation of foods and merchandise or for air conditioning, water cooling and other comfort purposes.

The article appearing on page 75 is a condensed and authoritative analysis of refrigerating equipment of all types. It does not seek to induce architects to become competent refrigerating engineers, but rather undertakes to supply such information as an architect may need when considering the selection of appropriate units. Stress is placed upon the major provisions of the industry's own American Standard Safety Code for Mechanical Refrigeration, which requires that the character of the installation be governed by the nature of the refrigerant employed and by the number of pounds of the refrigerant within the system. Inasmuch as these vital facts about unit or domestic refrigerators and many types of commercial and multiple systems have never been given by manufacturers in their advertising or sales literature, the advertisements appearing in conjunction with this reference section have especial reference value. As in the case of the reference data on oil burning equipment which appeared in August, the manufacturers have been urged to tell their story in terms of those facts that architects need and can use in their daily work.

Contemporary

ARCHITECT'S STUDIO. Hans Junghanns, architect, of Düsseldorf has "functionalized" the studio of his own house to a degree that clearly reveals its purpose. Notable is the curved track hung from the concrete ceiling which permits the movement of suspended lights to any desired point. From "Moderne Bauformen"



SUNDIAL on oblique wall, in fresco and wrought iron. From "Diekunst"

LIVING ROOM in a doctor's house near Leipzig, designed by Professor Adolf Rading. The owner's profession evidently inspired the character of the metal figures by Oskar Schlemmer which are used for decorative relief of the walls. The face is profiled in a projecting strip of metal. The tubular lights are noteworthy.



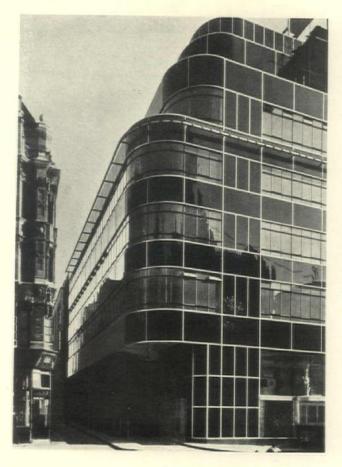


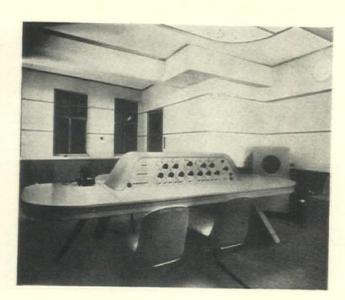
Work Abroad ...



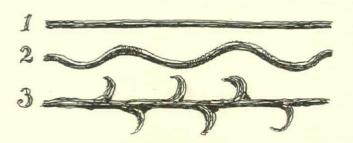
BROADCASTING HOUSE, London. Designed by G. Val Myer, F.R.I.B.A. for the "B.B.C." Perhaps respect for the traditional architecture of Portland Place played a part in the restrained exterior. Within the walls, tradition has been forgotten. From "The Architectural Review"

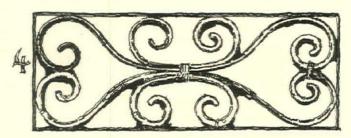
CONTROL ROOM for dramatic effects in Broadcasting House, London. In this room designed by Wells Coates, the producer of a radio drama may control and mix the production of ten or more studios, including a special sound effect room. From "The Architectural Review"





BLACK GLASS, contrasting with polished metal, makes the new Daily Express building the most prominent structure on London's Fleet Street. Herbert O. Ellis and Clarke, architects. From "The Architectural Review"





The historical development of grilles can be traced on a single street

Grilles of Old Marseilles

BY WILL PHIL HOOPER, SKETCHES BY THE AUTHOR

"Though we travel the world over to find the beautiful we must have it within us or we find it not."—Emerson.

OR amusement one would naturally choose the company of a devil in preference to that of a deacon and, as Marseilles is called the wickedest city in France, perhaps that is the reason it is the most interesting of all.

For the artist, antique collector, or business grabber of "old stuff," this city has most alluring places full of interest and opportunity.

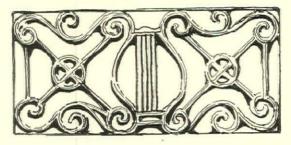
In the old congested section, the Rue des Hommes winds its way—the darkest, narrowest and dirtiest of streets. Here the sunshine penetrates only at high noon and the smells are as revolting as the creepy denizens shuffling out of their dens. Yet this neighborhood, this very street, was some four hundred years ago the Park Avenue of the city. Today the ruins of once palatial doorways, the battered but still beautiful old doors with their fascinating escutcheons and ornate transom grilles, are the only records of its former grandeur.

The houses, five to seven stories high with stone walls two feet thick, have stood so long that now they are inclined to sit down. Many are braced up by immense beams and timbers so the passageway is blocked to all teams. Plumbing, of course, was unknown at the time these mansions were built. The cobbled street arches slightly in the center and has its open sewers on each side. Safety suggests, for obvious reasons, that the pedestrian should keep to the middle of the road.

Sketching is not without its exciting moments. Watching your step is only half the battle; one eye must be turned aloft for no one knows when the housekeeper may be doing the chamber work.

To one interested in the old wrought-iron transom grilles this street is a mine of wealth, for the history of the development of grilles may be traced in this one street.

First came the plain iron bar placed horizontally or vertically to protect the opening over the door. The next step was to put a wave pattern into the bar, not so much for decoration as to more adequately fill the





Grilles were designed for particular locations. The lyre and the caduceus shown above evidently identified the houses of a musician and a doctor

space so that one rod would give as much protection as two.

Then some inventive blacksmith conceived the notion of cutting into the hot iron bar so as to make branches. From the man who first wrought the hot iron bar into these crude branches came the idea of curves and scrolls for grilles, which gradually developed into the fascinating designs which have made the doorways of the "Midi" famous.

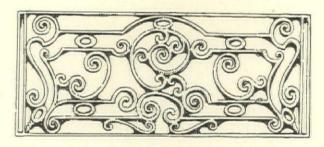
In carefully studying a thousand or more grilles in southern France, no two designs were found exactly alike. In many ornate patterns of the fourteenth and fifteenth centuries there is pronounced similarity, but in each one the artisan put a curve or twist which gave it a personality of its own.

Among the once stately mansions of the Rue des Hommes, as if for contrast, are a few little two-story houses, generally with three or four rough stone or broken concrete steps leading up to a small door with interesting panels and sometimes a fine old grille.

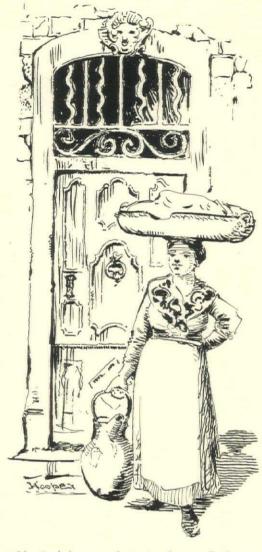
One particular house was unusual as it had not only the wreck of a fine door and a lovely antique grille but a curious old knocker with three elaborate escutch-







Four hundred years ago the Rue des Hommes was the Park Avenue of the city. Grilles, escutcheons, knockers and pulls are the only records left of its former grandeur. No two grille designs in Southern France are exactly alike



Vertical bars and a simple scroll design are an unusual combination. The old dolphin knocker, wrought handle and door pull remain intact, rare examples of the craft

eons. In front a stout old party wearing a wide red sash was busy sawing wood. He needed no saw-horse as the saw was held between his legs and, holding the wood in his hands, he rubbed it up and down on the teeth of the saw. He seemed mortified that his door was so old and explained apologetically that he soon was to have a *porte nouvelle*.

In the twelfth century the blacksmith received his iron in a lump and had to make this into a strap by pounding with a hammer preliminary to the making of a grille. Owing to the splendid quality of the metal at that time, the thirteenth century marks the top of the art of hand-wrought iron. Tools were anvil, hammer, tongs, chisel, punch, forge and bellows.

As one studies these hand-wrought grilles, there is always the intuitive assurance that each one was designed specially for its particular door, its house and its owner. This feeling is encouraged by the fact that many grilles bear a monogram, cypher or coat-of-arms—some personal emblem. For example, over the door of a musician's house a lyre was skillfully worked into the grille; at another house, probably that of a physician, the symbol of Mercury was suggested. Occasionally

the date of the building of the house was inserted. While making a sketch, I realized that one of my

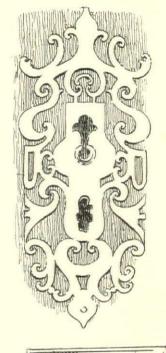
audience was not satisfied to just glance at my croquis and pass on, but hung by me breathing garlic hotly in my ear. No sooner was the sketch finished when my observant onlooker suddenly became excited. He touched me gently on the arm, pointed up the street and with the most polite and alluring manner essayed to take me with him.

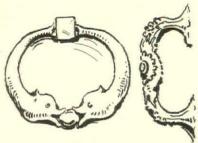
I found my alleged French as useless as a sixty-nine cent watch and his talk as clear to me as the Einstein theory to a policeman. However, I ambled along with him, my curiosity piqued to learn the motive of my firm though courteous guide. Finally we came to a group of busy workmen. With a look of triumph he pointed out what was evidently the object of our quest—a new castiron grille!

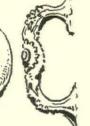
My embarrassment was relieved by a man in the crowd saluting me, "How-do- good-day me speak de englis—in de New York tree years." Then after a few words with my puzzled guide, he explained it all.

"Mister, this man he thinks you better like to make picture of nice new grille than to make a picture of old

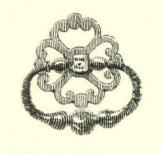
Iron Details From Old Marseilles







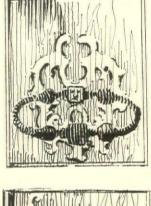




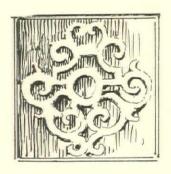












rusty old-fashion grille. So he bring you here to see the fine new grille that his brother buy for his shop."

Such misplaced kindness deserved recognition. So I invited the guide and the interpreter to "Have one on me." We crossed the street to a wineshop, where after conversation and liquor had flowed freely I asked

M. Vedene, "Are you ever going back to New York?"
"New York," he replied, "No, me no go back to New York no! Too much work in New York—here me no work!" And no wonder! Why should he go back to New York and work? The old woman scrubbing the bar-room floor was his mother, the other elderly female cleaning the tables was his sister; while his wife, a buxom woman of perhaps thirty, was industriously polishing the bar. Forsooth, why should he work?

Returning to the Rue des Hommes, I found an interesting old door. It was six feet high and the grille was four, with a roughly modeled head at the top. The grille was unusual as it combined vertical bars with a simple scroll design.

The original door knocker—a pair of dolphins—was still in place. Also a finely wrought handle, a door-pull, in a good state of preservation.

Many of the old doors in southern France were made in three parts; a wide leaf in the center to which one leaf is permanently fixed, the third hinged to the door-frame and opened only on special occasions.

A beautiful door of this character I found near the beginning of the Rue des Hommes. Above was a carved head of a cavalier with big hat, flowing plumes and festoons; below this a wonderful grille, then the old battered but elegant door. The storm and stress of centuries could not efface the charm of this entrance. The door knocker was missing.

I stopped work and returned to the wine shop of M. Vedene.

Houses Are For Children, Too

A woman tells what architects should consider to make houses more livable

BY RUTH LEIGH

Together with three pages of details of children's requirements specially drawn, for this article, by Charles G. Ramsey, A.I.A., and Harold R. Sleeper, A.I.A., authors of "Architectural Graphic Standards"

T was my third week of unsuccessful suburban house hunting and I was growing somewhat discouraged. Consequently, when the energetic real estate woman who had been showing me around, telephoned that she had "a listing of a charming French Provincial house—a marvelous bargain—," I answered quickly: "Yes, I'm ready. Come right over."

It was a charming house, sitting in the sunshine—whitewashed brick, unfinished timber, and a round, pointed story-book tower effect that immediately won me. We turned off the motor and observed it from the car. "It's supposed to be one of the most attractive houses in town," the real estate woman said. "It was designed by So-and-So (she mentioned the name of a nationally famous American architect)."

We walked up the flagstone path, and then and there I decided that this was going to be my home. Imagine my shock, therefore, when on going through the house I found that as charming as it had seemed outside, it was equally unattractive inside! A too-small, badly proportioned living room, gloomy, narrow halls, a kitchen with poor light, and an entirely inadequate master-bedroom.

"Here's something unusual," called the real estate woman. "A bedroom up two steps."

I went over, hoping for a big surprise, and found merely another stuffy bedroom with two tiny casement windows. In fact, throughout the house, the windows were all too small.

By this time, I realized that the house was quite impossible so I turned to the real estate woman. "It won't do. It's too badly arranged. I can't imagine how such a charming looking house could have been so terribly chopped up."

Observing my firmness, the real estate woman grew confidential:

"I find that true of all So-and-So's houses" (mentioning the name of the architect). "They're charming on the outside, but somehow when you get inside, you're always disappointed."

"Well, one doesn't live on the outside," I observed

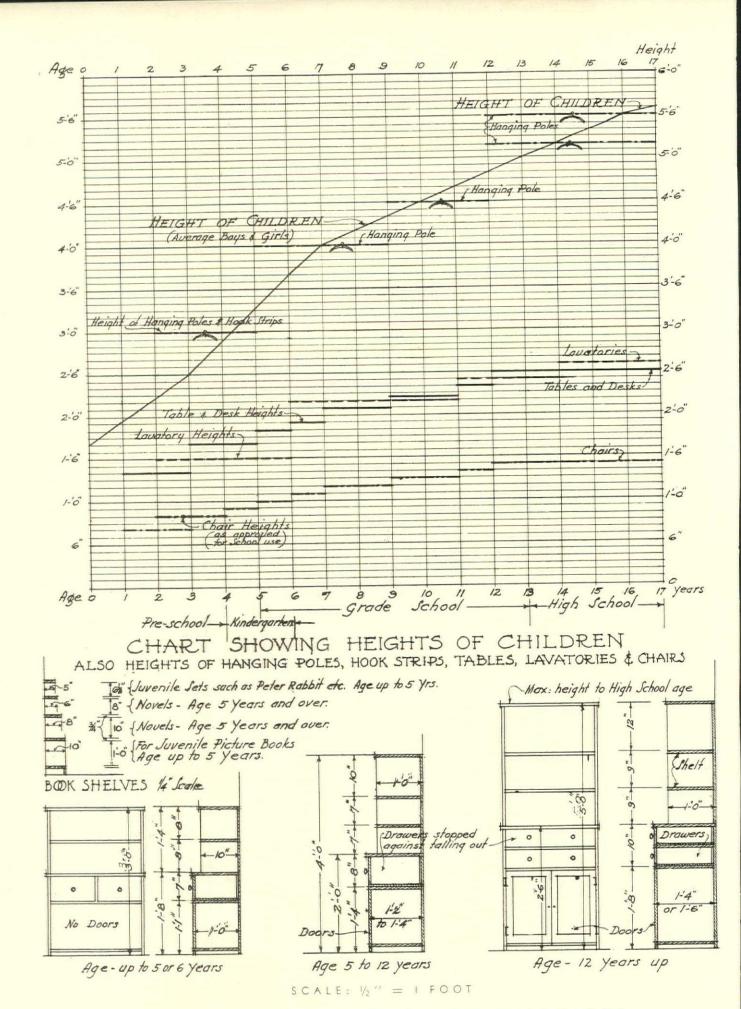
I mention this particular incident not that, in itself, it is very important, but because I think architects may be interested in these frank comments from an average housewife. I don't pretend to know much about art and architecture, but I do contend that in designing homes, some architects are inclined to forget that houses

exist for families, rather than families for houses. In other words, although I, a housewife, want a charming house that my friends and neighbors will admire, I must, too, have comfort and livability. After all, I spend the greater part of my life in that house, and so do the children. If the rooms are not the right size or proportion, if the windows are too small, if the house isn't conveniently arranged to make housework easier, well, from my viewpoint, no matter how artistic the exterior, that house is a failure.

I am not trying to tell architects how to design livable houses. I merely wish to point out a few oftenoverlooked features that contribute, especially when there are children, to family comfort and adult convenience.

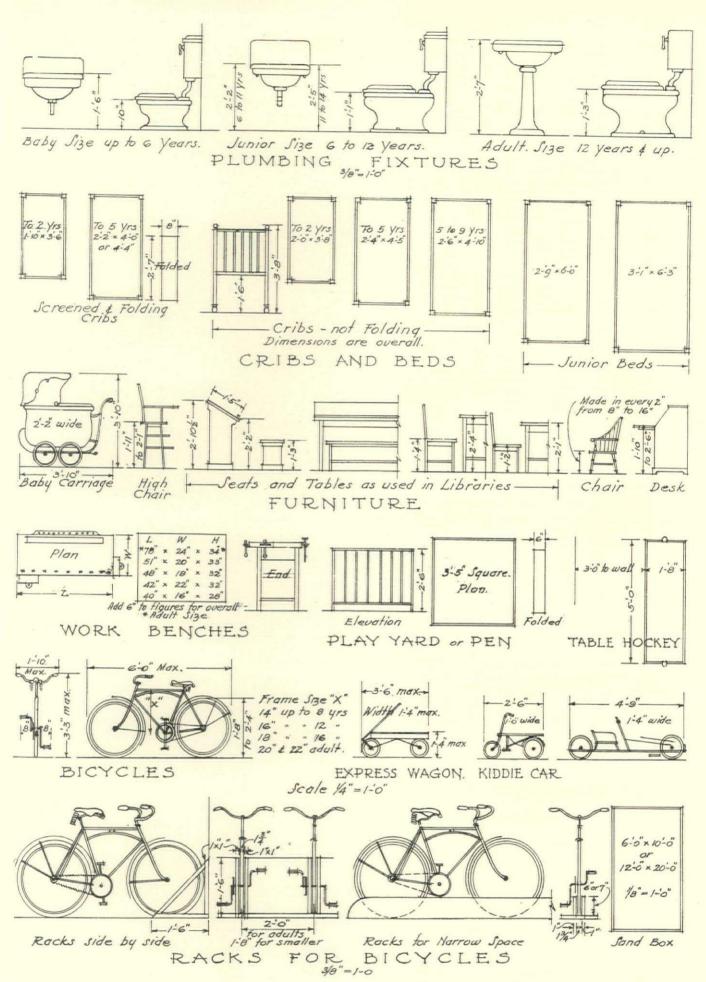
THE first deals with the sun porch which, in the average suburban home, serves as a sort of secondary living room. Especially where there are children, it is used to "save" the living room. For that reason, I often wish that the sun-porch could be reached by another door than through the living room. Usually, the sun porch opens outdoors and that is fine, but here is what happens: Children come in from outside with muddy or sandy feet (from the sandbox), and to go upstairs, go through the living room. Consequently, the living room isn't saved very much. As I have cleaned up muddy footprints, I have often wished that there were another way of getting upstairs from the sun porch without passing through the living room.

As a matter of fact, in planning a house for a family with children, I maintain that you must consider an entirely different set of living habits. For one thing, there's the question of closets. Although intended for the use of both adults and children, most hall closets are adult affairs. Modern child-training demands that we encourage our children to be independent and to help themselves, even at the early age of two or three years. They must learn to hang up their own hats and coats and put them on. When planning hall closets for homes with children, may I suggest that architects include a row of low hooks for little coats and sweaters and a low shelf for hats, mittens, roller skates and school books? Also a special low shelf near the floor, with divided compartments, that will keep rubbers and overshoes in pairs. And, please, plenty of light in hall closets, so mothers won't have to grope blindly in the dark to meet the inevitable: "I did look in the hall closet, mother, and my rubbers simply aren't there." (Continued on page 96)

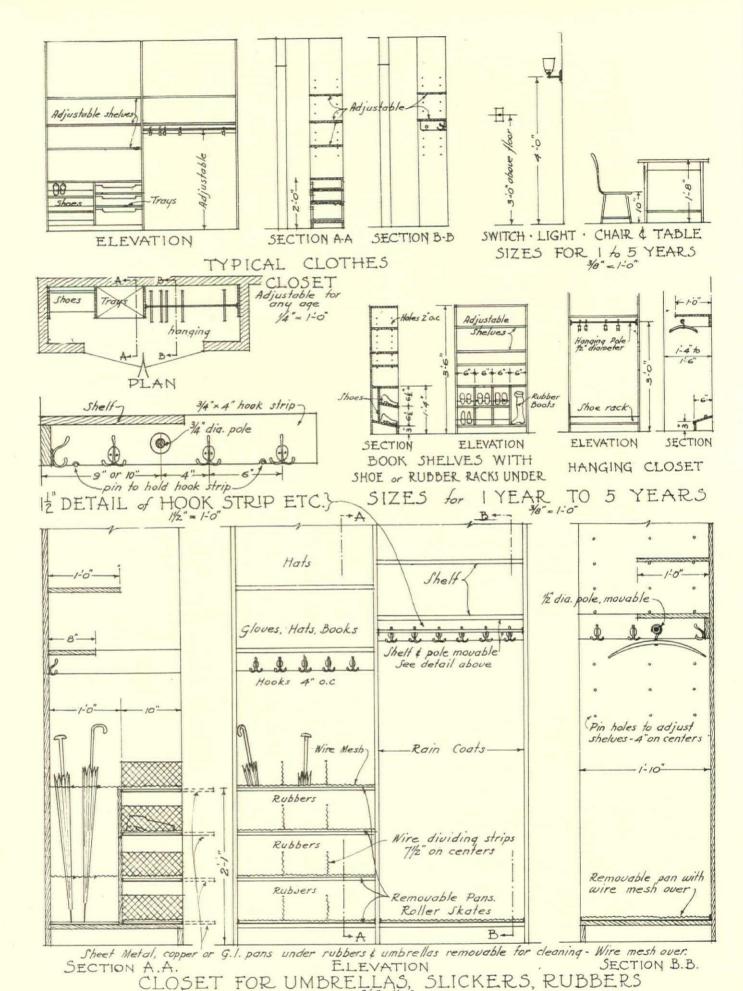


CHILDREN'S TOY SHELVES AND CUPBOARDS

DATA ASSEMBLED AND DRAWN BY CHARLES G. RAMSEY AND HAROLD R. SLEEPER



FIXTURES, FURNITURE, TOYS AND GAMES FOR CHILDREN DATA ASSEMBLED AND DRAWN BY CHARLES G. RAMSEY AND HAROLD R. SLEEPER



ADJUSTABLE FITTINGS FOR CHILDREN'S CLOSETS

DATA ASSEMBLED AND DRAWN BY CHARLES G. RAMSEY AND HAROLD R. SLEEPER



Limewood panel in the style of Grinling Gibbons. Coat-of-arms of George I. Early eighteenth century. Courtesy The Metropolitan Museum of Art, New York.

PLATE SECTION

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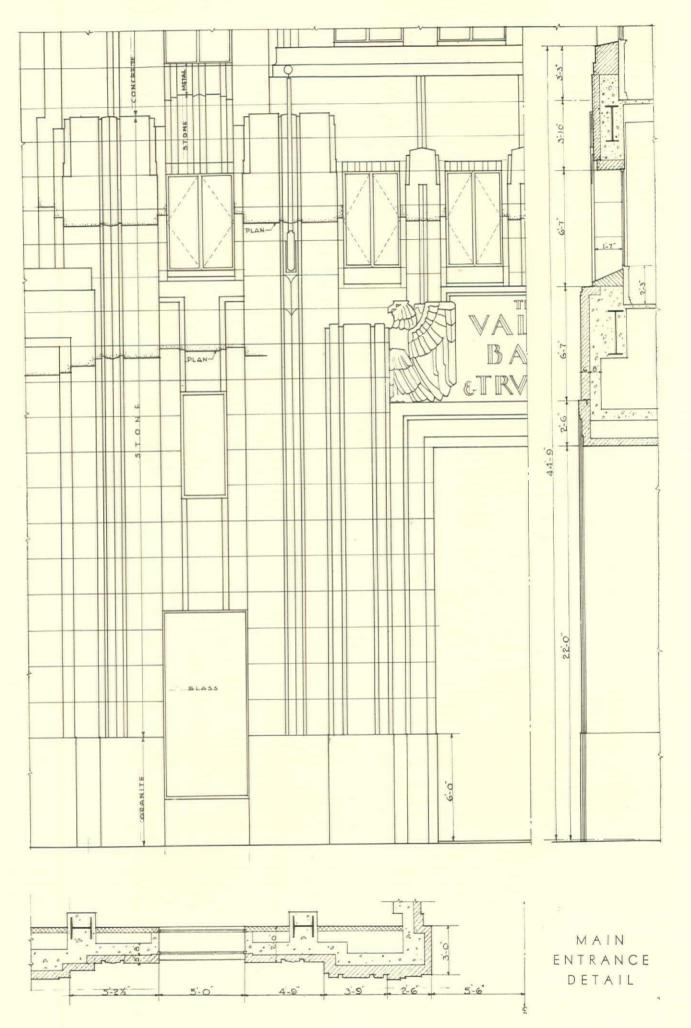
VALLEY BANK AND TRUST COMPANY BUILDING PHOENIX, ARIZONA

MORGAN, WALLS AND CLEMENTS, ARCHITECTS H. H. GREEN, ASSOCIATE ARCHITECT



DETAIL OF MAIN ENTRANCE

VALLEY BANK AND TRUST COMPANY BUILDING, PHOENIX, ARIZONA, MORGAN, WALLS AND CLEMENTS, ARCHITECTS, H. H. GREEN, ASSOCIATE ARCHITECT





CONSTRUCTION DATA: Exterior, lower stories, limestone; upper stories, concrete. Spandrels, concrete and metal. Entrance doors, bronze. Elevator lobby: marble floor and walls; cast plaster ceiling; cast bronze elevator doors. Windows, steel frames and sash. 60-car garage in basement. Upper floors planned for professional tenant occupancy. Air conditioning system throughout. Bank: floor, marble; screen, wood and metal; acoustic material on walls and ceiling; work space, linoleum floors. Completed February, 1932. 2,066,000 cubic feet, net rentable area above first floor, 69,420 square feet. Cost \$950,000 exclusive of bank quarters

DETAIL OF TOWER PARAPET

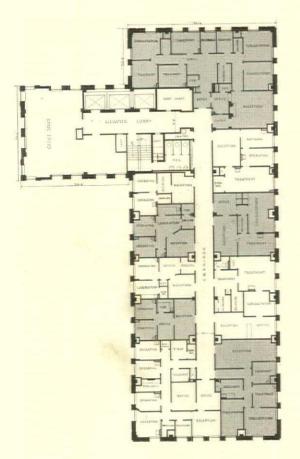
VALLEY
BANK AND TRUST
COMPANY BUILDING
PHOENIX, ARIZONA

MORGAN, WALLS AND CLEMENTS
ARCHITECTS

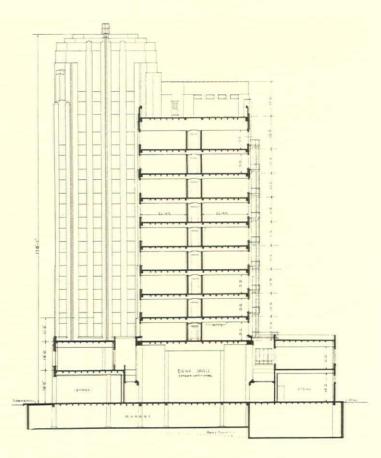
H. H. GREEN
ASSOCIATE ARCHITECT

METAL SHAVERE

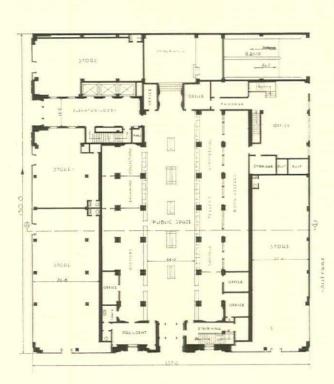
DETAIL OF PARAPET MAIN ENTRANCE FACADE



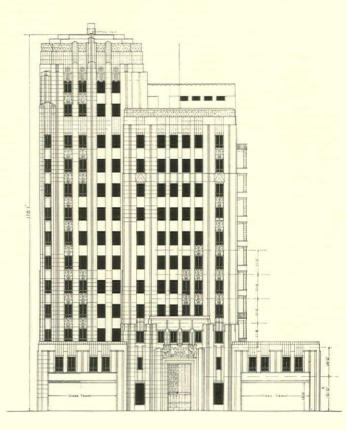
TYPICAL FLOOR PLAN



SECTION THROUGH MAIN PORTION OF BUILDING



FIRST FLOOR PLAN



MAIN ELEVATION

VALLEY BANK AND TRUST COMPANY BUILDING, PHOENIX, ARIZONA, MORGAN, WALLS AND CLEMENTS, ARCHITECTS

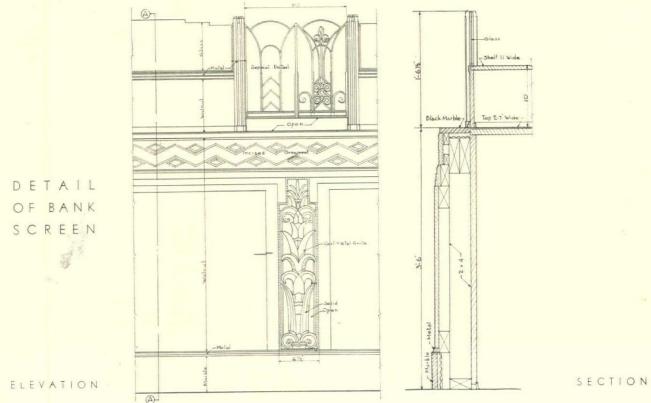
H. H. GREEN, ASSOCIATE ARCHITECT



DETAIL OF BANKING ROOM

VALLEY BANK AND TRUST COMPANY BUILDING, PHOENIX, ARIZONA, MORGAN, WALLS AND CLEMENTS, ARCHITECTS,
H. H. GREEN, ASSOCIATE ARCHITECT





VALLEY BANK AND TRUST COMPANY BUILDING, PHOENIX, ARIZONA, MORGAN, WALLS AND CLEMENTS, ARCHITECTS, H. H. GREEN, ASSOCIATE ARCHITECT

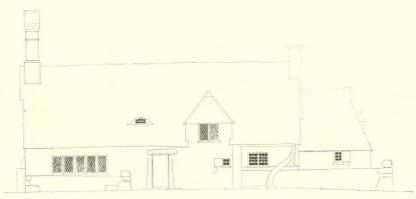


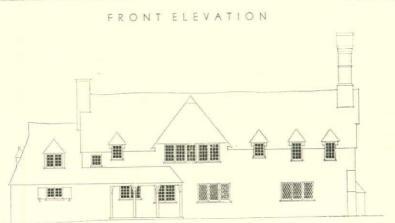
GLASGOW

HOUSE OF A. F. TRAVERS, SHORT HILLS, NEW JERSEY

BERNHARDT E. MULLER, ARCHITECT PHOTOGRAPHS BY ROBERT M. GLASGOW







REAR ELEVATION





END ELEVATION

HOUSE OF A. F. TRAVERS, SHORT HILLS, NEW JERSEY, BERNHARDT E. MULLER, ARCHITECT

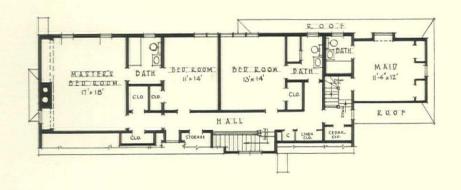


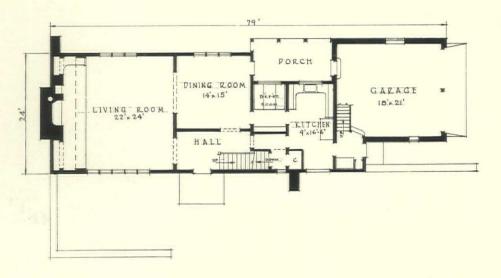
GLASGOV

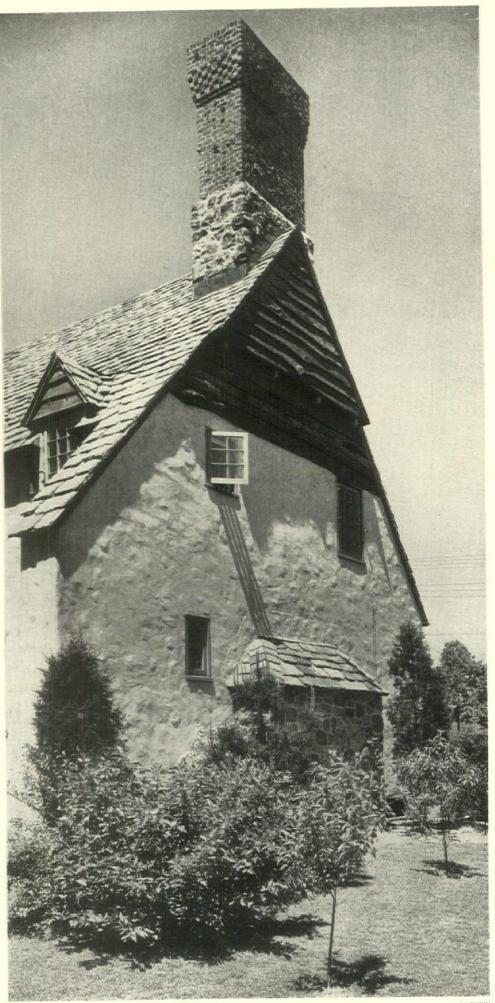
MATERIALS

Construction: metal lath, stucco tinted a weathered yellow. Garage walls clinker brick. Roof, slate in variegated colors laid close to the weather and varying in thickness from 11/2 inches at eaves to 1/4 inch at ridge. Half timbering and trim, oak, adzed, stained green, whitewashed and scrubbed with wire brush

The center second-floor bathroom has a long shower compartment with tile sides and bottom. This is pitched and provided with drain and stopper so that it can be used as tub and shower. 46,000 cubic feet. Cost, 70 cents a cubic foot. Built in 1929







HOUSE OF

A. F. TRAVERS

SHORT HILLS

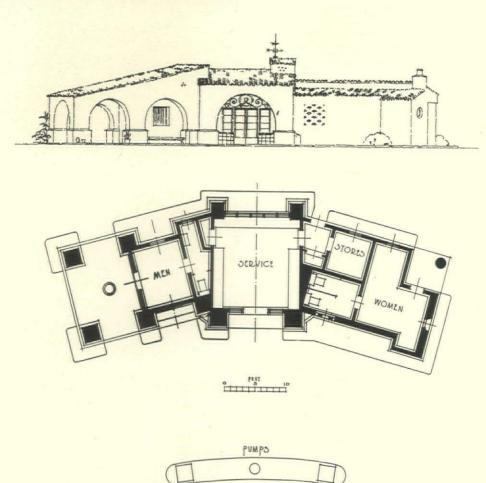
NEW JERSEY

BERNHARDT E. MULLER ARCHITECT

GLASGOW



MOTT STUDIOS

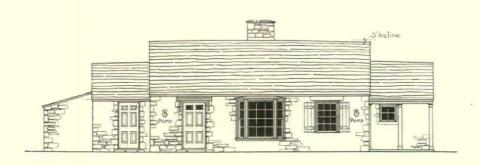


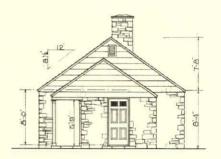
SERVICE STATION FOR THE RICHFIELD OIL COMPANY
EDWIN E. MERRILL, ARCHITECT

FOUR SERVICE STATIONS



COSTAIN







The service station problem of the Westchester, N. Y., park system has been well studied both as to appearance and relation to traffic. The stations are reached by a bypass road paralleling the main highway. The one shown on this page is on the Hutchinson River Parkway. It is built of local stone. Gable ends are shingle and the roof is of slate. Its cost, including pumps, exclusive of grading and paving, was \$15,000

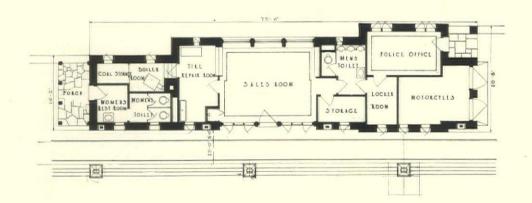


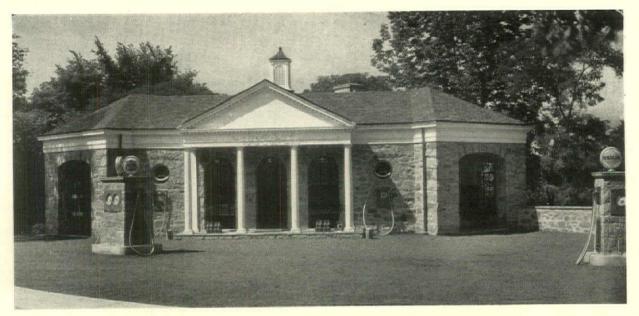
COSTAIN



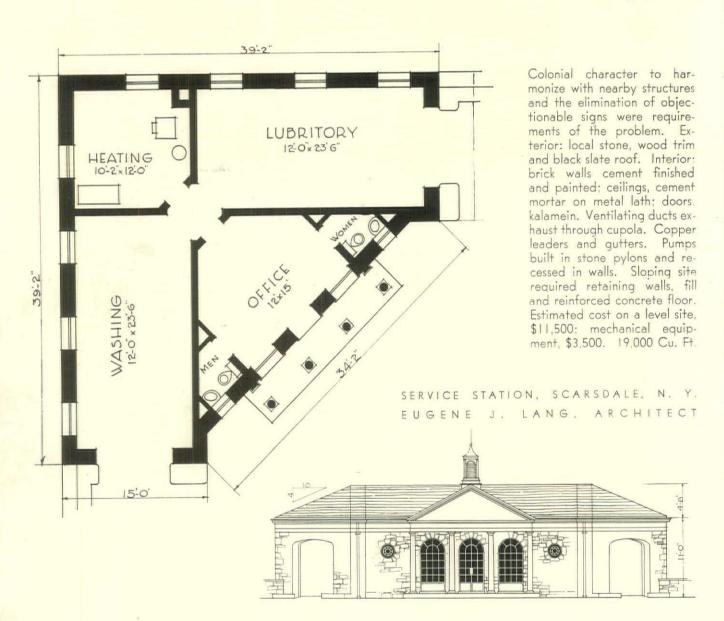


A parkway service station and police office combined. It is located on the Sawmill River Parkway. Exterior is of local stone. Gables are of cedar siding and roof of wood shingles. Interior finished with tile walls, plaster ceiling and cement floor. Note method of recessing pumps. Cost, exclusive of grading and paving, \$21,700





COSTAIN



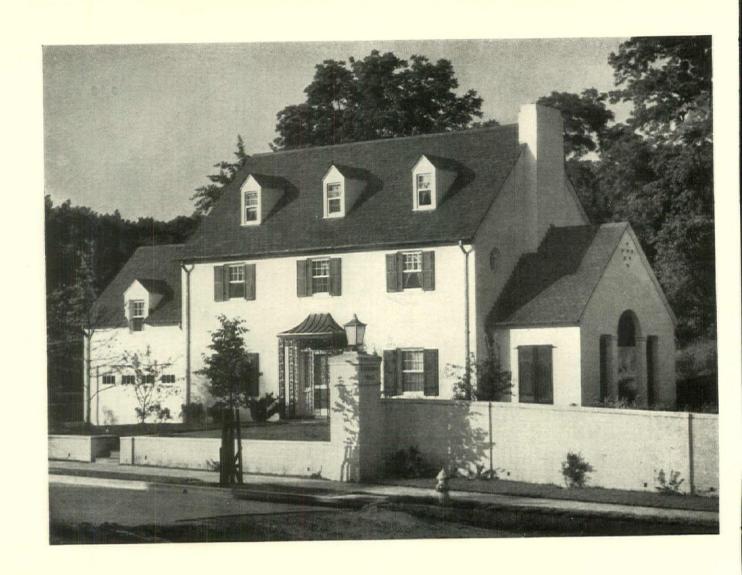


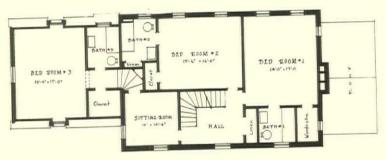
THREE HOUSES IN COLONY HILL, WASHINGTON, D. C.

DESIGNED FOR AND BUILT BY
BOSS AND PHELPS

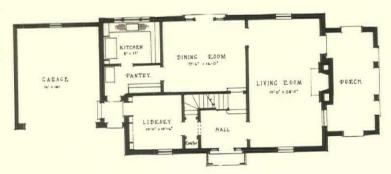
HORACE W. PEASLEE, ARCHITECT, GERTRUDE SAWYER, J. H. LAPISH, ASSOCIATES

. ROSE GREELY, LANDSCAPE ARCHITECT
Photographs by Richard Carlyle Ball



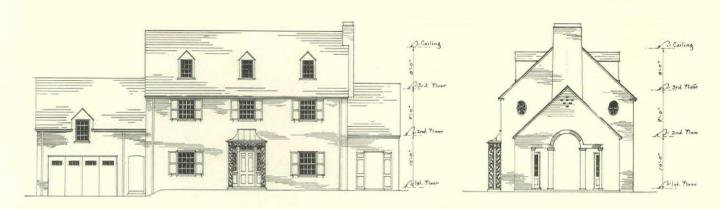


SECOND FLOOR PLAN



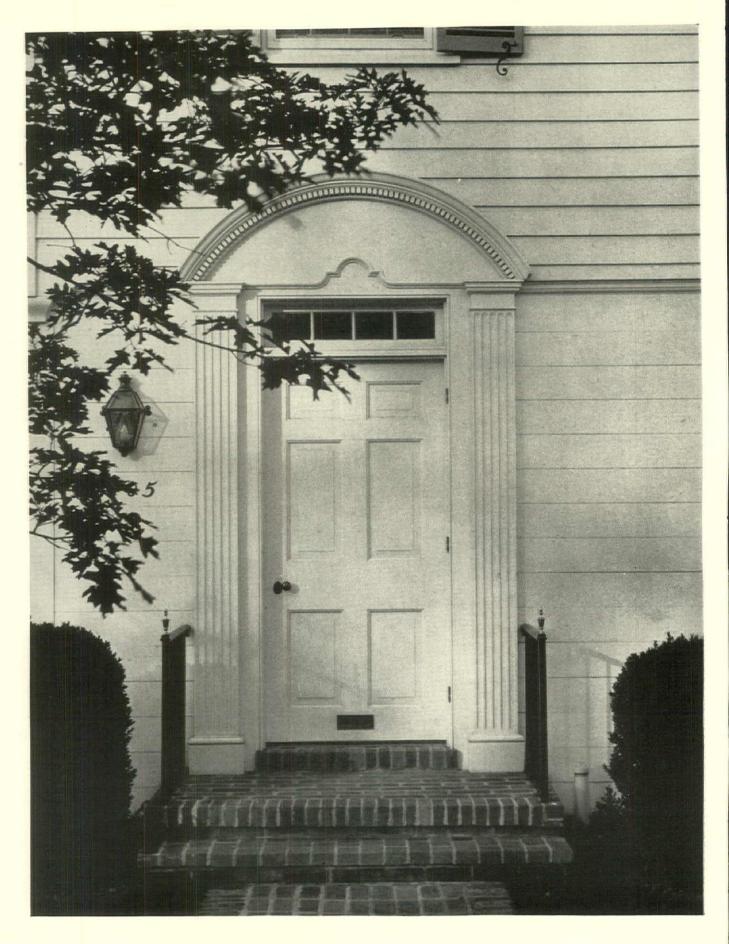
FIRST FLOOR PLAN





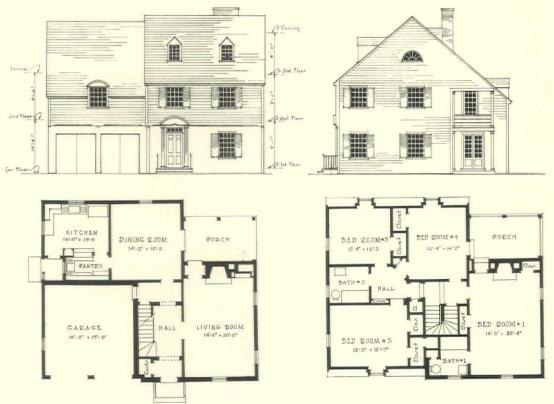
Construction Data: Wood frame construction. Exterior Walls, brick, whitewashed; exterior woodwork painted white; blinds painted green; roof, gray slate. Third floor contains two rooms and bath. 43,500 cubic feet

(Plans on facing page)



DETAIL OF MAIN ENTRANCE HOUSE SHOWN ON FACING PAGE



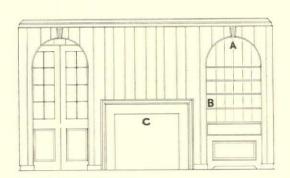


HOUSE IN COLONY HILL, WASHINGTON, D. C., HORACE W. PEASLEE, ARCHITECT, GERTRUDE SAWYER, J. H. LAPISH, ASSOCIATES

SECOND FLOOR PLAN

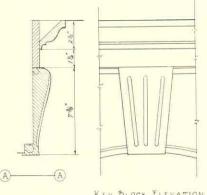
FIRST FLOOR PLAN

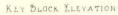


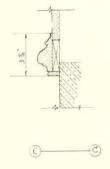


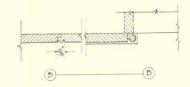
Living Room: Fireplace end panelled with vertical white pine boards; wainscot of horizontal boards; fireplace facing and hearth, brick. Walls above wainscot, colonial wall paper

Construction Data: Wood frame construction. Exterior walls covered with siding painted white; shutters, painted light green; roof, tapered asbestos shingles. Third floor contains two rooms and bath. 33,700 cubic feet



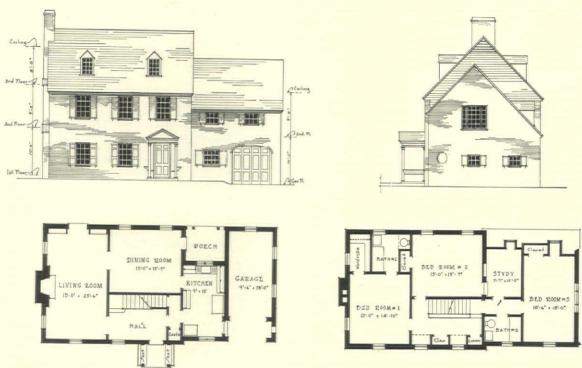






DETAILS FIREPLACE END OF LIVING ROOM

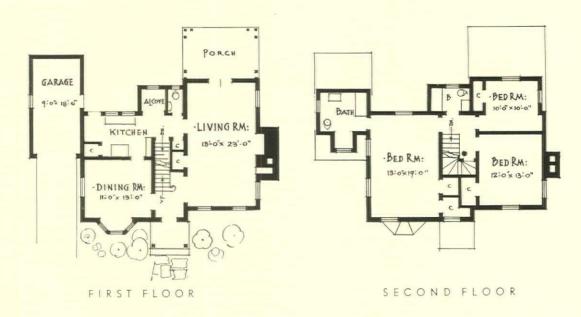




Exterior Walls, brick, light red color; wood trim painted ivory; first story blinds, painted ivory, second story blinds, dark green. Third floor contains one room and bath. 34,700 cubic feet



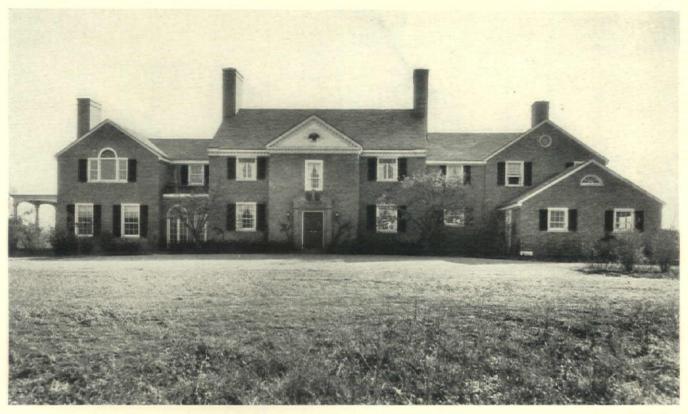
GLASGOW



Frame construction. Walls, hand-split wood shingles painted white. Roof, wood shingles. Shutters painted green. Interior wall finish, wall paper. Woodwork painted white. Floors, oak. Baths and kitchen, tile. 23,300 cubic feet. Cost, 40 cents a cubic foot. Built, 1931

HOUSE OF B. F. JONES, WEST ORANGE, NEW JERSEY

D. WENTWORTH WRIGHT, ARCHITECT



MAIN ENTRANCE ELEVATION

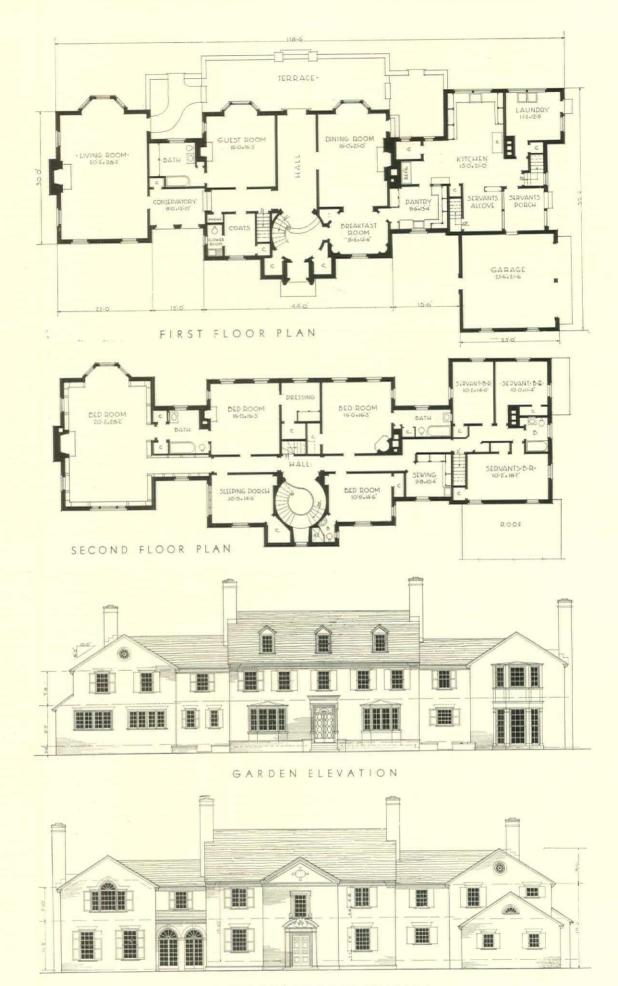


GARDEN ELEVATION

HOUSE OF JOSEPH HUSBAND, BEDFORD, NEW YORK

GODWIN, THOMPSON & PATTERSON, ARCHITECTS

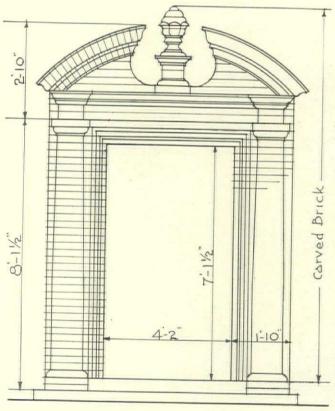
Photographs by George Van Anda



MAIN ENTRANCE ELEVATION

HOUSE OF JOSEPH HUSBAND, BEDFORD, NEW YORK. GODWIN, THOMPSON & PATTERSON, ARCHITECTS







MAIN ENTRANCE OF HAND CARVED BRICK

HOUSE OF JOSEPH HUSBAND, BEDFORD, NEW YORK. GODWIN, THOMPSON & PATTERSON, ARCHITECTS

FOR NOVEMBER 1932

69



FORECOURT ENTRANCE TO GARAGE

HOUSE OF JOSEPH HUSBAND, BEDFORD, NEW YORK, GODWIN, THOMPSON & PATTERSON, ARCHITECTS

70

AMERICAN ARCHITECT



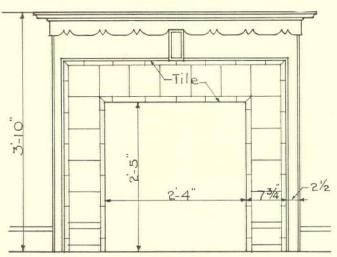
MAIN STAIRWAY

HOUSE OF JOSEPH HUSBAND, BEDFORD, NEW YORK. GODWIN, THOMPSON & PATTERSON, ARCHITECTS

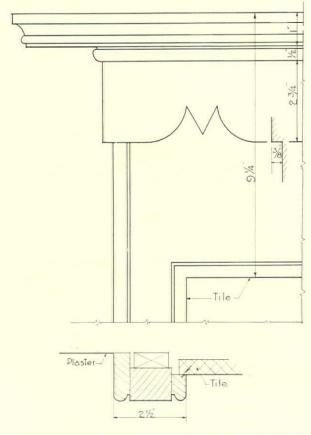
FOR NOVEMBER 1932

71



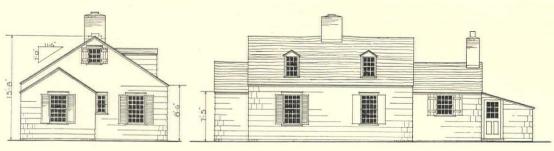


DETAIL OF BEDROOM FIREPLACE



HOUSE OF JOSEPH HUSBAND, BEDFORD, NEW YORK GODWIN, THOMPSON & PATTERSON, ARCHITECTS





END ELEVATION

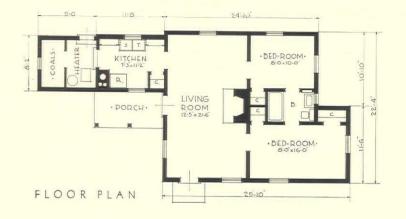
REAR ELEVATION



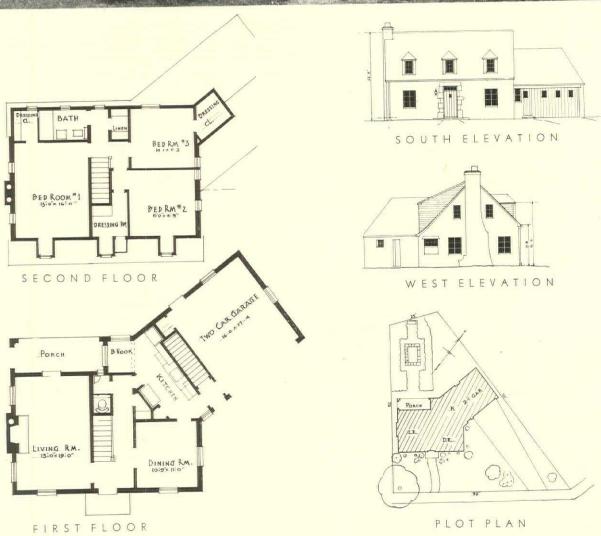
END ELEVATION

FRONT ELEVATION

GATE LODGE, ESTATE OF CARROLL L. WAINWRIGHT EASTHAMPTON, LONG ISLAND PENROSE V. STOUT, ARCHITECT







Frame construction with veneer of reclaimed brick. Roof, wood shingles stained brown. Exterior woodwork stained brown. Interior trim, knotty white pine, stained. Floors in bathroom and kitchen, rubber tile. Bathroom and lavatory walls, enameled steel tile. Steel casements. 26,000 cubic feet. Cost, including landscaping, 381/2 cents a cubic foot

HOUSE OF RICHARD R. GRANT, DAYTON, OHIO

RICHARD R. GRANT, ARCHITECT

American Architect Reference Data

NUMBER THREE—NOVEMBER, 1932

MECHANICAL REFRIGERATING EQUIPMENT

A Guide to the Selection of Equipment for Residential and Commercial Buildings

The purpose of these reference data is to assist architects in their approach to the problem of selecting mechanical refrigerating equipment. Here will be found (I) a brief summary of the principles of mechanical refrigeration and the types of system normally employed, (2) an outline of the major factors in the American Standard Safety Code for Mechanical Refrigeration which affect the architect's selection of equipment, and (3) a summary of the factors to be considered when making comparative studies of competing equipment suitable for a given project.

Following the text will be found advertising pages presenting factual reference data covering mechanical refrigerating equipment of various types. The advertising data have been related to

the introductory analysis of the problem.

ITHIN the last decade the developments in the field of mechanical refrigeration have brought many of its applications within the scope of the architect's everyday practice. Of the three basic applications of mechanical refrigeration—(a) for the preservation of perishables, (b) for comfort work, and (c) for industrial processing, the first two enter in some measure into the design of most modern buildings. The preservation of food products is the most familiar application and touches the architectural field in all residential buildings and wherever food is sold, distributed or served. The preservation of wearing apparel, including furs, enters into many commercial structures, including fur storage vaults in banks and stores.

But of utmost importance is the growing use of mechanical refrigeration for air conditioning, air cooling, and cooling of drinking water. Familiarity with the entire field of mechanical refrigeration thus becomes incumbent upon the well-informed practicing architect.

PRINCIPLES OF MECHANICAL REFRIGERATION

THE evaporation of a volatile liquid, or the expansion of a compressed gas requires its absorption of heat. This fact underlies the operation of all mechanical refrigerating equipment. In its simplest terms a me-

chanical refrigerating unit consists of a supply of a suitable refrigerant and a means for evaporating or expanding it where the heat absorbed may be drawn from the products to be cooled. But since it is not desirable to permit a refrigerant to be wasted after evaporation or expansion, some means is required for recovering the refrigerant and returning it to its original form of a compressed gas or liquid so that the process may be repeated indefinitely.

The three basic elements of any mechanical refrigeration system are, therefore, (1)—The Evaporating UNIT, either flooded or dry expansion type, embracing a suitable valve to control the liquid refrigerant and a chamber or coils in which the evaporation process may take place without coming into contact with the material to be cooled. (2)—The Condensing Unit which in the conventional type machine includes (a) a compressor taking gas from the evaporator and discharging it into (b) a condenser which converts the compressed gas into liquid form by transferring the heat of compression to surrounding air or water, whence the liquid refrigerant flows to (c) a receiver or collecting drum, and thence goes to (d) a pressure reducing device or valve which divides the high and low pressure sides of the system. The low side of the system is the evaporator. (3)—The UTILITY UNIT which is the refrigerating cabinet, cold room, unit cooler, brine tank, or other device or space in which the cooling effect produced in the evaporator is

The foregoing elements are common to the compression method of refrigeration as distinguished from the absorption method. In the latter the function of the compressor is taken by an absorbing medium which assimilates the low pressure gas discharged from the evaporator, from which the refrigerant is subsequently released for re-use by the application of heat. The absorption system is employed in gas domestic refrigerators and certain large waste steam installations, while the compression method is commonly employed in electric domestic refrigerators and the majority of commercial and industrial units. Both systems may be further classified as of the direct expansion type in which the refrigerant is conveyed to the evaporator placed in the utility unit, as distinguished from the indirect or brine system in which evaporation takes place in a brine chamber, cooling the brine, which is then piped to the utility units.

TYPES OF SYSTEM

THREE basic types of system are recognized in the Safety Code for Mechanical Refrigeration of the American Society of Refrigerating Engineers, and may be identified as follows:

1. Unit System, in which the three basic elements of evaporating unit, condensing unit and utility unit are all embraced in a single self-contained device which can be removed from buildings without breaking any pipe connections within the refrigeration system. This embraces the familiar domestic refrigerator, portable electric water coolers, self-contained ice cream cabinets, milk coolers, etc.

On account of the small amount of refrigerant used in these self-contained units they may be located in some places where larger machines piped in place are prohibited.

2. Multiple or Apartment Dwelling System, in which a multiple number of expansion units contained in separate utility units are served by a single condensing unit from which the refrigerant is distributed on the high pressure side to the several evaporators. These systems are subject to more rigid limitations than are unit systems, and additional precautions, such as safety devices, the use of conduit to protect the refrigerant lines, and the use of a warning agent, are specified in the Code. These requirements become more rigid as the systems increase in size.

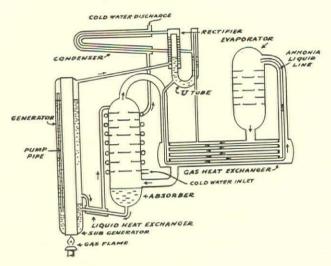
3. Central Systems or Industrial and Commercial and industrial buildings as distinguished from dwellings. The larger installations are required to employ safety devices not considered necessary on smaller systems. They may include multiple as well as single evaporator systems, and they may operate by the direct expansion method or by the brine method.

FACTORS INFLUENCING SELECTION OF MECHANICAL REFRIGERATING EQUIPMENT

THE selection and installation of mechanical refrigerating equipment should be in compliance with the current edition of the Safety Code for Mechanical Refrigeration of the American Society of Refrigeration Engineers. This Code has been adopted by the industry, which is also seeking its general adoption by municipalities and other governing bodies. In the following paragraphs the major requirements of the current edition of the A. S. R. E. Code are summarized, but it should be understood that details are not touched upon and that local governing ordinances (which may be at variance with the Code) may materially influence the selection of equipment. The A. S. R. E. Code is substantially in accord with the Code approved by the American Standards Association.

QUANTITY AND CHARACTER OF REFRIGERANT EMPLOYED

THE current edition of the A. S. R. E. Safety Code classifies refrigerating systems "according to the total weight of the refrigerant contained in or required for their proper operation" as given in the following table:



Typical elements of gas-fired domestic type refrigerating unit employing aqua ammonia and hydrogen (Platten-Munters System)

At right—Typical elements and operating cycle of domestic (unit) refrigerating machine using reciprocating compressor with expansion valve

A. S. R. E. SAFETY CODE CLASSIFICATION OF REFRIGERATING SYSTEMS

	Limiting Quantity of Refrigerant	
Class	Employed—in Pounds	

Class Employed— in Pounds
A 1000 lbs. or more

B Over 100, under 1000 lbs.

C Over 20, not over 100 lbs.

D Over 6, not over 20 lbs.

E 6 lbs. or less.

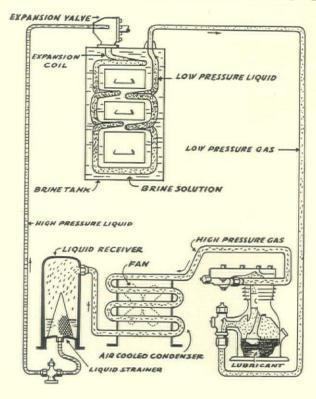
The Code further imposes certain limitations where "flammable" and "irritant" refrigerants are employed in any class of system.

The prevailing classification of refrigerants for code purposes is indicated in the table on the opposite page.

For practical reasons no one refrigerant is universally adaptable. It should be recognized that reliable opinion does not find any known refrigerant in common use or any that might be used under pressures as entirely without hazard. The architect should be governed in the selection of refrigerants by the performance characteristics of the refrigerant in relation to the nature of the project at hand as determined by practical experience and engineering judgment.

LIMITATIONS ON USE

UNIT REFRIGERATORS are limited in size by the A.S.R.E. Code to Classes "D" and "E," and as to use substantially as follows: No unit system containing irritant, flammable or harmful refrigerants shall be placed in wards or private rooms of hospitals, sleeping quarters of asylums, cell blocks of prisons, or any place where people are confined or helpless. Class "E" units and Class "D" units of sealed type tested to two times normal test pressures, can be located anywhere except as above. Only Class "E" systems can be placed in locations of public assembly (defined in detail in Code) and in diet



kitchens of hospitals. In the latter case these kitchens shall have tight-fitting, self-closing doors and ventilation to the outside air by means of easily opened windows.

MULTIPLE OR APARTMENT DWELLING SYSTEMS. These installations are strictly governed in every detail by the A. S. R. E. Code, requiring among other things the protection of all distribution and return lines in a ventilated or sealed conduit, and requiring test pressures and safety appliances that increase as the quantity of refrigerant in the system rises about a 20 lb. limit.

CENTRAL, INDUSTRIAL AND COMMERCIAL SYSTEMS are limited according to their class, as to the location of the equipment in machinery rooms, which in turn may be limited as to the location within the building. The indirect method of refrigeration must be employed in theatres and similar places of public assembly, in hospitals, schools, etc. See Code for details.

LOAD

THE selection of a refrigerant according to load or capacity involves a number of highly technical considerations which are normally beyond the scope of the architect's problem. As between the use of the unit, multiple or central types of systems, the load may become a governing factor. When, for example, one utility unit, such as an ice cream cabinet, requires sub-freezing temperatures, while the others require temperatures for food preservation at 32° to 45° F., it may be more economical to install a separate unit for the sub-freezing temperatures than to use a portion of a central system, because the latter must be designed to serve the lowest temperatures required by the installation.

Similarly, load is related to cost. A number of isolated small units may be most economically installed by the

CLASSIFICATION OF REFRIGERANTS ACCORDING TO A. S. R. E. CODE

	righ Stae			
Refrigerant	Symbol	Test Pressure	Character	
Carbon Dioxide	CO ₂	1500		
Ethane	C_2H_6	1100	Flammable	
Ammonia	NH_n	300	Irritant*	
Propane	C_aH_8	250	Flammable	
Dichlorodifluoromethane	CCl ₂ F ₂	230	**	
Methyl Chloride	CH ₃ C1	175	Flammable	
Sulphur Dioxide	SO_2	135	Irritant	
Isobutane	C4H10	135	Flammable	
Butane	C_4H_{10}	100	Flammable	
Ethyl Chloride	C₂H₅C1	100	Flammable	
Methyl Formate	$C_2H_4O_2$	30	Flammable	
Dichloromethane	CH ₂ Cl ₂	15		
Dichloroethylene	$C_2H_2Cl_2$	15		
Trichloroethylene	C ₂ HCl ₃	15		

*Ammonia is not classed as flammable, though it may burn within a narrow range of air mixtures.

**Dichlorodifluoromethane (also known by the trade name Freon and symbols F12 and K12) is non-flammable and in its normal state is non-irritant, but owing to the fact that it becomes irritant in the presence of a flame, it has been classified by a definition now pending (Oct., 1932) in A.S.A. as irritant only in case of the presence of an open flame or flame producing apparatus.

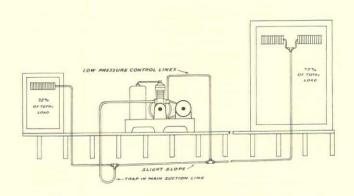
purchase of independent units. A larger number of utility units, as in apartment house installations, may be served more cheaply by a multiple system than by either the central brine or unit system. However, in centers where the Code requirements for the installation of multiple systems are enforced, their cost may be relatively close to the cost of installing separate units.

NATURE OF PROJECT

A S already indicated, the A. S. R. E. Code limits the installation of mechanical refrigerating equipment in places where people are confined or helpless, and in certain other locations according to the character of the refrigerant employed and the size of the system. Further limitations govern the use of refrigerant in air conditioning systems to prevent toxic or irritant refrigerants entering the spray water or the air ducts.

Practical experience governs the adaptability of equipment to specific projects, particularly in the preservation of foods and clothing. Here enter the factors of required temperatures, humidity and air movement. In certain types of food storage, air movement is essential, suggesting the logical use of unit coolers with air circulating fans. In other cases air movement, without proper control of humidity, is detrimental to preservation.

It must be acknowledged that today practical experience with refrigeration equipment has progressed more rapidly than theory. In consequence of this situation theoretical computations and data are of less value in guiding the architect's choice than the experience of a competent refrigerating engineer or technician. The selection of equipment for larger installations, involving choice of refrigerant, capacity of machine, and type of cooler, is thus beyond the realm of the average architectural office and need not be further discussed here.



Small commercial installation of direct expansion type

CHARACTER OF INDIVIDUAL UNITS

EVERTHELESS, it often becomes the architect's problem to approve or reject apparatus offered by competing manufacturers, or to make comparative studies of the merits of units offered as suitable for the project in hand. The following data may be employed as a guide in this comparative study of standard equipment.

MATERIALS USED. Metals, oils, packing, etc., in contact with the refrigerant must be such as to resist corrosion or attack by the refrigerant. See Refrigerating Data Book, Chapter I.

Compressors. Compare operating speed, number of cylinders and moving parts, character of bearings, sturdiness and durability of parts, precision of assembly, and method of sealing in refrigerant.

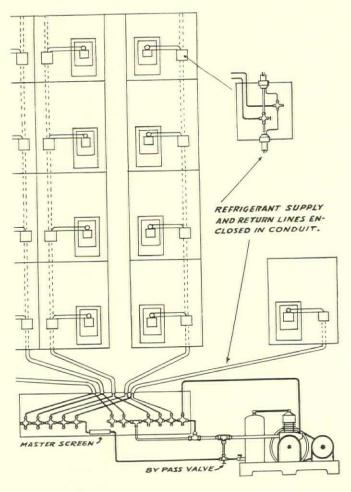
Condensers. Compare size in relation to capacity, conductivity and durability of material used, cooling medium employed (air or water), method of disassembly for repairs or to remove sludge or obstructions in water-cooled condensers.

EVAPORATORS. Study construction for resistance to pressures and continuous freedom from leakage, character of heat absorbing surfaces, etc. With unit coolers, compare fans, motors, motor speeds, character of construction. In comparing unit coolers against pipe coil evaporators, note initial cost, space economy, adaptability to space cooled.

Protective and Control Devices. Determine compliance with Code requirements for relief valves, rupture members, fuseable plugs or other safety devices. Also compare operating controls, including expansion valves.

INSULATING MATERIALS

DEQUATE insulation of utility units (that is, the space cooled by the evaporator) and of distribution lines carrying brine or other cold fluids, is a problem independent of the refrigerating machinery, except in the case of unit systems and of multiple systems where standard refrigerating cabinets are purchased. For data on the design of cold rooms or large refrigerators, see Refrigerating Data Book, Section IV.



Typical layout of a multiple system in an apartment house

Insulation and Condensers—particularly Chapters 12, 13 and 21.

Any consideration of insulating materials for refrigerating purposes always involves their moisture-resisting qualities. All materials employed for such purposes are permeable to water vapor, and if the insulation is colder than the outside air and is not protected on the outside, most of the water which diffuses into the insulation from the outside will condense, accumulate and possibly freeze, eventually producing a more or less saturated state and lowering the insulating value many times. Such action may also deteriorate or break down the insulating materials, the sealing or cementing products and structural elements used in conjunction therewith. It is essential that the warm side of insulated surfaces be protected by means of air-tight coatings.

The design of refrigerated space in buildings involves a number of important considerations in addition to the selection of the appropriate insulating material. Rigidity of construction and the methods of attaching the insulating material to the structural parts of the enclosure are essential to the permanent retention of the designed rate of heat transfer, both factors contributing to the permanent maintenance of an air seal on the warm side of the refrigerated enclosure. Here again experi-

PURE CORK BOARD IN COLD STORAGE PRACTICE IN INSULATION

All Herendeley Man Manager		
	Exposure	Thick- ness in.
Exterior cooler walls	North Northeast Northwes South Southeast Southwest	4 t 4 5
(For walls facing east or west use in, on that wall exposed to prevaili summer winds and 4 in, on the other	e 5 ng	
Exterior freezer walls	Northeast Northeast Northwest South Southeast Southwest	6 t 6 7
(For walls facing east or west use in on that wall exposed to prevaili summer winds and 6 in on the other Partition walls on floors between free Cooler floors exposed to usual attemperatures. Freezer floors similarly exposed	ng c.) zers and cool nospheric	5
Roof over cooler space		6

ence rather than theory is the best guide to successful design. Reinforced concrete, for example, is preferred over other wall and floor constructions. Hollow tile should not be used in floors, walls and partitions of refrigerated spaces. The spaces in these tiles collect moisture and ice. Moisture damages the insulation applied to the hollow tile surfaces and the ice damages the tile. Similar practical considerations influence the installation of insulating materials.

"The only precaution one can exercise is to demand

painstaking work by those who apply the insulating materials, and to carefully inspect the work during construction. All waterproof materials used to apply insulating are not air or vaporproof in the thicknesses used. Again, walls and floors crack and with them the waterproof covering." (Refrigerating Data Book, Chapter 21).

An indication of the general practice followed in commercial refrigeration work is shown in the accompanying table which gives the thicknesses of pure cork board recommended in cold storage work.

DESIGN AND SPECIFICATION FACTORS

REGARDLESS of the type of system employed, it is of utmost importance that the architect make adequate space provision for the refrigerating equipment required for the building. In the case of unit or domestic refrigerators, see following section. In the case of multiple and central systems and small self-contained refrigerating machines employed for isolated air conditioning or cooling cabinets, there should be not only sufficient space for proper installation of the compressors and condensers, but also space to provide access for repairs. Note that for larger systems the Code establishes definite requirements for machinery rooms, use of noncombustible materials, etc.

Layout of distribution lines should be planned so that no refrigerating lines are run through an elevator or dumbwaiter shaft or any shafts having outlets into living quarters or main exit hallways.

The installation of refrigerating equipment has become a separate trade and for maximum economy and satisfaction should be let as a separate contract rather than as an adjunct to plumbing or heating contracts. Secondary work, including preparation of foundations, cutting, patching, etc., should be allocated to the proper trades outside of the refrigerating contract.

SELECTION OF DOMESTIC

NASMUCH as the architect or purchaser has no choice with regard to the details of construction or assembly of unit refrigerators other than the choice between the complete entities, different considerations are involved in their selection than obtain in the case of multiple or central systems. It may be appreciated that manufacturers producing unit systems have carefully sought to balance all elements of their equipment to operate effectively in unison. The comparison between such units, therefore, is reduced to a determination of relative quality of construction, efficiency of performance and both initial and operating costs. The following points may serve as a guide in a comparative study of domestic or similar unit refrigerators.

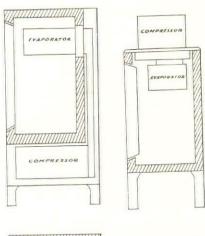
BASIC TYPES OF UNITS

A S between gas and electric refrigerators, the choice may be largely governed by the relative cost of the gas or electricity consumed, and the cost of water

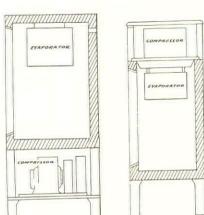
OR UNIT REFRIGERATORS

connections and water consumed for cooling gas units. The devices themselves are so designed as to provide equally satisfactory operation. Other factors are quietness, freedom from moving parts (in the case of gas refrigerators), portability, etc.

As between "sealed units" and those not so classified (conventional or open-type machines), the choice may be influenced under certain conditions by the following provisions of the A. S. R. E. Safety Code. The Code defines a "sealed unit" as "a pressure-imposing element which operates without a stuffing box and/or which does not depend upon contact between moving and stationary surfaces for refrigerant retention." It further provides that "Unit systems containing not over 3½ lbs. of refrigerant and sealed units containing not over six lbs. of refrigerant tested to two times the pressure specified herein can be located anywhere except as provided in Par. 402-a." Thus a sealed unit may be of larger size than an open type unit under given conditions of use.



Arrangements of compressors and evaporators in domestic refrigerators



SPACE REQUIREMENTS AND CAPACITY

OMESTIC refrigerators should be chosen on the basis of two cubic feet per person normally in the family or household. This has become the minimum standard recommended by the industry. Capacity is measured according to standard methods. For larger units, such as are required for boarding houses, restaurants, lunch counters, delicatessen, dairy and cheese stores, etc., capacity should be in excess of the maximum cubic volume of perishables kept on hand at any time.

DIMENSIONS AND LOCATIONS OF UNITS

RCHITECTS should guard against the tendency to purchase domestic units of less capacity than two cubic feet per person and should provide space in the plans of the dwelling or apartment house for the installation of unit refrigerators at least up to the minimum standard of size. Floor plan dimensions are readily obtainable from manufacturers, but caution should be taken to provide adequate vertical space because of the tendency to elevate cabinets above the floor for easy access and because in some types the refrigerating machine is mounted on top of the cabinet.

Units may be obtained of various sizes and of extremely compact design to accommodate special conditions in the plan, such as frequently develop in the design of serving pantries, kitchenettes and apartment house kitchens. Space containing air-cooled units should be suitably ventilated, but no special provision is required

beyond the normal ventilation of the room. Standard practice permits the installation of refrigerators in kitchens in preference to isolated locations less accessible during the preparation or restorage of foods.

ELEMENTS TO CONSIDER IN COMPARING UNIT REFRIGERATORS

MECHANICAL UNIT—Compare size and type of motor, type of fans for air circulation over condenser, use of belts, gears or direct drives, character of compressor, quality and precision of construction, mounting to achieve maximum quietness, method of sealing refrigerant. Also ice freezing capacity, speed, etc.

Cabinet Insulation—Compare thickness and kind of insulation employed, placement of insulation with respect to heat source, protection of insulation against moisture penetration, insulation of doors, prevention of heat losses around doors, including gaskets and fitting of hardware. Note: Bureau of Standards Letter Circular 227 recommends the equivalent of two inches of insulation in domestic unit cabinets.

Cabinet Construction and Finish—Compare materials employed and method of assembly, such as use of seamless or welded linings, all-metal or metal-and-wood framing; quality of finishes on exterior and interior, such as porcelain enamel, baked or air-dried enamels, or solid vitreous materials. Also interior arrangement of shelving, ice-making compartment, etc.; and exterior design and appearance.

Accessory Fittings—Where pertinent to the problem, consider accessory fittings, such as methods for manual control of temperature, provision of lights, use of special hardware.

REPAIR AND ADJUSTMENT SERVICES—Compare service facilities offered by manufacturer or selling agent. Guarantees of free servicing should be judiciously examined as to their precise terms to eliminate meaningless guarantees or guarantees that necessarily increase cost without commensurate value.

ECONOMIC FACTORS

Variations in initial price for units of equal capacity should be balanced against probable operating cost, service and repair charges, and rate of depreciation. Cost of electricity consumed in electrical refrigerators should be balanced against gas and water consumed by gas refrigerators, including relative installation costs. It may be noted that in some sections of the country, local ordinances require that electric refrigerators be served by a separate power circuit.

THE foregoing analysis has been prepared in consultation with qualified officers of the American Society of Refrigerating Engineers, the Electrical Refrigeration Bureau of the National Electric Light Association, and the Electrical Refrigeration Section of the National Electrical Manufacturers Association. All illustrations are redrawn from the Refrigerating Data Book and Catalog, first edition 1932-33, published by The American Society of Refrigerating Engineers.

NORGE

Rollator refrigeration

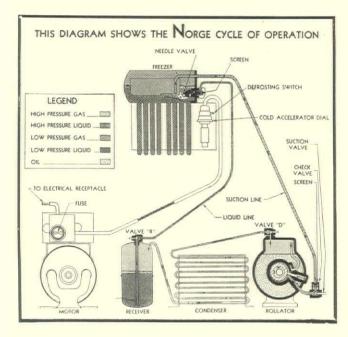
A scientifically proportioned refrigerator, affording maximum food storage space while occupying a minimum of valuable floor space, Norge is of superior quality throughout and is powered with an unusually efficient mechanism, the exclusive Norge Rollator.

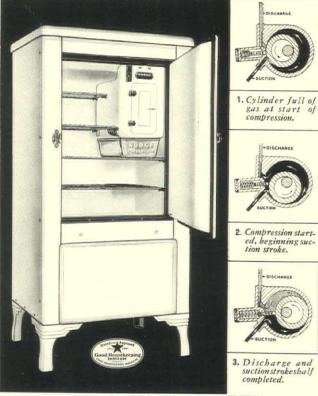
THE ROLLATOR—A development of the rotary principle compressor but simplified, having only three moving parts (a) shaft with integral cam, all one drop forged piece, (b) roller and (c) blade, the Norge Rollator has better than 90% volumetric efficiency. All parts are submerged in a permanent bath of protective oil, under pressure.

THE COLD ACCELERATOR—Located inside the food compartment, on the freezer shield, at a convenient point for high visibility and easy operation, the Norge Cold Accelerator has nine points of chilling speed.

THE DEFROSTING SWITCH—Mounted on the instrument panel with the cold accelerator is the Norge Defrosting Switch. Defrosting is positive and requires no putting of hot water into ice trays or other containers to speed defrosting. Overnight, with the switch in the "Off" position, is sufficient time for defrosting and it is recommended that the freezer be defrosted, ordinarily, at intervals of every two weeks or more.

SERVICE FREEDOM—The staunch sturdiness of the Rollator and the mechanical precision with which it is built practically precludes any need for service attention other than what may arise from interruption of the household electric current supply. In the event of any failure of the mechanism to function perfectly, the entire mechanical and freezing assembly is removable and replaceable with a substitute unit in twenty minutes, by the average dealer's service man.





Approved Insulation is officially recognized as the most efficient of any type of insulation. Norge Approved Insulation is made of the fibres of the Cebia tree, and is exclusively processed so it has the proper density; from one to two pounds per cubic foot to give maximum insulating value. The insulation is batted in odorless asphalt-coated paper and the batts are sealed to the refrigerator frame, making a waterproof, tight insulation.

FOOD CHAMBERS—Every corner of the one-piece, acid-resisting, vitreous porcelain lining of the Norge food compartment is rounded for easy cleaning. There are no openings for tubes or mechanical parts through this lining. Smooth black Bakelite buttons, that do not catch on cleaning cloths, support the flat-bar food shelves.



4. Discharge and suction valves open simultaneously on combression.



5. Discharge and suction strokes completed.

ACCESSORIES—As standard equipment in certain models, Norge has four practical accessories in the Voir family, the Watervoir, Icevoir, Preservoir and Hydrovoir. The Watervoir, a crystal glass container, keeps a gallon of chilled water on tap. The Icevoir makes quickly frozen bar ice that need not be touched by tap water or hands in serving. The Preservoir is for extra cold storage. The Hydrovoir preserves and restores the garden freshness of vegetables. These accessories can be had at slight extra cost where not standard equipment.

	Net	Ice	Sq. ft.	Floor Space		
Model	(cu. ft.)	Pounds	Shelf Space	Width over top	Depth over door	Height
A B & BP D & DP F	4.25 4.25 5.6 6.8	5.4 5.4 9.	9.2 9.6 12.3 14.3	25 ¹ / ₁₆ '' 25 ³ / ₁₆ '' 28 ¹³ / ₁₆ '' 32 ⁷ / ₈ ''	22 ⁷ / ₁₆ " 22 ⁵ / ₈ " 23 ¹¹ / ₁₆ "	513/4" 533/16" 613/4"
H	11.1	14.4	20.95	421/4"	25%16'' 25%16''	6216/16

Models A, B, D exteriors Enamel. Models BP, DP, F, H Porcelain

NORGE CORPORATION 664 E. Woodbridge Street Detroit, Michigan

Norge Corporation is a division of Borg-Warner Corporation, one of the world's largest makers of precision parts, including automotive free wheeling.

• Westinghouse • Dual-automatic Refrigerators

The Westinghouse Dual-automatic Refrigerator includes all those features of food protection, utility and economy of operation that are so necessary and desirable in electric refrigeration, and, in addition, provides the exclusive double advantages and double protection of Dual-automatic operation and control.



AUTOMATIC UNDER NORMAL, AND UNDER EXTREME CONDITIONS

Every Westinghouse Refrigerator is Dual-automatic because it has: 1. Selective Temperature Control. A 7-point Temperature Selector assures automatic performance under ordinary conditions. 2. Built-in Watchman Control. The famous Spencer disc (Built-in Watchman) assures automatic performance under extreme conditions, because it not only stops the motor if unusual voltage

conditions interrupt service, but also starts it again when the unusual conditions are past. This is exclusively a Westinghouse development, and is available in no other refrigerator.

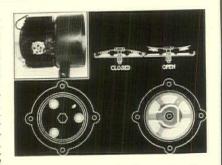
HERMETICALLY SEALED UNIT, ABOVE THE FOOD COMPARTMENT

Westinghouse unit is hermetically sealed, thus providing completely trouble-free performance. It is placed above the food compartment, yet out of sight, permitting all the operating advantages of the unit at the top, yet affording the convenience of the Flat Buffet Top. Broom-high legs make sweeping and cleaning under the refrigerator simple and easy.

FORCED DRAFT COOLING, AND PERMANENT OIL SUPPLY

Forced draft cooling permits satisfactory operation of the Westinghouse unit under unfavorable conditions, especially where natural air circulation around the cabinet is limited. The oil supply is sealed into the mechanism, thus eliminating for all time any necessity for oiling the hermetically sealed unit.

The Built-in Watchman is a bi-metallic disc, placed on the side of the motor, which breaks or closes the circuit as it heats or cools. Excessive motor heat causes the disc to snap, thus breaking the circuit. When the heat subsides, the disc cools and snaps back into the closed position, thus restoring the current to the motor and



allowing the unit to resume operation. The Selective Temperature Control makes the Westinghouse automatic under ordinary conditions—the Built-in Watchman adds automatic operation under extreme conditions.

ALL-STEEL CONSTRUCTION - PORCELAIN OR LACQUER FINISH

All Westinghouse cabinets, except the two largest sizes, are of all-steel construction, giving long life and stability not found in less permanent types of construction. Fine porcelain or lacquer exterior finishes are available in all sizes.

ONE-PIECE PORCELAIN INTERIOR, WITH PORCELAIN FROSTER

Interiors are of stainless porcelain, in one piece, without cracks or seams. The automatic electric froster is also of porcelain, thus making the whole interior exceptionally easy to keep clean and sanitary. Adequate ice-making facilities are provided, as well as double-depth tray for frozen desserts, and rubber ice-cube tray.

ROLLING SHELVES, ELECTRIC LIGHTS, CRISPING PAN, IN ALL-PORCELAIN MODELS

These added conveniences are available without extra charge in all porcelain models with the exception of the AP-45, or may be obtained for small additional amount in lacquer finished cabinets.

SIMPLE TO INSTALL - EASY TO MOVE

Westinghouse hermetically sealed unit makes installation simple and moving easy and inexpensive. No special piping or plumbing is necessary. Simply plug it into a convenience outlet.

4-YEAR SERVICE PLAN - BACKED BY WESTINGHOUSE

Utmost precision of manufacture, elaborate tests and inspection and the use of only the finest of materials give assurance of lifelong satisfaction and freedom from upkeep expense. Westinghouse provides a 4-year service plan, guaranteeing the user four full years of cost-free service from defects in the sealed-in refrigerating mechanism.

SIZES TO SUIT ALL REQUIREMENTS

The following table gives sizes and capacities—indicating that a Westinghouse is available to meet almost any requirement of home or institutional use. Larger sizes are covered in the commercial line, about which full information will be sent upon request.

Model	Cu. Ft. Storage	Sq. Ft. Shelves	Ice Cubes	Capacity Pounds	Floor Space	Height Inches
AL-45	4.2	8.4	54	5.25	241/4×203/4	551/4
AP-45	4,2	8.4	54	5.25	241/4×203/4	551/4
AL-60	6.1	11.4	96	11.	287/8×22 ¹ / ₄	597/8
AP-60	6.1	11.4	96	11.	287/8×221/4	597/8
AL-73	7.2	12.8	96	11.	317/8×221/4	597/8
AP-73	7.2	12.8	96	11.	317/8×221/4	597/8
WL-90	9.0	15.7	96	11.	391/8×223/4	597/8
AP-90	9.0	15.7	96	11.	39½x223/4	597/8
AP-130	13.5	24.8	192	21.	503/4×27 16	60
AP-200	20.1	37.7	192	21.	51 16 x 27 16	76

Ask your local dealer for delivered and installed prices.

WESTINGHOUSE ELECTRIC AND MANUFACTURING COMPANY MANSFIELD, OHIO

Architects Must Know Their Mouldings

(Continued from page 26)

of stock mouldings is to design freely without them and then select them as nearly as possible to interpret the design already produced. It is always a mistake to try to design with stock mouldings.

Reasons of economy nearly always require the architect to use stock mouldings on small buildings. This applies to both wood and metal and even, to a very limited extent, to stone and terra cotta. In larger work the cost of the knives is so small as not to be worth considering in wood but in metal the expense of dies is so great as to make the use of stock designs desirable even in larger work. Unfortunately, stock mouldings in metal, as well as in wood, usually occur without forethought out of the left-overs of special designs for special purposes. If all manufacturers in all types of materials could only be persuaded to make up their stock out of the essential curve elements in various sizes and leave it to the designer to combine them, much larger facilities in design would be possible with stock mouldings, giving a wide selection in sizes of such standard curves as the crown, ogee, round, half-round, quarter-round, cove, half catenary and half parabola.

OINTS in mouldings, if they happen to fall between fillets or beads or in the shadow portion of the mouldings, do not disturb the general moulding effect. Special mouldings designed for a special purpose are frequently a combination of several curves put together to express a definite purpose on the part of the designer for a use which is not likely to occur again in the same way. It is for this reason that this type of moulding is never satisfactory for stock. Stock mouldings should be designed primarily for stock mouldings, separated into the simplest sort of elements with edges so designed as to make ready joints with their contacts and yet appear satisfactory when exposed.

The accompanying illustrations (see figure 7) show enough to indicate the essential scope of a moulding palette. Of course, there must be sizes of each to correspond with all needs. This discussion is in no sense intended to advocate the production of design by mathematical formula. The writer is unalterably opposed to such procedure. Design should be free and untrammeled, allowing the fancy to play without restriction other than as to purpose. No design can be considered as worth while that does not have purpose, but after the design is made where economy is an important consideration, as is the case in such a large majority of projects, a good design may be well interpreted in stock material if the designer makes the selections himself. It is certainly dangerous to allow a contractor to select stock mouldings to fill out the design made by an architect. All selections of stock mouldings for a specific interpretation should be made with skill and exactly specified. This means, of course, that every designer should have available in his office exact, full-sized contours of all stock mouldings that are in constant use and are available in various materials.

The discussion can not be appropriately closed without emphasizing the fact that beauty in form is dependent on scale and proportion of mass. No stock or even specially designed moulding can talk without a rasping clang unless it is in appropriate scale and unless its position with relation to other parts has been well considered.

No essay on mouldings can omit a warning concerning the effect of color on the interpretation of moulding language. As color and style of dress has to be selected with care in order to best interpret personal physiognomy, so color is of vital importance to the interpretation of style in mouldings. To attempt Gothic detail in white is to attempt the impossible. White, however, serves well as a medium for classic expression. This style needs a light background in order to effect the delicate play of shadow on which the classic is so dependent. The rendering of mouldings in color or the emphasis of shadow effects by shading corresponds to the painted make-up of an actor. It is hard and fixed in character and does not respond to the constantly varying light effect incident to shifting clouds and varying angles of reflection. Angles of the source of light vary in atmospheric content; both tend to give that subtle influence of variety so important to continued interest. In zones of tropical or semi-tropical glare, where the atmospheric content is not materially varied over long periods or time, color and shadow rendering have their important function in the same way that it is necessary for actors to make up before the footlights. The Gothic style was evolved with dark materials. Its configurations are made to talk with such materials and are spoiled with materials best suited to the classic. This style was evolved in zones of frequently cloud-screened light.

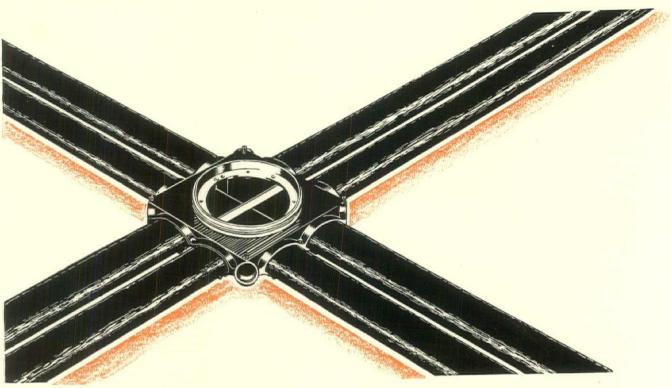
Direction of illumination is an extremely important factor in considering the design of mouldings. If the illumination is from below, the effect of moulding expression is diametrically opposite to the effect when the illumination is from above. Shadow effect is dependent on both contour and location of the source of illumination. The sun is a moving source of illumination, hence the continued interest in good architecture. If all architecture were constantly illuminated as of 45 degrees over the left shoulder, which is the theoretical method taught for rendering purposes, even the best architecture would be dull and commonplace.

Architectural League Exhibition

ARCHITECTS planning to submit photographs for the Forty-eighth annual Exhibition of the Architectural League of New York, to be held February 18 to March 11, 1933 are advised in a circular of information recently issued that the last day for the advance submission of photographs of exhibits is Thursday, December 1. A copy of this circular, which contains complete information for prospective exhibitors, may be obtained by addressing the League at 215 West 57th Street, New York.

THE Tenth National Exposition of Power and Mechanical Engineering will be held at the Grand Central Palace, New York, December 5th to 10th. Modernization of building and plant equipment and many new products developed by research will be featured.

BUILD IN A LIFETIME OF WIRING FLEXIBILITY



The installation of a G-E Fiberduct system in modern buildings enables architects to overcome one of the prime factors which has contributed to the premature obsolescence of countless buildings of various commercial classifications. Economical—the inherent flexibility of this underfloor duct wireway permits the installation of electrical outlets, wherever needed, at any time during the life of the building. The owner is assured of continued tenant acceptance and can satisfy existing individual demands as well as any changes in office arrangements which future requirements may necessitate. Specify G-E Fiberduct for all types of public, commercial and industrial buildings. Safe and efficient, its installation assures every building of a lifetime of wiring flexibility. For further in-

formation see the nearest G-E Merchandise Distributor or write Section CF-10011, Merchandise Department, General Electric Company, Bridgeport, Conn.

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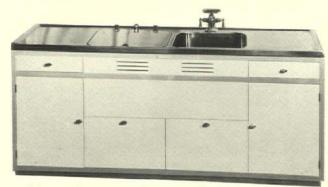
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MERCHANDISE DEPARTMENT, GENERAL ELECTRIC COMPANY, BRIDGEPORT, CONNECTICUT

New Materials and Equipment

BRIEF REVIEWS OF MANUFACTURERS' ANNOUNCEMENTS
TO KEEP THE ARCHITECT INFORMED OF NEW PRODUCTS



New General Electric Dishwashers

137M A new line of General Electric dishwashers, including sink or combination sink units, with or without cabinets, and either floor or leg-mounted models has been announced. The standard dishwashing unit employed will handle in one washing a complete dinner service for eight people. An automatic control mechanism is provided. Trays are rubber coated to provide a safe cushion for dishes. Standard models have stainless metal tops; but all models may be obtained with tops of stainless vitreous enamel in white or color.

New Junior G-E Refrigerator

138M Announcement of a new low-priced secondary line of electric refrigerators of conventional design has been made by General Electric Company, Cleveland, to be known as the General Electric Junior. Three sizes are offered, with storage capacities of 4, 5 and 7 cubic feet, List respectively. price of the 5-foot model is \$135. A standard one-year guarantee applies to these conventional models. The Monitor Top refrigerator line will continue to serve



the demand for highest quality refrigerators, according to the announcement.

Seamless Sheet Covered Toilet Seat

139M American Rubber Products Company, Detroit,
announce a new seamless sheet covered toilet
seat on which the covering is applied by a patented

process over a round edged, hard surfaced water-proof composition core. The product is known as the Bonalite seat and is available in white, black and a variety of colors. A standard white closed front seat with cover, hinger and rubbers lists at \$5.20.

New Size Magazine Boiler

140M American Radiator Company has announced a companion to their No. 25 Magazine Boiler to be known as the No. 15 Ideal Magazine Boiler. The new unit is somewhat smaller than No. 25. Both use solid fuels.



Pantry Sinks of Stainless Steel

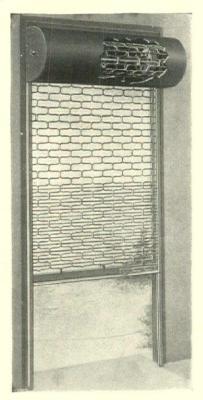
141M The use of 18-8 chromium nickel steel as a standard material for corrosion resisting and high temperature equipment has definitely established its value for dometic purposes, particularly for kitchen and pantry sinks, according to Electro Metallurgical Company, New York, which is developing the use of this metal for household equipment. Stainless steel of 18-8 proportions, it is said, has a silvery surface which no food acids can tarnish or corrode, and which can be cleaned with ordinary soap and water. Pantry and kitchen sinks of this metal are available in standard models or they can be custom-built to meet specific space requirements.

New Plywood for Concrete Forms

142M A specially fabricated and waterproofed plywood for concrete form work is offered by Douglas Fir Plywood Manufacturers as an economical means of reducing form work and finishing costs. Forms made of this material are said to stand seven to ten re-uses.

New Rolling Grilles and Gates

143M An ingenious adaptation of the familiar rolling steel doors and shutters has been developed in the form of rolling grilles by Cornell Iron Works, Long Island City, New York. The Cornell Rolling Grille is designed to provide safety against tresspass while admitting light, air and vision. Recommended for store fronts, gateways, entrances, market stalls, etc. Operating mechanism is counter balanced. Grilles are standard in rolled and pressed steel, but they may also be procured from the manufacturer in



bronze, rustless steel, or aluminum rods, and links.

New Small Stoker for Intermediate Loads

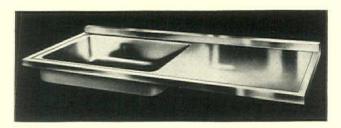
York, has recently placed on the market a new underfeed stoker for application to heating and industrial boilers of approximately 40 to 150 developed boiler horsepower. Its fuel feeding mechanism is of the ram or plunger type, identical in principle to their Type E Stoker which has been in use for nearly 30 years. Rugged construction, the use of roller bearings, an integral fan, and complete control equipment are features.

New Oil Burning Cabinet Heater

145M Two radiant type, and three circulating type Cabinet Heaters have been placed in production by Motor Wheel Corporation, Lansing, Michigan. All contain the M-W natural draft oil burner, with a new burner stabilizer. These space heaters are finished in black or walnut porcelain enamel for use in utility or living areas, according to model.

Four New Paint Products Announced

146M The Glidden Company, Cleveland, has announced the following additions to their line of paint products: Gliddenspar, a bakelite and synthetic base varnish, resistant to extreme exposure, water and acid conditions, with unusual filling properties; Q. D. Ripolin, a quick drying Ripolin enamel in gloss and semi-gloss white; Base-Coat, a scientifically correct primer for house painting; Speed-Wall, a semi-gloss finish that dries in four hours, for woodwork and walls.



New Monel Metal Cabinet Sinks

147M The growing trend towards the use of cabinet sinks in large as well as small kitchens has resulted in the development of a line of monel metal models in ten double drainboard and one single drainboard sizes by the International Nickel Company. In style the new cabinet sinks follow in a general fashion that of the "Straitline" self-supporting sink models recently announced by the company, and are made of the same gauge metal. Under portions, including bowl and drainboards, are backed up with sound deadening material. Sizes of the double drainboard models range from 60 inches to 117 inches in length. The single drainboard models are 48 inches in length and are furnished in right and left-hand drainboard types. All models are 25 inches wide. Bowls are of solid onepiece construction.

Armstrong Announces Linoleum Underlay 148M A new product—Armstrong's Linoleum Under-

lay—designed to eliminate board markings or unevenness in the subfloor showing through the finished linoleum floor, is announced by the Armstrong Cork Company, of Lancaster, Pennsylvania. This material is a dense, hard composition wood fibre board, ½-inch thick, weighing approximately three-quarters of a pound per square foot. According to the announcement, it will not crack, split, or splinter, and its construction is such that it is highly resistant to moisture and shows very little expansion and contraction with humidity changes. For this reason, it is especially suited for application over wood subfloors as a base for linoleum. It also will be used as a backing for Linowall, the new Armstrong wall covering product.

New Kohler Boiler

149M A new automatic firing boiler designed especially to burn oil and gas fuels more economically has been announced by the Kohler Company, Kohler, Wis. Intended to meet the demand for an oil and conversion gas firing boiler for residences, stores, small apartment buildings, etc.

New Construction for Metal Partitions

150M The metal partitions of F. C. and G. M. Mills Company, Cleveland, Ohio, are now assembled with mortise and tenon instead of with bolts and screws and electric welds. When posts have been fastened to the floor, partitions can be erected with a hammer.

Steel Folding Chair

151M A new steel folding chair suitable for institutional, commercial and general public seating requirements has been introduced by the Howell Company, Geneva, Ill. It comes in six enamel finishes with Dupont Fabricoid, velour or tapestry upholstery.

NATIONAL **COPPER-STEEL PIPE**

Introduced more than twenty years ago, NATIONAL COpper-Steel Pipe was the first copperbearing steel pipe offered to the industry. All that was then indicated as to its special durability under atmospheric exposure, has been abundantly proved in actual use in all sections of the country. This special NATIONAL product embodies all the merits for which NATIONAL Pipe in general is distinguished, and in addition, extra long life where alternate wet and dry conditions prevail.

LOOK FOR THE GREEN COLOR!

National Copper-Steel Pipe is marked as follows: Black Pipe Smaller sizes colored green. Larger sizes, two green stripes running lengthwise. Galvanized Pipe-All sizes, two green stripes running lengthwise.

Especially recommended

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Subsidiary of United States Steel Corporation

ATIONAL



Use BLOX-ON-END flooring for factory remodeling

It's easily laid over any type of sub-floor!

S INCE 1916, millions of square feet of Bloxonend have been laid in factories, mills, warehouses, printing establishments and industrial plants of all kinds—where it is subjected to heavy trucking and other daily gruelling wear, yet today these floors remain smooth and substantial.

This original strip type block flooring is ideal for remodeling—laid over old wood or concrete floors with only slight interruption to daily operations. The small tough blocks are dovetailed onto substantial baseboards and the built-up sections are joined with heavy wood splines for a degree of smoothness and durability not equalled by any other floor. Write for descriptive literature.

Carter Bloxonend Flooring Co.

General Offices, Kansas City, Mo.



What Architects Are Talking About

(Continued from page 31)

The architect will select the successful contractors for each trade or combination of trades, including the contractor who is to act as the general contractor.

Such a plan maintained by the responsible general contractors and sub-contractors is expected to be a constructive move for the elimination of bid shopping and bid peddling. This plan was approved at a joint meeting of the Detroit Chapter of the American Institute of Architects, the Michigan Society of Architects, the Detroit Chapter of the Associated General Contractors of America and the Michigan Society of Building Crafts. The latter organization is composed of sub-contractors' associations exclusively.

EAN François Meunier of Paris, winner of awards in several French architectural competitions and of the Stillman prize at the Ecole des Beaux Arts, has been named the Delano and Aldrich Travelling Scholar by the Committee on Education of the American Institute of Architects. The fellowship, established by William A. Delano and Chester H. Aldrich of New York, enables a foreign architect, sculptor, or painter, or a student in one or more of these arts, to spend a year of travel in the United States. Meunier will study American architecture and building methods.

Meunier is a graduate of the Ecole des Beaux Arts. He has been chosen twice among the ten final competitors for the Prix de Rome, and he expects to compete again next spring. He is the third winner of the Delano and Aldrich scholarship.

S TAINLESS steel, instead of the conventional bronze of the past, will be used to make the plaques for the American Institute of Steel Construction to decorate the three bridges judged to be the most beautiful erected in the United States and Canada during the past year. The plaques have been donated by the General Alloys Company of Boston. They will be the same in general design as those used by the American Institute of Steel Construction in previous bridge awards. The type of decoration, however, will be new.

The General Alloys Company have developed what is known as KloiZenay, a colored glass poured on the casting so that the silica of the glass fuses with the metal. The stainless steel is heated to 2400 degrees Fahrenheit so that it is plastic when the glass is poured on its surface.

N page 66 of AMERICAN ARCHITECT, issue of September 1932, the construction data stated that the floors of the beach house of George G. Whitelaw are of wood. The under floors are of wood, but it is obvious in the illustration of the rooms shown on that page that the finished floors are of linoleum.

THE Thirteenth Biennial Exhibition of Contemporary American Oil Paintings will be held at the Corcoran Gallery of Art, Washington, D. C. This exhibition will open December 4, 1932, and close on January 15.



This Company manufactures Black and Galvanized Sheets, Formed Roofing and Siding Products, Special Sheets, Tin and Terne Plates for all purposes



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Export Distributors—United States Steel Products Company, New York, N. Y.

Professional Fee for the Architect

(Continued from page 13)

(3) An Institution for the Blind

Estimated	Actual Cost
\$886,000	\$1,017,159.29
2 to 3 years	32 months
	0
25,000	25,000.00
25,000	24,469.47
	9,910.99
	1,118.72
4,000	10,627.50
	889.35
	.2 to 3 years . 18,000 to . 25,000 . 25,000 . 9,000 . 500 . 4,000

(4) War Housing

Buildings\$3,500,000	\$4,500,000.00
Fee	13,000.00
Draughting	23,941.75
Domestic Engineers no	2,000.00
Incidentals estimate	10,031.74
Clerk of the works made	6,647.20
Advice on grounds	125.00
Note The Covernment applemed and	poid in addition

(Note—The Government employed and paid in addition a landscape architect and an engineer for streets and utilities.)

(5) A School

Building	\$80,000	\$91,516.78
To take		18 months
Fee		2,000.00
Draughting	3,000	3,357.77
Engineers	950	942.75
Incidentals	300	354.65
Clerk of the works	500	471.35

(6) A Telephone Exchange

Building	\$370,192	\$436,899.99±
To take		20 months
Fee	8,000	8,000.00
Draughting	9,000	10,401.41
Engineers	4,500	5,925.99
Incidentals	500	862.23
Clerk of Works	2,600	4,000.00

(‡—War Time contract—accounts for increased cost.)

(7)	A	Carved	Wooden	Doorway
-----	---	--------	--------	---------

The work	\$2,700	\$2,913.00
Fee		450.00
Draughting		49.26
Incidentals		.10
		4 4 4

(Fee and draughting actual cost represent architect's gross commission.)

In all the above the fee is fixed. All the other expenses are estimated but not guaranteed.

In all these examples there are but two items which, under the A. I. A. schedule would be set against a commission, the fee and the draughting doubled; all other expenses the owner would pay anyway. No. 1 was 5%; No. 2—10%; No. 3—5%; No. 4—34%; No. 5—6%; No. 6—4½%; No. 7—17%. It will be seen therefore that in all the larger jobs the cost to the owner is lower than the customary commission; that on the moderate cost school is about the same; that on the carved doorway is a very high per cent, and that on Government Housing a very low per cent. It is interesting to note that the Telephone Building which cost \$66,000 more than the estimate, due to the increase in prices during the war, would have yielded the architect \$3,600 had he been working on a commission basis. In every case however the fee was net profit, it was assured and without risk, and satisfactory to owner and architect.

From the point of view of the architect there is the inestimable value of an assured income; each job carries its own expenses and pays its monthly fee. Study of plans to assure the greatest economy is encouraged, and is, quite rightly, paid for by the owner. No owner will object to paying for a month's work of three draughtsmen, resulting in economies ten times the amount of their salaries. Both architect and owner are relieved to feel that the carelessness of the architect which results in needless cost is not rewarded, and that conscientious study resulting in economy is not penalized. It is also very satisfactory to architect and owner to feel that if a decision is to be made between materials or methods involving different expenditures it will have no effect whatsoever on the architect's fee.

No one who has ever tried this method would ever want to return to the commission basis.

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Permanent protection is assured by using timber from our plants, pressure treated with pure creosote oil.

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NATIONAL LUMBER & CREOSOTING CO. Texarkana, Ark.-Tex.

AFFILIATES OF

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Koppers Building " " " " Pittsburgh, Pa.

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FIRST PRESBYTERIAN CHURCH, Rochester, Minnesota ... Ellerbe & Co., St. Paul, Architects and Engineers

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FROM A Single WARM AIR SYSTEM

Automatic Temperature Where Needed and When Needed WITH THE Modutrol System OF ZONE CONTROL

ZONE CONTROL not only automatically provides desired temperature WHERE it is needed, but WHEN it is needed as well. It coordinates the source of heat with the individual

demands of the various zones or sections to maintain the desired temperature in each as governed by time, occupancy, exposure and weather conditions, resulting in pronounced economy and efficiency for old buildings or new, large or small.

In the First Presbyterian Church, Rochester, The Modutrol System enables a single warm air heating plant to automatically maintain the constant day and night temperatures in sections where needed, while other zones are supplied with heat only when in use.

meet any or all temperature control problems. There is a tailor made system for every job. Minneapolis-Honeywell Regulator Company. Executive Offices, 2738 Fourth Avenue South, Minneapolis, Minnesota. Factories: Minneapolis, also Elkhart and Wabash, Indiana.



The sturdy Modutrol Motor regulates the mixing dampers supplying fresh heated or unheated air as called for by the individual zone thermostat.

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- I. Rich, lustrous beauty ... with a satiny, glass-smooth surface.
- 2. Neutral silver tone that harmonizes with any kitchen color scheme.
- 3. Rust-proof ... highly resistant to corrosion ... easy to clean.
- 4. Solid metal...no coating to chip, crack or wear off... strong as steel.
- Surfaces give cushioning effect that protects dishes against breakage.
- 6. 31% more work space than ordinary sinks of same nominal sizes.
- 7. Standardized sizes and models for every kitchen.
- R. Prices within reach of every family purse.

crade-mark applied to an alloy containing approximately two-thirds Nickel and one-third copper. Monel Metal is mined, smelted, refined, rolled and marketed solely by Interna-tional Nickel.



THE INTERNATIONAL NICKEL COMPANY, INC., 67 WALL STREET, NEW YORK, N. Y.



Vestibule **Auto Close Doors**



-shows why Vestibule doors should be installed at every busy doorway

the exact type to fit your need -standard sizes and hardware available -describes many Stevenson advantages

> A bulletin which you should have on hand. Sent on request, Please use your letterhead.

Jamison Cold Storage Door Co. Oldest and Largest Makers of Cold Storage Doors
Jamison, Stevenson & Victor Doors Hagerstown, Maryland U. S. A.



Stevenson Vestibule Door has

saved more money than any other door in the cold storage Doors

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An experience of fifty years.

A factory equipped and operated for our own work exclusively.

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A determination to keep our product and service up to the highest possible standard.

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CUTLER MAIL CHUTE CO.

GENERAL OFFICES AND FACTORY ROCHESTER, N.Y.

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FAR SUPERIOR TO CODED CALLS

Because :-



GENERAL

- 1. It can call anybody, even visitors.
- 2. It tells "Where to go" and "What to do."
- 3. It is sure. Everyone responds to his spoken name.
- 4. It does not annoy. The human voice is less nervewracking than bells or buzzers.
- 5. It is always intelligible. Volume from any loud speaker may be adjusted to the needs of its location. Directional or non-directional speakers may be used as conditions demand.
- 6. It can be used to provide entertainment.

Stromberg-Carlson Telephone Mfg. Co. Rochester, N. Y.



FACTORY





MOVEMENT

The Detroit & Pontiac Investment Building, Pontiac, Mich., is thoroughly modern in design. It was planned by Robert O. Derrick, Inc., of Detroit. This page features one of the unusual entrances-original in form and strong in the character of Verde Antique marble.

VERMONT MARBLE COMPANY—PROCTOR, VT.

Branches in the larger cities

See Sweet's Catalog for Specifications and Other Data

RMONT MARBLE

Houses For Children

(Continued from page 40)

In bedrooms, playrooms or nurseries for children, we need shallow closets with shelves, for keeping toys. I say shallow because shelves in the ordinary clothes closet are not satisfactory. They are too deep. Toys get lost at the back, and beside, it is hard for children to get at them. Since modern educators taboo the old-fashioned toy box, we must have shelves, and if they were built in a shallow closet, so youngsters could get at their own toys and put them back, it would be a tremendous help.

HEN planning a bathroom off the children's room, a low toilet and low lavatory are particularly useful in encouraging self-help and independence. Otherwise a bathroom of adult proportions becomes cluttered with foot stools, baby-toilet-seat contraptions or little ladders.

Also, regarding bathrooms for adults or children, I wonder why architects do not provide a little cupboard to hold the necessary can of bathroom scouring powder, disinfectant, bathroom cleaning cloth, and toilet brush (a drain for the brush would be practical, because it is usually put away wet). To have cleaning materials right in the bathroom is a great convenience.

Why is it, I wonder, that suburban homes seldom have a place for storing children's outdoor playthings. Unless there is a special playhouse for children, these big toys must be kept in the cellar or in the garage, usually the latter, because it is on ground level. Now the average two-car garage with two cars parked in it is a

pretty crowded place, and that leaves the only available storage space at the sides or the back against the wall. In either case, you can't rely on children to place their toys safely against walls, with the result that most suburban parents know the tragedy of a bicycle with a crushed wheel, because someone drove the car too rapidly into the dark garage, or a sadly battered fire engine run over in the driveway. A separate shed or compartment in the garage would be ideal for bicycles, sleds, etc.

May I suggest, for children's rooms, an electric light switch at the door, placed low, so children can reach it?

I often wonder, in regard to placing electric light wall fixtures, whether architects are governed by particular rules or ideas. After considering wall lights in arranging furniture and hanging pictures in five different suburban houses, it seems to me that the placing of these fixtures is somewhat haphazard. I don't know where to suggest placing them—but certainly not on the big expanses of wall space likely to be needed in furniture groupings.

My last suggestion, perhaps trivial, concerns, the placing of outdoor faucets for connecting the hose. In most houses, there are two or three faucets against the foundation. Now if there is deep, full foundation planting, connecting a hose means pushing one's way through sharp pines, prickly blue spruces or thorny rose bushes. It is certainly irritating to be torn or scratched when connecting a hose, especially when a little foresight in placing connections might avoid this.

The entry as originally constructed.



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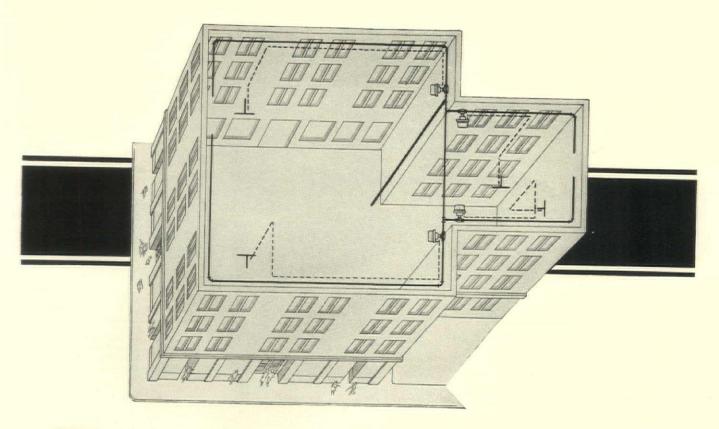
The same entry after a Smyser-Royer cast iron veranda was installed.

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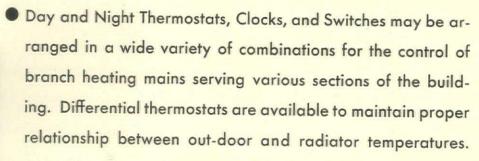
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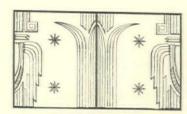
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AMERICAN ARCHITECT

RADIO CITY

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Above: Architect's preliminary sketch for Steuben Architectural Glass panels (dustless finish) used as glass panel screen in Foyer No. 9, Theater No. 8, Radio City (Rockefeller Center), N. Y. Photograph at right shows single panel (size 201/2" x 231/8"; thickness—at edge, 7/16"—of design, 12/16"), while blue print below illustrates assembly of four panels into single unit.

Architects: Reinhard & Hofmeister — Corbett, Harrison & MacMurray — Hood & Fouilhoux.

Architects' drafts show creation of one of several heat-resisting Steuben cast glass installations used in Rockefeller Center

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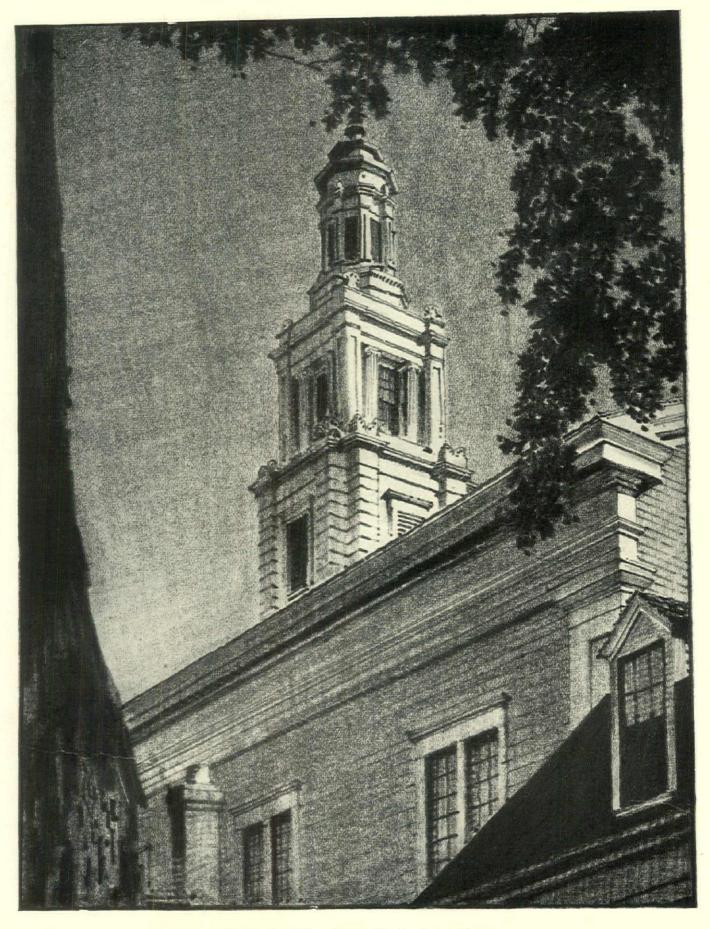
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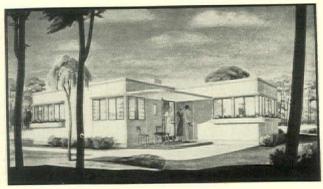
Volume 10 Edited and published by the American Academy in Rome. Illustrated; 182 pages and 60 plates; size $101/2 \times 133/4$; price \$5.00, obtainable from the American Academy in Rome, 101 Park Avenue, New York City.

THOSE architects who are interested in the researches of the American Academy in Rome will find in this Volume 10, nine essays embracing such subjects as further Pompeian studies, Roman inscriptions, a new interpretation of Jupiter Elicius, a study of Greek vases, restoration of the Roman Bath at Leptis Magna and Horace's Sabine Villa, together with other studies of equal importance and eclecticism. The usual high order of typography has been maintained; one of the plates shows fragments in color of stuccoed walls in Pompeii.

BUILDING STONES OF PENNSYLVANIA

Bulletin M-15. Issued by the Topographic & Geologic Survey. Illustrated; 316 pages. Copies may be obtained from Divisions of Documents, Harrisburg, Pennsylvania. Price \$1.25, payable in advance by check or money order (no stamps), made payable to the Commonwealth of Pennsylvania.

N this bulletin the building stones available in each county of Pennsylvania are described. This volume should prove of much interest and practical value to architects who are concerned with characteristic types of Pennsylvania stone masonry.



HOUSING AMERICA

By the Editors of Fortune. Published by Harcourt, Brace and Company, New York. Indexed; illustrated; 159 pages; size 6 x 83/4; price \$2.00

ERE in book form is the series of articles of like title that have appeared in recent issues of Fortune. In the first part of the book five chapters present "The Facts—Housing As It Is" covering the need for low cost housing and the real estate, cost, labor and economic aspects. Part Two undertakes to give a glimpse into the future, to show housing as it will be. Attention is paid to commercial enterprises seeking to approach the problem through mass production methods. A series of appendices on related subjects completes the volume.

Written in the dramatic and forceful manner that has distinguished their publication, the editors of Fortune have presented a document of wide interest and one that has already aroused much controversial discussion.

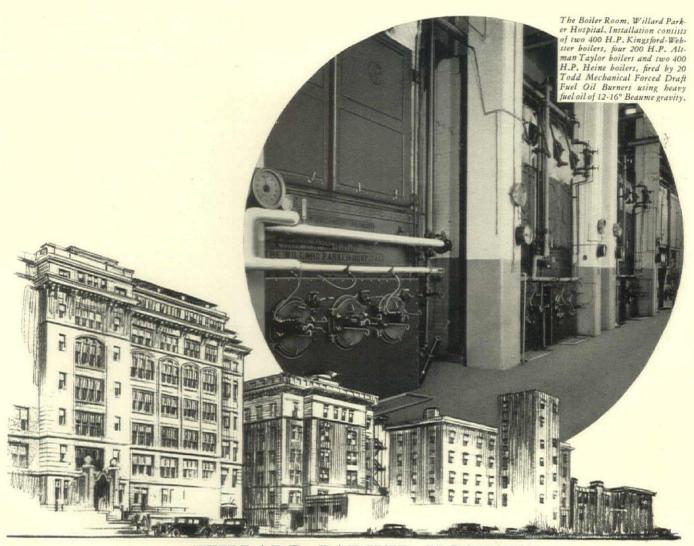


Radburn, New Jersey. From "Housing and the Community—Home Repair and Remodeling"

HOUSING AND THE COMMUNITY— HOME REPAIR AND REMODELING

Reports of the Committees on Housing and the Community, and Reconditioning, Remodeling and Modernizing, President's Conference on Home Building and Home Ownership, Washington, D. C. Prepared by Joseph H. Pratt, M.D., and Frederick M. Feiker, chairmen; edited by John M. Gries and James Ford. Illustrated; indexed; 289 pages; size 6 x 9; price \$1.15

THE larger part of this book is devoted to a series of studies of the relationship to housing of such matters as health, delinquency, efficiency of industrial workers, safety, citizenship, recreation, education and crime.



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Intensely practical as well as broadly theoretical findings are included in these chapters, which will be found of especial value to those studying the sociological phases of single and multiple dwellings and slum removals. Statistical appendices of crime causations, home casualties and fire losses are valuable references sources.

The second report seeks to foster the interest of home owners in reconditioning, remodeling and modernizing, to guide the owner in this type of work, and to establish and solve the common problems encountered. Examples of modernizing are illustrated and at the end of the report there is a "Home Inspection Check List."

ACOUSTICS AND ARCHITECTURE

By Paul E. Sabine, Ph.D. Published by the McGraw-Hill Book Company, Inc., New York. Illustrated; indexed; 327 pages; size 6 x 91/4; price \$3.50

N the preparation of this book, the author has aimed to achieve two ends; first, to give students of physics and engineering an adequate grasp of the physics of sound in an enclosure; and second, to present to architects and engineers the result of recent scientific study of the problems of the control of sound in buildings. The necessary mathematical treatment of the subject has been kept within the compass of two years of college training in mathematics. The book is not only an excellent text for college courses in architectural acoustics but will also furnish architects and engineers with useful and practical information in the field of applied acoustics. The problems of acoustical design of auditoriums and theatres, the acoustical correction of rooms and broadcasting studios, the sound-absorbing properties of common materials, and methods of reducing the transmission of sound through structures are discussed.

ART IN IRON

Volume B—Interior Railings.
Published by the Wrot Iron Designers, 225 West 34th
Street, New York; a portfolio of 20 plates; size 81/2 x 11;
price \$1.25

THIS is one of a series of twelve loose-leaf portfolios of ornamental iron designs of varied types and periods. The plates consist of pen and ink sketches at ¾-inch scale of stair and parapet railings, etc.

OUTLINES OF THE HISTORY OF ARCHITECTURE

Part II, Medieval Architecture

By Rexford Newcomb, A. I. A. Published by John Wiley & Sons, Inc., New York. Frontispiece; outline maps; 308 pages; size 81/4 x 101/2; paper covers; price \$3.50

THE Outlines of the History of Architecture, of which there are four parts, were originally prepared for use in the author's classes at the University of Illinois where courses in the history of architecture are presented largely by the illustrated lecture method. These outlines are designed to assist the student by reducing so far as possible the need for taking notes during lectures. The left hand pages are entirely blank for notes and sketches. The text summarizes the history of architecture in the periods covered. This volume, being Part II of a series, embraces medieval architecture from the early Christian school through the Gothic.

HOUSEHOLD MANAGEMENT AND KITCHENS

Edited by John M. Gries and James Ford. Published by the President's Conference on Home Building and Home Ownership, Washington, D. C. Illustrated; indexed; 228 pages; size 6 x 9; price \$1.15

A SYMPOSIUM of the studies of a variety of specialists — economists, engineers, sociologists, architects, builders and dealers in materials and equipment — is presented in this book. There is given such information as the proper selection of wall and floor coverings that are easy to clean, equipment to eliminate fatigue-producing movements, heights of working surfaces, proper placement of lighting fixtures, etc.

The book is divided into two parts—household management, and kitchens and other work centers. There are a number of tables giving valuable data on income in its relation to the cost of housing and various operating expenses, and similar information of concern to those interested in housing.



HOME ARCHITECTURE

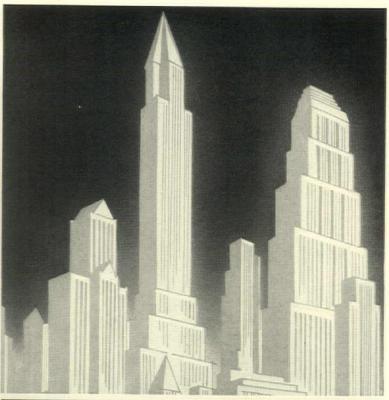
By Rexford Newcomb, A. I. A. and William A. Foster, A. I. A. Published by John Wiley & Sons, Inc., New York. Illustrated; indexed; 336 pages; size 6 x 91/4; price \$3.25

THE authors of Home Architecture have prepared this text book and manual as the result of a combined teaching experience of some forty years. The book is designed primarily as a text for courses in home architecture but it has been framed to serve also as a ready manual for the home builder and home owner. Each detail of construction, each basic type of material, each of the dominant domestic styles of architecture and all of the more important elements in the equipment of residences are discussed in a readable manner. This book is one that architects may safely recommend to prospective clients and home builders.

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GEORGE ELMER BROWNE, N. A., requires no introduction to those who know painters. Many examples of his work are to be found in foremost art galleries throughout the United States and abroad. He studied art under Jules Le Febvre and Tony Robert Fleury. He was decorated by the French government in 1925 as an Officer of Public Instruction and Fine Arts, France. The Browne Art Class of Provincetown, Massachusetts, is well-known.



Mr. Browne's subject for this month's cover is the interior of an old church at Carinnac in the Dordogne, Southern France. With respect to it, Mr. Browne says, "there is something in the atmosphere and tonal quality of these old moss-covered church interiors that at once lends itself to water color . . . the picture must be done in a broad simple way. If there is detail it should be suggested and become a mere incident in the general scheme."

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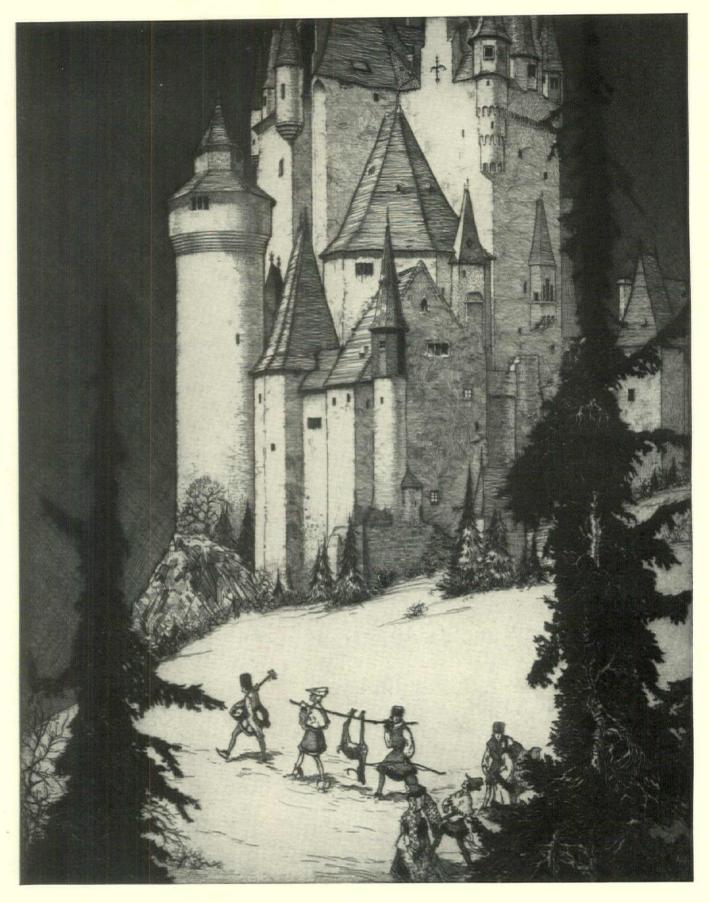
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DECEMBER 1932

Cover-A Water Color by George Elmer Browne

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''HAPPY VALLEY, WINTER''

BY ROBERT LAWSON

In Small Projects Lie Large Opportunities

BY BENJAMIN F. BETTS, A.I.A.

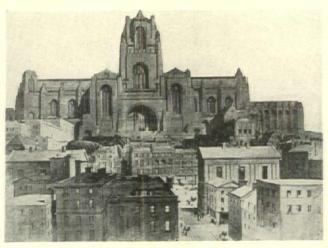
URING the past two years many architects, some possessing well established reputations, have been forced to design small buildings of a type to which they formerly gave little or no consideration. The architecture of any Main Street is sufficient to indicate the need for architects giving small buildings their attention. In doing so, they are rendering real service to the community.

One architect, for the first time in his life, has been remodeling small stores and restaurants. These must be executed at small cost and at a reduced fee. He has learned how to get the most "architecture" for the least money and how to work efficiently so that he may have a little of his fee left over for himself. He makes sure that his clients at least obtain good plans and clear drawings. One restaurant was losing patronage. After it was altered, patronage returned. The owner gives the architect due credit, tells his friends and this architect gets more work.

Another architect saw in his town an old time drug store. The store floor was several steps above the street. The second floor was being wastefully used for storage purposes. The architect convinced the druggist that his business could be improved by lowering the store floor to the street level and that the second floor, replanned for the offices of a local dentist, could be made to produce an income. The alteration was made. The druggist admits that his business has improved. He now has a tenant on the second story. The appearance of Main Street has been improved.

BOTH of these architects have learned that through observation, intelligent handling and giving good service, they can obtain commissions even in dull times. Their clients have learned that architectural service pays dividends and they do not hesitate to recommend such service to their friends.

Through contact with the owners of small buildings these architects have also learned that they are rendering a necessary service to a group that has too long suffered through lack of a "doctor." They have found this work to be less irksome than they had supposed. These architects realize, with a sense of personal satisfaction, that they have taken a leaf from the book of the medical profession. They have given service where needed no matter who asked for it. When architects do more of this kind of service, the appearance of American towns and cities will be improved, and more buildings will be better planned. And the public will then instinctively turn to the architect when it thinks of building. In small profits lie large opportunities.





Evidence of the intention to integrate the Gothic tradition with contemporary life is seen in the designs of Liverpool Cathedral and St. Paul's, Liverpool, by Sir Giles Gilbert Scott

The Modern Spirit Enters Contemporary Church Architecture

BY JOSEPH HUDNUT

Professor of the History of Architecture, Columbia University

IOLLET-LE-DUC once attempted a definition of style in architecture. "Style," he said, "is the consequence of a principle methodically followed." Style is not in itself a principle. Style is not an end to be definitely aimed at by an architect. Style is a consequence. It is the unforeseen result of methods of building and of processes in planning that have other and more immediate objectives.

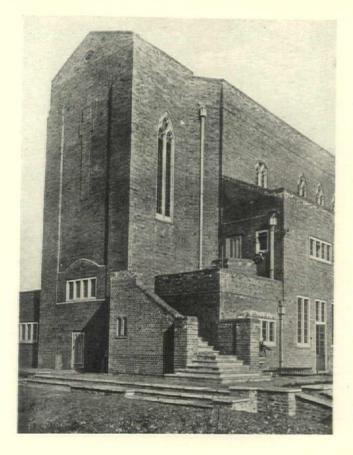
Gothic architecture illustrates perfectly the definition of Viollet. Gothic architecture was created by men who were engaged in a technical problem of absorbing interest; they neither foresaw nor intended the style that was the consequence of their preoccupation. The style emerged as a kind of emanation from the principle that they followed. Gothic architecture is a splendid flower that sprang up unbidden from beneath the feet of earnest men whose only intention was a complete sincerity in the employment of structural forms.

The Modern "Gothic style" is both foreseen and calculated. It is deliberate and studied and arises, not from structural exigencies, but from a desire for style for its own sake. Style is the chief interest of the designer. At times this style is wholly divorced from structure; at other times a type of structure is used only for the sake of the style. In the first instance the principle seems to be primarily that of *insincerity* in the employment of form. In the second instance style is certainly not a consequence of a method of building: the method of building is, obviously, the consequence of the style.

Corbusier has given us recently a wider definition of style. "Style," he says, "is a unity of principle animating all the work of an epoch." Not as a consequence of structure alone does style come into being, but through the operation of all those manifold and tangled circumstances—social, economic, ethical—which in any epoch condition structure itself. The technique of an era is itself the consequence of the knowledge, habits, and limitations of that era which in a thousand subtle ways are transmuted through technique into style, so that in each great architecture we might read, could we rightly interpret its symbols, the heart and conscience, the aspirations and intentions, of the generation that created it. Style is emanation from the spirit of an age.

How is it possible, then, that two ages so wholly opposed in spirit and in outward form as the Medieval and Modern can produce ecclesiastical architectures that are identical in character?

The answer to this question can be found in a curious creed that we hold concerning the past. It is to be found in our interpretation of history. We believe that the Gothic centuries knew more about God than our own, that their faith was more constant, their piety more pure; and we believe that they built their experience and faith into Gothic architecture, which thus becomes, for us, a symbol of a spiritual exaltation which we, in the midst of our distracted, doubting and unstable world, would willingly recapture. Our churches exist for the sake of this symbolic meaning. They grow, not spon-





The honest dignity of brick is embodied in Edward Maufe's design of a church at Shepherd's Bush, England. The interior lacks the harshness and strident assertion of most modern work. At the right: Ivar Tengbom's Hogalid church at Stockholm, Sweden, a fine instance of his virile and satisfying style

taneously from our soil, from our habits, from certain practical needs that must be met; they are rather the products of our thought, drawing their power from wells of memory and association.

Now an architecture of symbols is the most precarious of all architectures. It may be utterly destroyed in a breath by influences as incalculable and as uncontrollable as a change in popular opinion. The command of Modern Gothic monuments over our imaginations is hourly threatened: is indeed hour by hour passing away. Churches being built today will tomorrow be without significance.

SINCE they rely upon symbols they must change with symbols. Because they are seen through a screen of history they must change with changes in the screen of history. The Gothic cathedral, which was yesterday the work of "ignorant and monkish barbarians," which today is the "spontaneous voicing of a people's soul," will tomorrow be the "arrogant product of tyranny and of fear, built by forced labor, paid for by papal indulgences, devoted to the uses of a proud and merciless aristocracy."

Gothic architecture is an artistic, not a religious, tradition. As classic architecture translates into stone the spirit of the Mediterranean peoples, so Gothic architecture expresses the spirit of the North. The fringed pines and dark forest avenues of the Baltic countries inspired its thrilling heights, its foliated pinnacles, its



BONNEY





The Baroque in stylized form translated into brick is evident in St. Bonifazius Kirche, Erlanger, Germany. Fritz Frechsenberger, architect. At left: Conventionalized Romanesque describes the Frauenfriedenkirche, Frankfurt. Hans Herkommer, architect

branched arches, and its troubled vistas. Had there been no Christianity or had it never spread; had there been no monasticism and no St. Augustine, no Council of Ephesus and no Papacy, there would still have been Gothic architecture. The temple at Chartres, dedicated to Wotan and Thor rather than to the Queen of Heaven, would still offer us its majestic harmonies of space and light, its sublime revelation of spiritual peace.

It was not until the Nineteenth Century that this medieval tradition was transformed into a Christian tradition. The Nineteenth Century, projecting its own desires upon the screen of an imaginary past, sentimentalized medieval history, filling it with poetic color and romantic movement, idealizing its institutions, its personages, and its religion; and this legend, illustrated by poets and painters, skillfully fostered by ecclesiastics, exploited by architects, came at length to have a firm hold upon the popular imagination, where a child-like faith in chance analogies united this imaginary medieval world with Christian sentiment.

The result of this union is our present architecture of sentiment. The Church, which for fifteen hundred years had been the chief patron of the art of form divorced Herself from that art in order to create a new architecture which relied, almost wholly, upon ideas associated with form.

Most modern churches are indeed formless: they are mere aggregations of symbols. The spire is such a symbol; the cross-shaped plan is another; and so are clustered pillars, rose windows, pointed arches, and even buttresses. Each of these has come to have an arbitrary determinate significance. Architecture in this way becomes a literary art, an art of sentiment, making its appeal, through symbols, to memory and to emotion.

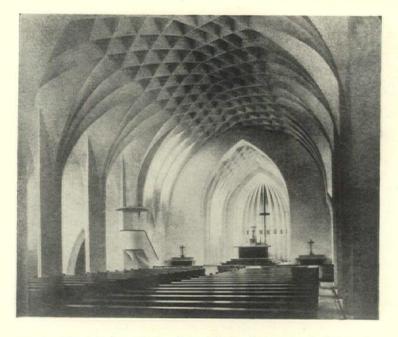
Architecture, deprived of form, is a trivial art. Architecture never attains its true power through symbols Great architecture addresses itself directly to the soul through patterns immediately and directly apprehended.

When the Abbott Sugar spoke of the mystic power of architecture to kindle the soul, to exalt the soul from the material to the immaterial, lifting it from the baseness of earth to the serenity of Heaven, he was not referring to the fact that the twelve pillars of St. Denis symbolized the twelve apostles or that the vertical lines of the abuttments symbolized the aspiration of the Christian heart. He meant that architecture, like music, is in its own right, with its peculiar abstract and mathematical beauty, without reference to history or dogma, to rite or to personality, a *religious art* capable of expressing in universal evocative rhythms the most profound of spiritual verities.

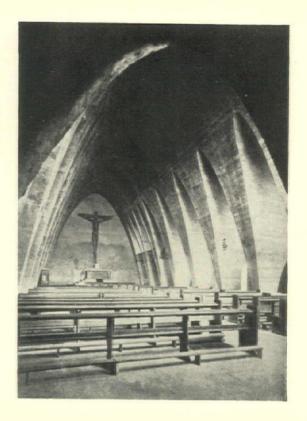
The Modern Gothicist, preferring sentimental and poetic values to formal values, cuts off architecture from these the true sources of its power and at the same time deprives the Church of its most devoted, tried, and useful servant. Architecture in his hands becomes little more than a literary exercise; a dogma expressed in the remembered overtones of constructed forms. With all its display of erudition and high purpose, its expense, popularity and self-satisfaction, it is a counterfeit and insignificant art.

MORE comprehensive interpretation of history and more profound understanding of the role of architecture in religion will presently shatter this elaborate art. Architects will be set free from the present tyranny of populace and priests. We shall develop from our own technique—from our own spirit translated into technique—a new and living "style" which the Church will recognize and use.

In Europe, where since the World War men have reexamined with a more penetrating candour than in America the values of their contemporary civilization, there now obtains an almost universal dissatisfaction with romantic architecture. Everywhere there is blowing a cold regenerating wind that is stripping ecclesi-



Above: The interior of the Schwabische Kriegergedachniskirche, Neu-Ulm, Germany, Dominikus Bohm, architect, is one of the most eloquent of our time. At right: Professor Bohm's church at Bischenhof frankly derives its form from an engineering principle



astical, no less than secular, architecture of its stylistic accretions, blowing from the sides of churches all of that histrionic increment of tracery, pinnacle, buttress, arcading, and crocheted gable, with which the Nineteenth Century covered them, setting free broad evocative patterns of mass and space and the clear dynamic lines of structure. Architecture is beginning once more its strenuous and joyous search for form.

THE designer of the Liverpool Cathedral, Sir Giles Gilbert Scott, was perhaps not consciously the forerunner of this coming renaissance. Yet in each successive design for the vast project at Liverpool there is an unmistakable trend towards that "great and catholic system" prophesied by his distinguished grandfather. In plane and profile the central tower and transepts gain in simplicity and breadth; the detail becomes less and less oppressive; there is an increasing boldness in the handling of traditional motifs. It is not difficult to guess the architect's ultimate intentions in respect to the cathedral, for these are clearly revealed in his smaller churches. He intends, clearly, to reintegrate the Gothic tradition with contempoary life. Here is an increasing frankness in the relation of outward form to structure, and in detail a refreshing awareness of the modern milieu.

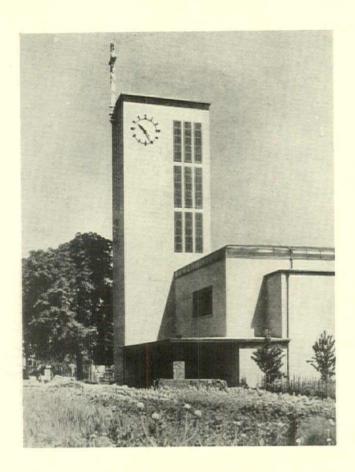
These qualities are not less evident in the work of many of the younger British architects, among whom Edward Maufe is perhaps the best known on this side of the Atlantic. In his churches at Acton and at Shepherd's Bush the honest dignity of brick structure is superbly embodied in the design. There is no finer material for a church than brick nor one more fitted for a translation of the quietude and the candour that ought to distinguish ecclesiastical architecture. He has shown us that integrity in structure is by no means incompatible with the greatest charm. His designs, especially in their

interiors, are without harshness and lack altogether that strident assertion of modernity which too many contemporary architects seem to find necessary. We must remember that modern architecture is, in part at least, a movement of protest, and like all protestant movements it "doth at times protest too much." Those who scoff at it take delight, of course, in exploiting the work of its extremists.

The restraint and the freshness of Mr. Maufe's work suggest immediately the work of his contemporaries in Sweden, who have in innumerable instances attained a spontaneity and grace in style with a minimum of self-consciousness. The celebrated Hogalids Church, in Stockholm, by Mr. Ivar Tengbom is a characteristic example. Sweden is, like England, a romantic country, and like England, has a strongly-rooted national tradition which here is treated with a tactfulness not unlike that evident in Liverpool Cathedral. But Sweden which is a small and compact nation, also possesses an intellectual aristocracy capable of forming and guiding the public taste. This is the reason, no doubt, for the more rapid advance of Sweden towards a living architecture.

B UT it is neither in England nor Sweden that the most important advances have been made in ecclesiastical building. It may be extravagant to suppose that Germany, the country which suffered most materially from the World War has gained the most spiritually, but I have no doubt but that the bitter experiences of the past decade have there thrown into a relief more drastic than elsewhere the empty banalities of the Nineteenth Century tradition. Germany has led more than one Reformation.

For the sake of clarity we may distinguish two classes among recent German churches. The first of these is represented by such churches as that at Erlangen, by Professor Fritz Frechsenberger, in which the architect,





The lightness and metallic quality of the steel frame has been expressed by thin membrane-like walls without ornament in the Stahlkirche, Miskovici, Czecho-Slovakia, F. L. Gahura, architect. The Evangelischekirche, Stuttgard, Volkart and Trudinger, architects, shown at the left, is sincere, direct, honest and intelligent in design. Had the Christians of the first century possessed our technique they would have built like this

like his English and Swedish colleagues, attempts an integration of historic precedent and modern materials, processes and needs. This kind of church ought clearly to be distinguished from those in which the architect makes the more daring attempt of developing an architecture directly from a modern building technique.

The Baroque, which is the most persistent tradition in Germany, is presented in the Erlangen church in a highly stylized form and is superbly translated into a brick technique. The process is one of adaption—of elimination and emphasis—which begins with a definite and inherited pattern and proceeds toward a pattern more consistent with a Twentieth Century environment.

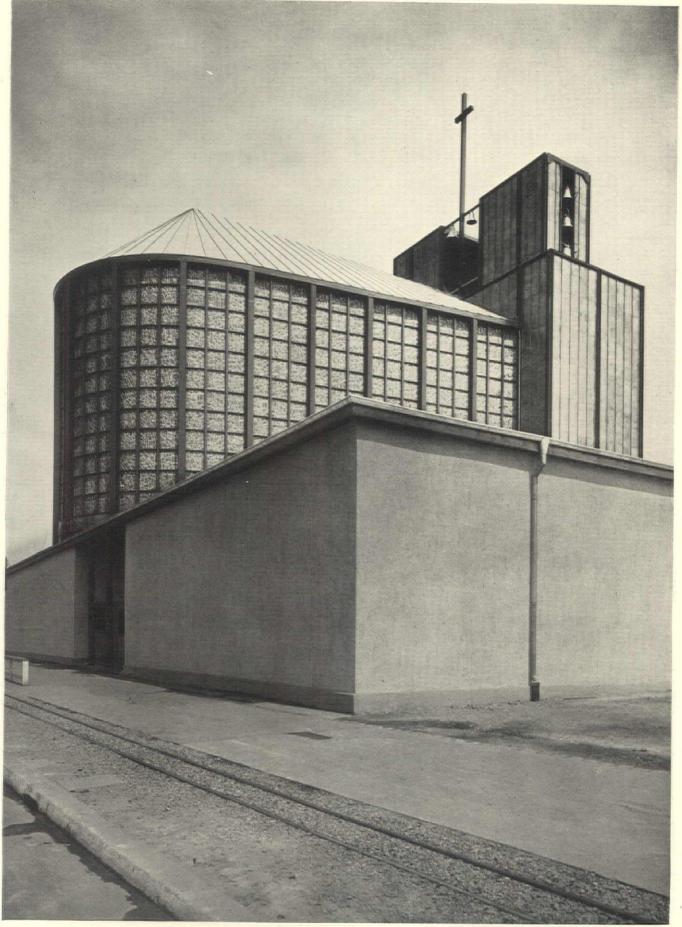
At Frankfurt, Mr. Hans Herkommer built in 1927 the monumental Frauenfriedenkirche whose finely balanced cubical facade, divided by three mighty arches. might be described as a design in unaffected Romanesque: the kind of architecture that Richardson might have created had he lived ten years longer. The work of Herr Herkommer owes much to Richardson; and this is true, though less obviously, of the work of the most brilliant German church architect, Professor Dominikus Bohm. Richardson was not, as many suppose, merely another revivalist; his great glory lies in the fact that he proposed and often times attempted, a national experimentation in form and structure. The interior of Professor Bohm's church at Ulm is beyond doubt one of the most eloquent of our time. Among its thousand subtleties, the skillful use of light as an integral part of the pattern is perhaps the most notable. The light, warm and varied in tone, is admitted in such a way as to afford dramatic contrasts in the tones of the vaulted surfaces. all of which are of white concrete. There is no ornament and, except for the frescoes about the sanctuary.

no representation: all of the tedious banalaties of imitated Gothic—the juggling of decorated stones, the elaborate effort of ribbed structure, the vulgarities of pictorial glass—are resolutely put aside. The peace and completeness of pure architecture have seldom been more convincingly demonstrated.

E are apt to forget that the Gothic Cathedrals are the work of engineers. These huge skeletons in stone must have been stark indeed at their first appearance, before the rich foliage of sculptured pinnacle, niche and gable began to sprout from the sides of their arid buttresses. If therefore we experience in those churches of our own day a corresponding harshness we need not despair of a later humanization. Contemporary processes of production have made anachronisms of all types of hand-carved ornament—even though we may, in exceptional instances, and usually at a shocking waste of Christian resources, create fairly accurate reproductions.

The church at Bischofsheim, designed by Professor Bohm, is even more frankly derived from an engineering principle than the church at Ulm. The material is concrete which is moulded into parabolic forms congenial to that material. The surfaces are left unmodeled and are, as yet, undecorated; the architect relies upon nothing other than the pure architectonic values of form and upon the studied play of the light which reveals this form.

In the famous Stahlkirche, built in 1928 at Cologne by Mr. Otto Bartning (and since removed to Frankfort) another form of modern structure is used. Here is no masonry whatever and, as a consequence, no monumentality. That a church can (Continued on page 84)



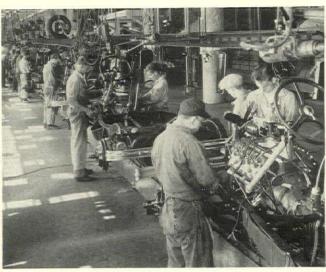
COURTESY COPPER & BRASS RESEARCH ASSOCIATION

Lightness and luminosity of Fourteenth Century architecture are recaptured in the Stahlkirche, Cologne—a modern Sainte Chapelle. Otto Bartning, architect

Houses Cannot be Built Like Automobiles

Essential Social and Spiritual Values Are Not Machine Products But Are Those of the Architect

BY ARTHUR T. NORTH, A.I.A.



COURTESY FORD MOTOR COMPANY

EARS ago the Joplin lead miners used a simple contrivance, known as a "jig," to separate the heavy and valuable "galena" lead ore from the lighter and valueless quartz-like substance known as "chats." This same process for separating the valuable from the valueless can be applied in principle to every human activity, including building construction.

During the past ten years, efforts have been made to devise new methods of building construction for the purpose of producing a better structure at a reduced cost. These efforts have been stimulated greatly during the past three years of business depression by a general belief that the low-income group cannot own nor even occupy acceptable dwellings constructed according to present costly and wasteful methods. The effort to produce the necessary better and less costly structure, when undertaken by understanding persons, was predicated always upon retaining those inherent elements of good dwelling house architecture that contribute to the spiritual and social well-being of the occupants as well as those which provide comfortable and sanitary shelter. Apparently some designers have been so concerned with the development of new methods that they have failed to recognize and incorporate these essential qualities of the dwelling.

The extent of the effort to produce a better and less costly house is disclosed in a recent investigation of more than seventy designs and proposed methods of construction by Frederick T. Llewellyn, consulting engineer, United States Steel Corporation. The designers evidently held a wide range of concepts that can be classified as good, bad and indifferent—some curiously fashioned; some quite amusing, tragically so; and some few that evidence a logical conception of the problem and an effort to attain a well-defined and adequate objective. Practically all of them comprehend a fire-resistant structure, insulated to reduce temperature and sound transmission. Practically all of the designs include a steel structural frame of some kind.

After studying the Llewellyn report and other designs which it does not include, it seems timely to place the newly devised methods of construction upon a Joplin "jig," so to speak, first to examine critically the residue that must possess the qualities of practicalness, architectural appropriateness and economy in cost, and, sec-

ond to examine the waste "chats" in order to determine the causes of failure.

There is a well-defined iconoclastic tendency in many of these designs which evidences a lack of understanding of what really constitutes a fit habitation for human beings and a failure to recognize the fact that fitness results from the application of well-established elements of design. Inexperienced in the actual construction of houses, or convinced that anything traditional must be discarded, these iconoclasts fail to recognize a certain inseparable relation between construction, plan and aesthetic elements that results in the satisfactory house. Because automobile manufacturers have improved the mechanical and structural quality of their product by mass-production methods and at the same time have reduced its cost, these iconoclasts have assumed that the same methods are applicable to the production of houses; hence the concept prevailing among them of a house merely as a manufactured product. The analogy is not a correct one.

The automobile, as its name indicates, is a mobile article while the house is stationary and immovable. Their end and purpose are different in every respect. The general form and appearance of automobiles has become standardized and there is no reason to expect any radical departure from this condition. Similarity of appearance of automobiles is accepted as an inherent characteristic and the public has no other conception of them. In fact, the average person is unable to distinguish one from another except for a difference in color and size. This is the inevitable result of machinemade, mass-production methods.

As a result of this mass-production obsession, influenced possibly by the so-called "international" style in architecture, some architects have strayed from the path of common sense; a matter perhaps to be expected during these times of great changes, readjustment and emotional stress. These architectural aberrations are exemplified by such productions as the much-exploited Dymaxian house and a queer contraption, originated in Chicago, that resembles a Coney Island carrousel. Both are suspended from a center pole like a circus tent, predicated evidently upon the alleged desirability of using steel in tension in recognition of Frank Lloyd Wright's recent epochal discovery that steel excels in resisting



EWING GALLOWAY

tensile stresses. Competent engineers, however, realize that in stable structures the tensile stresses must be offset by corresponding compression stresses to produce a state of equilibrium, and consequently that these new types of suspended constructions are not necessarily economical in cost.

Examples of architectural decadence resulting from this movement have been illustrated widely in both lay and professional publications. These conceptions proclaim a better "industrialization of manufacturing shelter . . . not an aesthetic but an industrial problem." With the automobile industry as an example, those advocating this concept of housing propose the "manufacturing of shelter" without taking cognizance of the aesthetic qualities that are known to be essential to satisfactory human habitations.

N amusing instance of architectural aberration is that of a well-known architect who has stated recently that the American has become a nomad and that he should, therefore, be provided with a cheap, demountable, portable, tin-clad house that can be moved easily and cheaply from one site to another as the owner may elect. It appears that the Arab has solved the problem of the nomad's house most logically by the use of the tent-and Americans have not evinced a desire to live in tents. This is but another example of the loose talking and illogical thinking, that, with the equally illogical and bizarre planning and designing, impose a real and heavy handicap upon the laudable enterprise of producing better and less costly houses. Even though these aberrant efforts are confusing to the public, they must be tolerated and they will be found as the ephemerahere today and gone tomorrow.

One masterpiece design, intended to be the core of architectural and industrial perfection, indicates a squat appearing, flat-roofed house covered with sheet iron, flanged vertically at the joints to provide structural supports for the sheet iron clad roof. The indefinite details of construction do not give the impression of being designed according to correct engineering principles nor to secure the maximum economy of materials. The plan shows an intensive utilization of space like that of Pullman sleeping cars and dining car kitchens.

This particular instance, but one of many, illustrates

the effects of the all too common participation of manufacturers in the attempt to produce standardized dwelling houses by machine-made, mass-production methods.

A common weakness in the manufacturers' approach is the natural desire to utilize the maximum quantity of materials produced by the sponsoring concern, regardless of their fitness. Any design or scheme developed for the primary purpose of promoting the maximum use of any one material or proprietary article, regardless of its physical characteristics, is doomed to failure. The designer, having no choice, is handicapped before he starts.

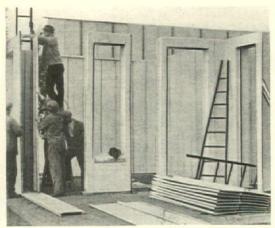
Notwithstanding that particular group of cognoscenti that aims to eradicate the "tailor-made" structure and the "architect-tailor," the production of dwellings is the job for the capable and experienced architect alone. The engineers' concept of a non-aesthetic shelter manufactured according to diagram and schedule of cataloged products is incomplete.

Any approach to this problem that fails to recognize the true functions of the architect, that discards the jealously guarded prerogatives of labor and the natural allocation of work to long established trades, or that forgets that bankers lend money only on salable properties (which seldom include radical departures from accustomed forms) is as futile as the hopeful dreams of the reformer who seeks to create in a lifetime an Utopia in this imperfect world.

It is generally agreed that the production of the better and less costly house involves a quite radical departure from present day building methods, in which the use of new materials and new uses of old materials may be an important factor. Similarly, it is recognized that good architectural design should reflect the materials used and the method of construction. This does not signify, however, that a radical change must be made in the plan arrangement and the appearance of the house.

The inhabitants of every country throughout the world have been familiar with their contemporary styles of architecture as well as with those of former times. They have well-defined and firmly established opinions as to what constitutes a dwelling, both structurally and aesthetically. They have always exercised their rightful privilege to identify their individual dwellings according to their artistic ability and financial means. We deplore







Steel houses of factory produced standard panels have been developed in France by Fillod. Various combinations of stock units, a choice of paint colors and accessory decorative elements are relied upon for individuality

industrial systems that provide our coal miners, steel and textile workers with those endless rows of drab, miserable dwellings that must have inevitably a harmful effect upon the spiritual, mental and physical well-being of the occupants. Except that the machine-made, mass-production house is more comfortable and sanitary, its effect on the occupant would be similarly undesirable. Spiritual, mental and physical well-being is enhanced always by the exercise and development of individualism, especially when related to the home and its environs. Housing that fails to respect these human values must be considered among the "chats" to be discarded by our Joplin jig.

It should be possible to incorporate the desirable elements of individualism in a low-cost, prefabricated, contractor-produced house—a house that retains an architectural "flavor" in its design. The owner of even the most simple and inexpensive house should be able to possess one of distinct individuality. Construction of the exterior walls, partitions, floors and roofs may be broken down into structural units that conform to the architect's design. These units may be made of wood, or of metallic and mineral substances that are low in cost and universally available, so combined as to produce a weatherproof, fire-resistant, strong, insulated, and dur-

able structure. The units should be fabricated on the site, with temporary shelter, or at a central point within trucking distance of the site. The mechanical equipment required for erection should be comparable in cost and movability to that now owned by the ordinary general contractor. This system would obviate the tremendous maintenance and overhead charges involved in the land, permanent buildings and equipment required for great manufacturing plants in which the machine-made, mass-production house must be produced.

Typical of this logical approach are systems in which pre-fabricated wall and floor units are attached securely to a simple structural frame. The door and window frames are incorporated in the wall units when made. In the manufacture and erection of the prefabricated units, skilled mechanics of the established trades can be employed. The cost of the heating, plumbing and electrical equipment can be reduced materially by shop fabrication and assembling of certain supply and waste piping, radiator branches and connections that conform to the standard "roughing in" requirements of the se-lected fixtures. It is evident that by such means the ultimate cost of house production can be reduced materially with minimum labor dislocation. Employment of labor will be maintained by the increased volume of building construction that would logically follow successful low-cost housing.

ANY manufacturers of building materials have contributed to the development of such construction by their efforts to produce new materials and new combinations of old materials that reduce construction costs through simplification of design, fabrication and assembly.

Contrary to the gloomy prospect for decreased architectural service implied in the "industrialization of manu-

facturing shelter . . . not an aesthetic but an industrial problem" (which must result in a stupid and sterile architecture) we have in this approach the prospect of increased business for the local architect, the local contractor and local labor in the small house field. The increased volume of building operations resulting from the development of the prefabriccated, contractor-produced, house will contribute to better architecture in a long neglected field. Of this character is the ore of real progress discovered by the operation of our Joplin "housing" jig.



Perhaps the Dutch architect Rietveld has here forecast the future American home of enameled concrete slabs mounted in steel girders and columns

Verdict Against Architect for Loss by Fire

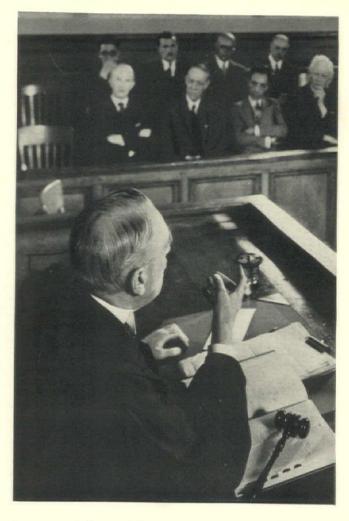
BY GEORGE F. KAISER, LL.B.

• WHAT HE DID. An architect was engaged to draw plans and specifications for a dwelling house and to superintend its construction. The second day the owner occupied the house it caught fire and was totally destroyed. The owner contended that the fire was due to negligence on the part of the architect and demanded that he be paid for his loss.

The architect denied that he had been negligent and contended that even if he had been negligent in the supervision of construction he still would not be liable. By refusing to discuss any settlement whatsoever, the architect caused the owner to institute suit.

WHY HE DID IT. The architect knew that he could be held liable for failure to use requisite skill and care in the preparation of the plans and specifications. He did not realize however, that the same obligation might be imposed upon him for his acts as superintendent.

WHY HE SHOULDN'T HAVE DONE IT. When the case came up for trial the court decided that the architect must pay the damages sustained by his client, holding that he had been negligent and saying "Where the same person is architect and superintendent he is liable in both capacities in damages for lack of skill and care in the construction of a building. Even a builder is bound to discover defects that are reasonably discoverable or patent. As he was the architect in the first instance, and then promised to superintend the construction of the building, it was part of his duty to see that it was properly constructed and it was his duty



to correct defects while superintending the construction. A contract by an architect to draw plans and specifications implies 'skill and ability' in their preparation and in this instance the house may have called for imperfect plans and specifications (a defect on the part of the architect in the first instance in making his plans) but when the same architect entered into a written agreement immediately after such plans were approved, to superintend the construction of the building, such an undertaking will be treated as a contemporaneous agreement, and as the architect was obligated to bring to the performance of his contract reasonable care and skill, the same duty will be imposed on him as superintendent."

ARCHITECT'S RESPONSIBILITY LIMITED TO OWN WORK

• WHAT HE DID. An architect was engaged to complete a building according to the plans made by a preceding architect with whom the client had disagreed.

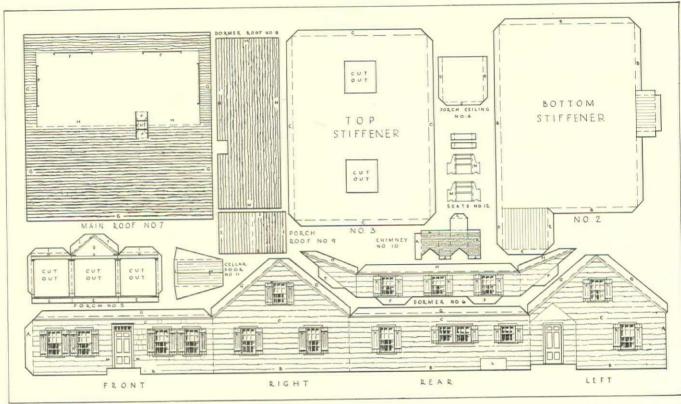
architect sued the owner and the court deciding in favor of the architect said: "If the architect failed to exercise reasonable care and diligence in the superintendence of

The architect did the work and the owner moved in before the building was completed. When the architect tried to collect the amount due him however, the owner refused to pay even when the architect threatened suit.

WHY HE DID IT. The owner justified his refusal to pay on the ground that the architect had failed to properly superintend the erection of the building and had failed to compel the contractor to furnish proper materials and proper work and labor in completing it.

WHY HE SHOULDN'T HAVE DONE IT. The

architect sued the owner and the court deciding in favor of the architect said: "If the architect failed to exercise reasonable care and diligence in the superintendence of the completion of the building, such failure should be considered in deciding what amount if any the architect is entitled to recover, but an architect employed to complete a building according to the plans and specifications of a preceding architect is not responsible to the employer for error in such plans and specifications, nor, if the quality of material and workmanship prescribed thereby does not meet with the approval or expectation of the employer; but such architect is merely required to complete the building in a reasonably careful and skillful manner and in substantial compliance with the plans and specifications of the preceding architect."



The model before rendering in water color was started. Drawn at 1/8" scale. Width of original drawing, 141/8"; height, 75/8"

How to Make a Cardboard Model

BY W. F. SILLIMAN

House Designed by Charles S. Keefe Model Assembled by Arthur H. Gilkison

- 1 Elevations and details are drawn with pencil, then inked in. Tabs are left for gluing where roof contacts with walls and where walls join
- Rendering with water color is done before cutting out and assembling
- Model is cut out and assembled, all bending being done before assembly is started. Accessories are then added

HIS method of making models is based upon the principle of form and effect. If one takes a position where he can see the whole building he is able to observe its effect as a unit, whereas if he stands close by he observes the details. With this thought in mind it is logical to proceed on the basis that features making up the form of the building should be formed, while features such as windows and doors, trellises, trim and other details can be drawn or painted on the surface.

The material used in making cardboard models should be three ply drawing paper with a surface suitable for water color. The most practical and satisfactory scale is one eighth inch equals one foot. Three important factors enter into making satisfactory models: accuracy in laying out the work, the making of as few pieces as possible, and color. In laying out the model it is always best to measure from an established line. That is, establish a floor line and make all vertical measurements from that line; for horizontal measurements, establish a center line for each elevation. To make as few pieces as possible, a little study should be given to the plans before starting to lay out the elevations.

The first step is to draw the elevations, commencing at one corner and continuing around the entire house. Upon the elevations should be drawn the windows, doors, trim and other details. Tabs for gluing should be left where the roof comes in contact with the walls and where the walls are joined together at the corner. After the elevations are laid out the dimensions for all other parts should be taken directly from them in preference to the drawings.

The roof is a matter of simple projection and development with tabs left for gluing. The bottom is the shape of the plan and includes the porch floor. A top stiffener should be made similar in shape to the bottom in reverse. Chimneys and porch walls are details that are worked out and provision made on the elevations and roof to accommodate them. After the layout has been



After rendering with water color, assembly is started. Note horizontal bracing

Completed model mounted on corrugated board. Size of house, 4" wide by 3" deep. Hedges, flower bed, vegetable garden and part of shrubbery made from rubber sponge. Trees, weed tops cemented to board with chewing gum. Pool, tinfoil. Flagstone walks, painted. Figure, chewing gum



drawn in pencil it should be inked in with black or brown waterproof ink and the drawing cleaned.

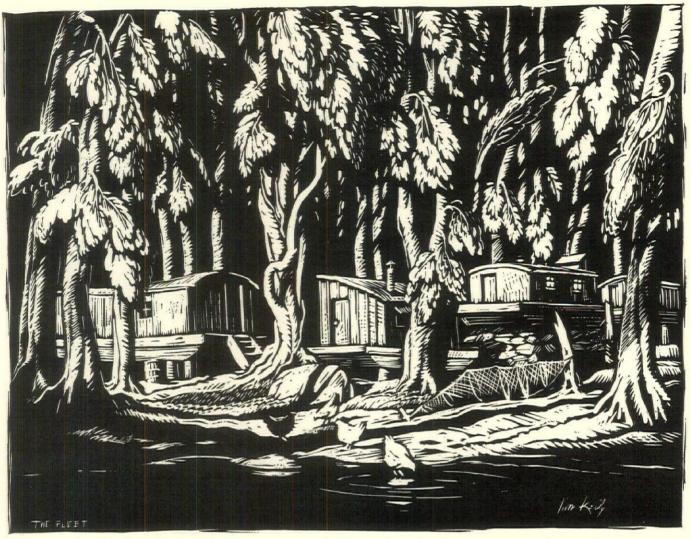
The second step is the rendering. This should be done with water color before the model is cut out and assembled. Touching up can be done after assembling but care should be taken not to get the model too wet or it will pull out of shape while drying.

The third step is cutting out and assembling. Before the layout is cut out the corners that are to be bent, including the gluing tabs, should be scored with the point of a knife to make the bending easier and uniform. After scoring, the model can be cut out and made ready for assembling. All the bending should be done before starting to assemble. After bending, the walls should be joined at the corners and the bottom stiffener put in place, with the edges of the gluing tabs even with the

bottom of the walls. The top stiffener is then put in place. The bottom and the top stiffener form the shape of the house and make the model rigid. The roof is added next and should be glued together before fastening to the walls of the model. When fastened to the walls, cotton twine can be wound around it to hold it in place while drying. The details such as chimneys, porches, and so forth are next put in place and the model is completed insofar as the house is concerned.

The method is not confined to house work but can be adapted to buildings of all kinds. Conventional methods can be used to indicate and suggest trees, shrubs, walks, walls and pools.

With the fundamental principles of so simple a method of making models understood, it may be left to the ingenuity of the model maker to solve individual problems.



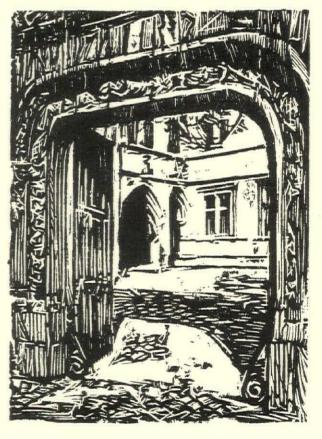
"The Fleet," a shanty boat colony on the Mississippi River. By James Anthony Kelly

S P A R K L I N G B L A C K A N D W H I T E

Woodcuts by

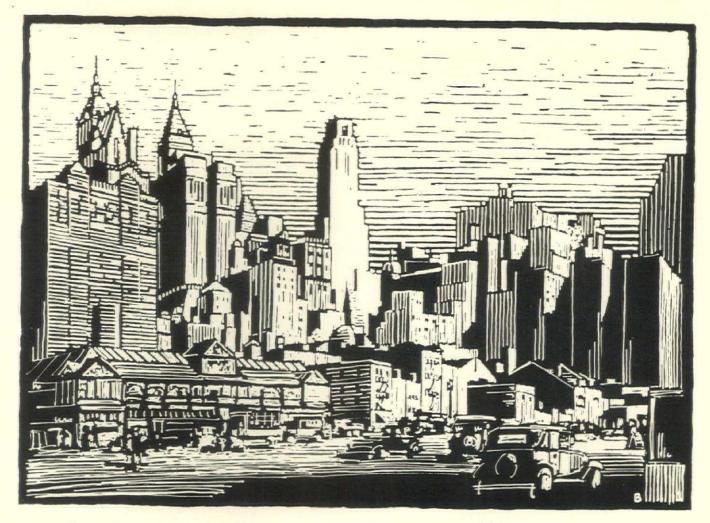
James Anthony Kelly A. W. K. Billings, Jr. Frank Hartley Anderson Alfred M. Butts

> Main Entrance, Cluny Museum, Paris. By A. W. K. Billings, Jr., A.I.A.





"Negro Dray Stand on a Rainy Winter Day." By Frank Hartley Anderson, Birmingham, Alabama. Depicts a group of delapidated wagons, skinny horses and mules and decrepit negroes awaiting a cartage job which may represent a whole day's earnings



"West Street, New York." A pen drawing after the manner of a woodcut. By Alfred M. Butts

CHECKING ACCOUNT							INCOME TAX						
	WITHDRAWAL		SURPLUS	DATE	CHECK NO	DRAWN TO	FOR	INCOME	LABOR	5UPPLIES	GENERAL	TAXES	RENT
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	7500				103	o.v. Landlord	Rant for June						750
	23 66				104	Popular Bluepunt Co.	B.P. and Supplies			3e. 2366			
	11.57	A STATE OF THE STA			105	Ball Taliphoni Co	T. a.T.				56. 1157		
	206				106	Public Sawie Co.	Elastic light				Fc. 206		
	2000					Many Doe	Solary		Ze. 200	10			
	7500			(40)	108	Seel'	Salary		150	w De			
136429		203069		6-8		St. Thomas Church	June 12 Bill	136429					
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		169490		6-12		Petty Carl				3d. 500	Ba. 3341		

A Bookkeeping System for the One-Man Office

HETHER he likes it or not, the architect must keep some kind of an accounting system in order to meet the requirements of the Income Tax reports. He should do so for his own information if he would know where and why he fails to make a profit, and what his ratio of overhead to direct expense may be.

When I left a large organization to establish a business of my own, I had had contact with an elaborate accounting system. Knowing that for a short time at least I would operate a "one-man" office and that I would have to do my own accounting, I set about to devise a system which would produce the desired information with the least effort. After a year's experimenting the system described in this article was devised. It has proved satisfactory in the three subsequent years and has been approved by public accountants.

The fundamental basis of this system is the business check book. All income and all payments for expense pass through the checking account. Instead of using the customary check-stubs for entering deposits and withdrawals, I use columnar ledger sheets as illustrated herewith and in a few seconds time can make all necessary ledger entries.

Each check is supported by an invoice, a time-card, or an expense account, on each of which is marked the distribution to be made in the ledger. As the check is written and the transaction noted in the proper spaces in the ledger, the distribution of the item to the proper accounts can be entered also.

The ledger used is a standard columnar book of 150 pages, known as "Cash and Journal-26-column-double-page form."

As illustrated herewith, the four "cash" columns at the left are used for the checking account. "Surplus" refers to cash funds transferred to a savings account. (All figures given are imaginative). In the center are entered the data necessary to an understanding of the accounts.

The next six columns on the left-hand page are devoted to entries for Income Tax reports, arranged in accordance with the general requirements of "Schedule A—Income from Business or Profession" of the Federal Income Tax Return, Form 1040, and sub-divided, as shown in the accompanying table.

Use of symbols, from the list opposite, in the ledger make it possible to total rapidly the annual amount of each item as required by the Government.

N the second page of the ledger, two columns are devoted to Personal, under Salary and Profit Withdrawn; note that these items are not deductible in the Income Tax Return. The next two columns segregate Overhead Expense into General and New Business. Then two columns give a comparison of total income from contract accounts as against total direct expense; to this direct expense can be added overhead expense to determine at any time how much profit is indicated. Also the ratio of overhead expense to direct expense can be ascertained from these columns.

Then the remaining columns distribute income and expense to the active job accounts. The symbol "CE" indicates that the expense is "client's expense" and is to be billed to him. Knowing the condition of the job in the drafting room and field, from these columns I can always detect quickly any tendency for a job to become unprofitable.

	# 32		430		± 29		* 26						PERSONAL	
	EXPENSE	INCOME	EXPENSE	INCOME	EXPENSE	MODAE	EXPENSE	INCOME	TEAPENSE	INCOME	NEW BUSINESS	GENERAL	PROFIT	SALARY
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	620		344		230		569		1760		# \$3	1 23		
	C.E. 26%				CE. 75		CE 34		438		1000000	450		
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			33 / ZH546									2000		
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			¥ 8138	Profit				136429		136429				
													15000	
												1038		
	0	86800								36300				
	C.E. 1403								1403		19.38	500		

That Accomplishes Two Things

The system described by W. Fred Dolke, Jr., architect, Chicago, provides a simple accounting system that shows (at a glance) the financial condition of the office and provides a quick basis for preparation of Income Tax reports

ENTRIES FOR INCOME TAX REPORT

INCOME-

1. Total receipts.

DEDUCTIONS-

- 2. Labor.
- 3. Material and supplies.
 - a. Office supplies.
 - b. Drafting supplies.
 - c. Blueprints.
 - d. Postage.
 - e. Library-magazines and books.
 - f. Photographs.
- 5. Other costs.
 - a. Travel expense.
 - b. Telephone and telegraph.c. Electric light.

 - d. Office expense—ice, water, towels.
 - e. Insurance—fire and compensation.
 - f. Clubs and associations.
 - g. Closed jobs.
 - h. Entertainment of clients.
- 11. Interest on indebtedness.
- 12. Taxes on business.
 - a. Personal property tax.
 - b. Registration fees.
- 14. Bad debts.
- 15. Rent.

This system of accounting is presented in its simplest form. It can be extended and subdivided to meet any individual needs or ideas, and it can grow to considerable proportions before changes will be needed.

As a further simplification in office accounting I have found it possible to abolish all "bookkeeping" of the job accounts. A copy of each contract is secured in a folder. To this are gradually added the Contractor's detailed estimate (which I now always demand), copies of certificates and the Contractor's detailed requests for payment, copies of change orders, and of all correspondence pertaining to the contract. This data must be filed in any event and I can see nothing gained by duplicating the figures in a double-entry ledger.

LIENT accounts are handled in a similar manner. In a folder with the contract is placed a copy of the preliminary estimate on which first billings are based, copies of cost reports made up as contracts are awarded and the job progresses—these being the basis for monthly progress billings—memos regarding expenses to be billed to the client, and correspondence regarding contractual relations. Again no "bookkeeping" is required and all essential data are in one place.

For my personal financial guidance I make up a monthly statement of anticipated income, using a form divided vertically for active accounts and horizontally for twelve months in advance, listing for each month in the future the income anticipated from each open account. This advance information was particularly helpful during the rapid decline of work in 1930 and 1931. With such a simplified system the boss of the truly "one-man" office is well fortified to talk costs or income with his banker, his clients, or any income tax examiner.

What Architects



BARNABA

Unemployed draftsmen from the office of Delano & Aldrich, architects, made these doll houses by hand for Macy's department store, New York. They are appropriately furnished.

A N upward trend of building in 1933 and "a future greater and more prosperous than the industry has ever before known" were predicted by Rolland J. Hamilton, president of the American Radiator Company in his address before the Producers' Council at its ninth semi-annual dinner. He credited the Home Loan Bank act as the most significant development of the times and said this new banking system may be expected "to provide funds and credit to create approximately \$5,000,000,000 worth of home building and repair work during the next three years." He also gave statistical evidence of a huge potential demand for buildings that is piling up in spite of temporary doubling-up of families and businesses in existing structures.

IGHT has been thrown on a moot question relative to the fire resistance of long span floors made of steel joists by tests completed, under the direction of Professor A. H. Beyer of Columbia University, for the Steel Joist Institute. A panel 14 by 20 feet supported by twelve standard steel joists made by four different manufacturers was protected by a ceiling of metal lath and gypsum plaster and carried a two-inch concrete slab with a top finish one inch thick. Part of the top was hardwood on sleepers; the rest of concrete. The

How Building Costs Are Divided

Educational Advertising Ethical, Say Doctors

Pope Condemns Modern Art



CHICAGO ARCHITECTURAL PHOTO CO.

Mural by Edgar Miller comprising part of the setting for the Architects' Ball held at the Drake Hotel, Chicago. The decorations included an authentic reproduction of a portion of the Latin Quarter, Paris

designed live load of 75 pounds per square foot was imposed, and the entire panel subjected to a fire of standard test temperature. The floor passed the customary tests for two and a half hours, when the fire was extinguished. A fire of this duration, it is said, requires the combustion of more wood than is found in such occupancies as apartments, hotels, offices, schools, churches, hospitals and similar buildings; hence it would appear that a steel joisted floor protected with a metal lath and plaster ceiling is entirely adequate to resist a complete burn-out of the contents of such occupancies. True copies of Professor Beyer's report have been prepared by the Steel Joist Institute.

New Post Office for Oak Park, Illinois, designed by White & Weber, architects. It is to be built under an appropriation of \$600,000 for site and building



Are Talking About

Seek Lower Wood Framing Costs

Home Loan Banks Will Aid Huge Building Program

Fire Safety of Steel Joist Floors



Mirror, carved and painted, designed by Michel Roux-Spitz, French architect, for a formal dining room decorated throughout in marble

THE active aid of the engineering profession in expediting loans for self-liquidating construction projects was recently urged by William S. Lee, president of the American Engineering Council. His suggestion was addressed to thirty-seven engineers who have been invited by the Reconstruction Finance Corporation to serve in advisory capacities in connection with applications for loans of this character.

These engineers will be members of the advisory committees of the Corporation's loan agencies, and will sit with those committees when self-liquidating loans are being considered. Encouragement of loans for small projects was stressed by Mr. Lee, who pointed out that many engineers in the various R. F. C. loan areas have volunteered to assist the engineer members of the advisory committees.

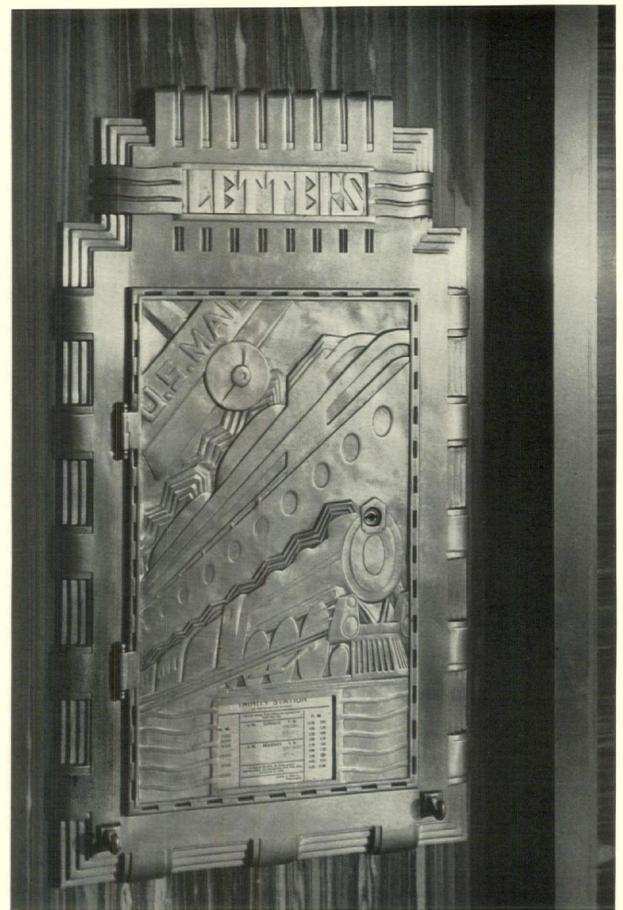


Customs House and Appraisers' Stores, Philadelphia, designed by Ritter and Shay, architects. The upper stories are cross-shaped in plan to secure maximum daylight in offices

MPROVED building practices leading to important reductions in wood building costs are foreseen by Roy D. Chapin, Secretary of Commerce, as an outgrowth of the work of a new construction committee appointed by him, on which F. Leo Smith represents the American Institute of Architects. The committee will seek to apply to American conditions new developments in the use of wood and metal connector members for the strengthening of joints in wood construction. Most of these developments have occurred in Europe since the war, and show promise of lowered costs.

PPARENTLY inspired by the recent exhibition in Rome of architects' designs proposed for new churches in Messina, in which the work of so-called "rational architects" figured prominently, Pope Pius recently asserted that some persons justified such art by saying it was a search for something new, but usually it merely revealed incapacity and unwillingness to learn and often was not even particularly new, as many modern designs bore a striking resemblance to the drawing illustrating the codices of the darkest Middle Ages. "We desire that such art shall not be admitted to our churches", he said.

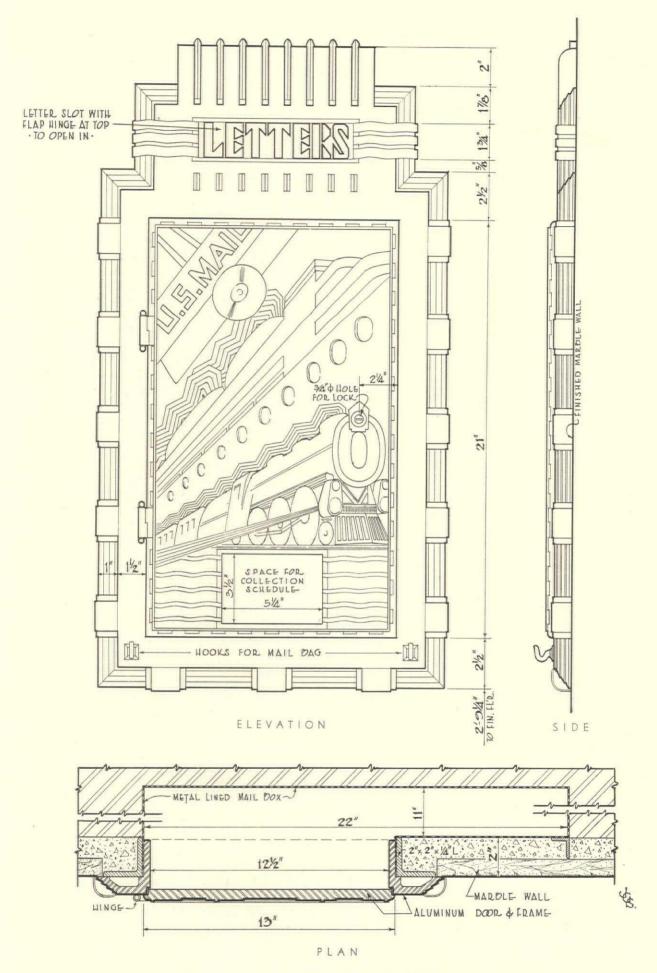
DAID advertising as an ethical means of educating the public is advocated by the Illinois State Medical Society, according to a recent report. The Society is against advertising by individuals and small groups. It believes that county societies should conduct such campaigns rather than state or national societies and that expert advertising counsel should be obtained. The committee which has studied the question states that the lack of definite objectives or lack of understanding of advertising limitations has probably been responsible when paid educational campaigns of medical groups have failed. Results of a survey of newspaper medical advertising in the last ten years (Continued on page 85) have been published by



SIGURD FISCHER

CAST ALUMINUM MAILBOX

DETAIL FROM LOBBY, 29 BROADWAY, NEW YORK, SLOAN & ROBERTSON, ARCHITECTS



MEASURED DRAWING BY J. G. STEWART

CAST ALUMINUM MAILBOX, 29 BROADWAY, NEW YORK, SLOAN & ROBERTSON, ARCHITECTS

As It Looks

Church of Most
Precious Blood

A MONG other buildings illustrated in the Plate Section of this issue there will

be found the Church of the Most Precious Blood. The design has resulted in a church of deep religious spirit with a fine balance between certain traditional requirements and a sane rational expression. The break with the past has been gently made in plan and detail, but without loss in character.

Several of the sculptural figures of the interior designed by Hazel Clere were illustrated in American Architect, issue of August, 1932.

What Newspapers Want

S PEAKING before the American Society of Interior Decorators, Charles Messer

Stow of the New York Evening Sun, said with respect to news publicity, "People are interested in other people. They are not interested in things but in what other people are doing and saying. Things themselves are not news, only as they have relation to people . . . no newspaper is in a position to accept an article on a general topic, perhaps rather ponderously and lengthily written . . . every paper is looking for brief personal items that have this intangible news value . . . have a talk with the city editor of your paper and get his idea of what might be news from the Institute." Architects interested in publicizing the profession and architecture can read with profit what Mr. Stow had to say on the subject.

DRESENT economic condi-Building Costs tions which have had a Affect Fees marked result in the cost of building construction have brought about an unusual and unfortunate situation as respects architects' fees. many cases plans for buildings have been made on the basis of former prices and the architect paid accordingly. Scarcity of work and adjustments in labor and material costs have resulted in contractors' bids being as much as fifty per cent below the originally estimated cost of the project. Often the architect has been paid on the basis of the estimated cost and finds that he has been considerably overpaid when bids are received. Where this happens he is then expected to return the overpayment or complete his services without further payment. Obviously an unfair situation arises since his work has been done under one set of conditions and he is then faced with another as a basis of payment. In such cases it should not be inappropriate for an architect to call this to the attention of owners and building committees, pointing out that the owner due to an unusual situation is obtaining extraordinary value and that his service bears an entirely different ratio of value to the actual cost of the building and its cost had it proceeded under conditions which existed at the time the project was planned. This situation presents a strong argument for

the use of the professional fee urged by R. Clipston Sturgis in the November 1932 issue of AMERICAN ARCHITECT as against the percentage of cost fee which has been in vogue for so many years in spite of its well-known disadvantages.

First Unit Completed

N the Plate Section of this issue will be found the first illustrations to come from

Rockefeller Center (erstwhile Radio City) showing a completed unit. The RKO Theater reveals much of the architectural and decorative trend of the entire group and forecasts many other engaging details to come. It is noteworthy that there was a deliberate effort to avoid any sense of scale in the auditorium, that the stage and its settings might focus the entire attention and create whatever impression of size the dramatist might desire. It is significant also that the usual sounding board has been omitted at the proscenium arch. Careful studies of acoustics made before completing the design revealed that this traditional practise could be abandoned.

Encouraging Words

VILLIAM A. BORING,
Dean of the School of
Architecture, Columbia

University, states in his 1932 report, "The building business is a large part of our national industry, and increasing popular interest in architecture will eventually bring about dissatisfaction with the obsolete structures that line our city streets, and cause a reconstruction program vaster than any we have previously seen in speculative periods. Indeed, it is not unreasonable to expect that the new era of great production may have its energies turned from the motor car and devices for flying to the making of beautiful places where we can live in peace and safety. . . . The younger generation on the whole apparently does not despair of the idealism, latent in every human being, that prefers beautiful things to mechanical even in buildings. Most of the pessimism today concerning the status of architecture in the United States seems to emanate from the elderly men in the profession or from the youth who can talk and write about architecture better than they can create it."

Pros and Cons of Unification

HE plan of the American Institute of Architects for unification of the profession does

not appear to have met with universal approval. The reports and letters that have come to the editors indicate that the debate in some quarters is getting acrimonious. But those in favor of unification have said little. Is this because they feel the proposal needs no defense, or are they unaware of the opposition? AMERICAN ARCHITECT will gladly open its pages with complete impartiality to those who wish to discuss the issue, and invites correspondence.

to the Editors

May Be Sly Criticism

A BRIEF editorial in the New York Herald Tribune under the caption "Not Other-

wise" read "Washington is becoming more and more like ancient Athens—but only in architecture." One wonders whether the author was taking a sly "crack" at Washington's architecture as well as the government.

Building Dollars

LSEWHERE in this issue there will be found figures compiled by the United

States Department of Labor on the cost of building in 1931-1932. Agents of the department studied 204 buildings of both residential and non-residential types in fifteen representative cities. The cost of construction was obtained from both primary contractors and subcontractors. The per cent proportion of the cost of buildings chargeable to materials was found to average 63.6, leaving 36.4 for labor. A similar study made in three cities in 1928 was found to be: material 58.1 per cent and labor 41.8 per cent. In 1932 the cost of material on residential buildings averaged 62.7 per cent as against 54.0 for cost in 1928. Different values in the cities studied in 1928 and 1932 may largely account for this variation, with reduced wages, increased efficiency and use of more expensive materials playing part.

A Loss To the Profession J. SCOTT BUTTON, in charge of the architectural engineering service bureau of the

General Electric Company, died in Schenectady on November 3 following several weeks illness of pneumonia. He was first vice president of the Producers' Council and a member of its executive committee and active in the work of many other architectural and engineering organizations.

The many architects who have known Scott Button will appreciate the loss the profession has sustained. A genial personality and a mind that was ever alive, with a heart full of sympathetic understanding and good counsel were among the many attributes that brought him high esteem. His influence as an interpreter and coordinator of modern electrical developments will long be felt throughout the building world.

Advertising Racket VIDENTLY some of the advertising done by architectural firms is inadvertent.

The story comes from a suburban architect to this effect:

The editor of a local newspaper telephoned the architect to advise him that he was mentioning the architect's firm in an editorial as a means of recognizing the excellent work done by this firm in building up the character of the community. The editor wrote the editor

rial and asked the architect for his approval. It was nicely written and quite complimentary. The architect, of course, agreed to its publication and then was advised that "the cost of writing" this article was \$12.50 and that the paper was the official organ of the local women's club. The architect fell for the hint and agreed to pay this editorial cost. The story appeared followed by the word "advt.," which converted an otherwise good editorial into a flagrant puff.

Church Symbolism Rehashed R. WEBBER enjoys a quiet laugh at the various ways symbolic details in modern

churches are interpreted by different sects, in an article "Symbolism and the Sects" which appeared in The American Mercury. A typical episode reveals the tenor

of his story:

"A fine new church was built in a Pennsylvania town. It was a church of pronounced Calvinistic type, but it contained a beautiful Lady Chapel. The mistake was discovered, but it was too late to correct it, so an ingenious explanation was worked out. The high altar in the main church was said to represent Holy Communion. The altar in the side chapel was said to represent prayer. The *prie-dieu* before it represented Christian humility. The blue dorsal curtain (Our Lady's own color), was to remind the congregation of the blue skies toward which its prayers ascended. The two candles represented the light of faith, which must be present if prayers are to be answered.

"But why call it a Lady Chapel?" somebody asked.

'Isn't that a step Romeward?'

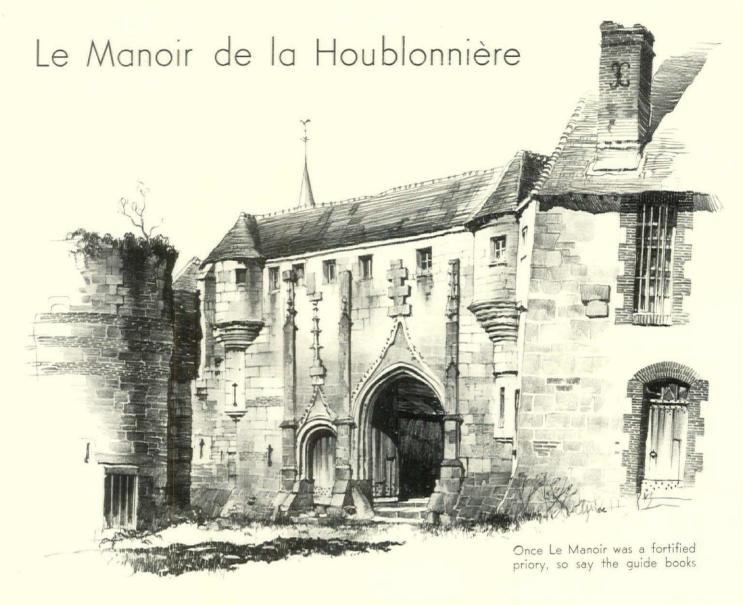
"'Let us name it that,' was the reply, 'in honor of our Ladies' Aid Society, which gave so many socials and suppers to raise the money."

An Editorial by a Reader

PARAGRAPHS in letters from readers of a magazine often suggest a subject for

editorial treatment. It is not often that the reader, however, actually writes the editorial. This one is quoted from a letter written by Lancelot Sukert, Detroit. "When good times return as they certainly will, we are going to find a world hungry for elegance. The aesthetics are coming back with a flourish of trumpets. Three years of forced economy and the resulting simplicity have quite convinced us that we don't like it a bit. Functionalism goes with poverty. We have always blossomed out with a return of wealth and we always will.

"Retail stores are finding that women who can afford to are purchasing expensive clothes. They are tired of tinsel and fed up with the shoddy. The longer we are constrained by circumstances from owning the more luxurious things the more apt we are to buy them when we can afford to. The character of merchandise being sold in the retail stores indicates that we are on the upgrade. We have learned to eschew the gaudy and out of chaos will come better taste."



BY SAMUEL CHAMBERLAIN

Sketches by the author

OR the blase, the five hour train ride from Paris to Cherbourg may be only a boring interlude between the boat and the boulevards, but for thousands of travelers the trip provides a last fond, lingering glimpse of the rural beauties of Normandy. In this reposeful span between the porters and the handkerchief wavers of the Gare St. Lazare and Cherbourg with its hectic matter of tenders and money changers and more porters, there are a few hours of tranqui lity when the passing landscape seems peculiarly heart-warming.

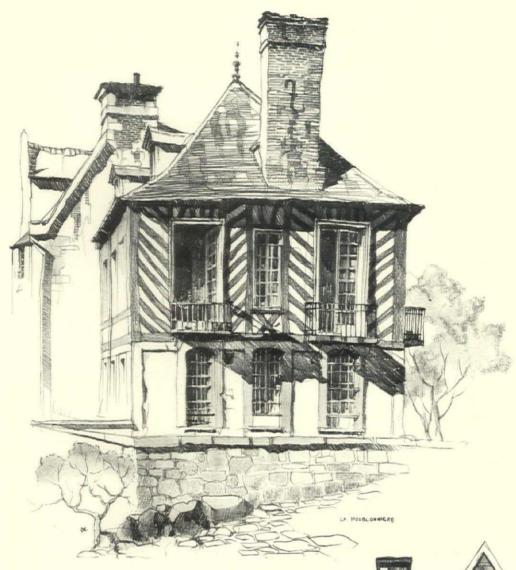
Beyond Lisieux the train goes through a tunnel and then comes out into a verdant valley, dotted with thatched and timbered cottages. Suddenly an aged and amazing structure swings in view, a hillside manoir with fat towers and Gothic gateways and delicately carved windows. It is extravagantly, unreasonably picturesque. By a heroic stretching of the neck the traveler can view the apparition for almost thirty seconds. Then a distressing curve in the track squeezes it out of the picture, and all is pastures and cows and apple orchards again. The trip is full of fugitive glimpses such as this, but none of them have quite the allure of the old hillside

manoir, which is in the hamlet of La Houblonnière.

Having had several thirty-second peeks at it, I had wanted to make a pilgrimage to the place for years, and to view it at my own precious leisure. The opportunity finally came this spring, and the resultant sketches will give a better idea of La Houblonnière's charms than my historical notes, which are spare indeed.

The present proprietor, a rugged and red faced farmer, gave me ready permission to sketch, but rather hazy information about the part his manoir had played in history. He offered some optimistic reports on the prospect of this year's cider crop, but dismissed his estate with: "Oh, c'est vieux, ça!" The guide books tell nothing at all, save that it was once a fortified priory. Yet its architectural marking, from the Gothic gateway to the Louis XVI paneling in one wing, are eloquent of a past history that is unquestionably rich and varied, and (this is my consolation) certainly too long to be treated adequately in this short space.

Obviously La Houblonnière was heavily fortified at one time. But despite the fine austerity of its Gothic portal, the place has lost much of its bellicose aspect.



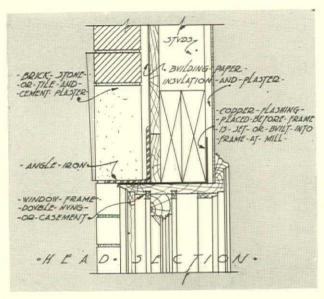
A bit less bellicose is this wing with its half timbering, more suggestive of a peaceful residence than a once fortified priory

The ensemble is now U-shaped instead of a quadrangle, for gaps have been cut in the sagging outer wall. The village chapel clings tenaciously to one corner of the masonry. A cider press is kept in one of the fat towers that was once a bulwark of defense. A sharpshooter's niche has been converted into a rabbit hutch. A series of magnificent vaulted halls underground now house countless cider kegs. The refectory hall contains but two small wooden tables, almost lost in its vaulted volume, one for the "patron" and his family, and one for the farm hands.

In short, the great days of La Houblonnière seem to have been left behind. This is perhaps true, but its atmosphere, the splendor of its old stones, the subtlety of its proportions and detail and fenestration, all of these remain, and they are enough to justify an impulsive pull at the emergency cord the next time La Houblonnière becomes visible from your Cherbourg boat train.



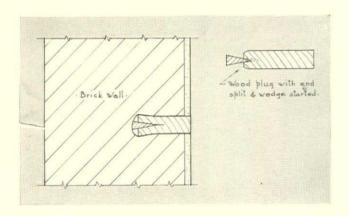
... Things You Didn't



PREVENTING LEAKAGE IN BRICK VENEER

By L. A. Lamoreux, architect Mansfield, Ohio

HO has not had difficulty, when using veneer construction, in getting the mason to fill header joints. Failure to do so almost always results in leakage. The method of gathering the water at the head of the opening and then forcing it down the frame, as shown in the accompanying sketch, will at least keep it from showing other than at the plate line in the basement. In some cases inside gutters have been built with small leaders through the masonry joints, this method being employed over large bays.



GROUNDS THAT WON'T COME OUT

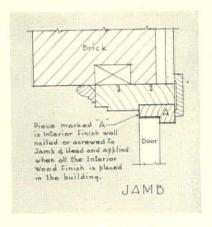
By C. H. Leinbach, architect Dallas, Texas

RILL or punch the masonry wall to receive wood plug and drive wood plug in. When wedge contacts end of hole it expands the wood plug making it impossible to pull plug out. When plugs are sawed off flush with wall, they make a substantial bearing for the grounds.

DOOR FRAME THAT STANDS ABUSE DURING CONSTRUCTION

By H. Raymond Heckman, architect Reading, Pa.

/HEN fin-Vished outside door frames are placed, even though protected, it too often happens that corners are broken and the frames become stained. The accompany ing sketch shows a door frame that o v e r c o m e s this abuse during the construction of the building.



RENDERING WITH CHALK AND COTTON BATTING

By Lancelot Sukert, A.I.A. Detroit, Michigan

O render blue skies with colored chalks and a batting, cut a tracing paper stencil so as to cut out everything on the drawing to be rendered except the sky. If you want a purple sky near the horizon, rub some purple chalk along the lower or horizon edge of the stencil and ON the stencil itself. On the part that covers the building, rub some light blue chalk, and in the upper corners, some blue and some green. Take a wad of common cotton batting and rub the chalk from the stencil edges onto the surface to be rendered. If you work toward the stencil the edges will curl up and their sharpness will be destroyed. Work the colors together on the surface by rubbing with the cotton. If a little more is needed, rub the chalk on a piece of paper, then rub a fresh bit of cotton around in it until the cotton carries plenty of chalk, then rub it onto the surface. When finished, spray well with fixatif. The balance of the rendering should be completed before starting to put in the sky.

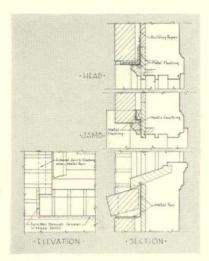
Before spraying on the fixatif, you can sharpen up the edge around the building with an ordinary shield and a kneaded eraser, using it also for taking out clouds or other spots, such as around very uneven edges

Pencil carbon dust may be used in the same way to put tones on a black and white rendering. It takes but a few minutes to do what it would take hours to do with water colors, and you need have no fear of spots that dry out too soon, or brush marks showing. Big cubes of lecturer's chalk offer a wide variety of colors, and the chalk goes on liberally.

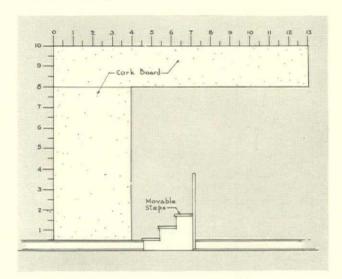
Learn in School.

 FLASHING DOUBLE-HUNG WINDOWS IN BRICK VENEER WALLS

> By J. M. McCrary Birmingham, Alabama



THE advantage of the flashing method illustrated is that it is invisible and, since it is a combination of metal and plastic, allows for expansion and contraction without breaking the seal.



AN AID TO QUICK DECISIONS

Walter D. Burger Chicago, Illinois

Accord board mounted on the wall is of great assistance in the office in criticising drawings. Alternate schemes may be pinned side by side on the board and quickly evaluated. The cork board arranged in "L" shape permits the hanging of both vertical and horizontal drawings. It should be painted white so that thin tracings will show up clearly. The full-sized scales are of assistance in judging full-sized details and hanging them at their proper height or spacings, and also give an accurate conception of any arbitrary dimensions.

Useful also is a movable flight of three or four steps. This may be used in connection with the scale for determining stair headroom and also as an aid in hanging drawings.

TO AVOID FINISH WOOD FLOOR TROUBLES

By William E. Frenaye, Jr., A.I.A. New York

FINISH wood flooring often opens up at the joints, parquetry curls, wide planks raise, etc. One reason for this is that joists and rough flooring are not kiln dried or seasoned. Moisture content upon installation runs according to test as high as 40%. Tests also show that a year after installation floor joists and rough flooring have a moisture content of 20%. Finish flooring is kiln dried to a moisture content of only 2% to 6%, and in the building acts as a blotter. Different movements of the structure and finished floor members set up stresses with the only too well known results.

The cure is to regard rough flooring as merely a working platform. After plastering is completed, cover this platform with heavy waterproof paper and lay a second layer of inexpensive kiln dried, tongue and groove end-matched N. C. pine flooring with a face of $2\frac{1}{4}$ " and a thickness of $3\frac{4}{4}$ ". Estimates show the cost of this additional floor to be negligible in relation to the benefits derived from its use.

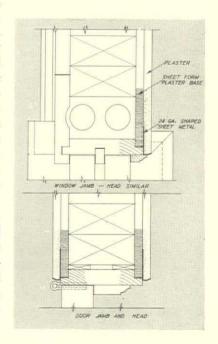
After scraping the sub-floor lay the finish flooring on the dry and even base thus created,—waiting, of course, until plastering has dried out. This method provides additional heat and sound insulation.

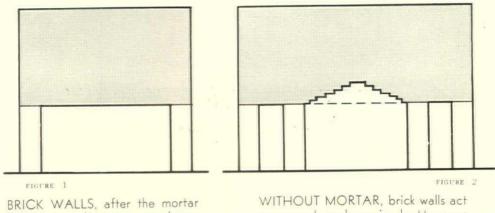
PLASTER CORNER BEAD

By Wm. M. Weidemeyer, architect Champaign, Illinois

A DETAIL developed to accomplish three purposes: 1, to economize; 2, to eliminate as much wood trim as possible for ease in cleaning; 3, to make an air-

tight weight box. is shown in the accompanying sketch. A sheet of plaster base is tightly fitted and nailed into the rebate on the window frame, stopping all infiltration of air around the frame. The necessity for grounds or screeds around the openings thus treated is eliminated because the metal edging is its own The exscreed. posed lip of metal may be painted to match either plaster or trim.





has set, act the same as a beam

as an arch and require buttresses

How to Avoid Cracks Over Doors and Windows in Masonry Walls

BY CHARLES C. HURLBUT, M. AM. SOC. C. E.

Lintels in masonry walls can be safely and rationally designed to avoid cracks. Stiffness rather than mere strength is the controlling factor. In the August, 1932, issue of American Architect Mr. Hurlbut discussed stone lintels. In this article he takes up the practical design of other types of lintels

NE has only to walk the streets of any city with his eyes open to see many cracks in the masonry over doors and windows. In many, if not most of these, there are steel lintels, which, if investigated, would be found to be stressed far below their capacity in strength and yet the masonry has cracked. In some cases the cause of cracking is uneven settlement, in others it is due to the deflection of the lintels. In these cases stiffness rather than ultimate strength is the controlling factor and many failures result from overlooking this fact.

Where a steel member is used in conjunction with a stone lintel, the deflection of the stone and steel is necessarily equal. In that case, since the fibre stress in the steel is proportional to the deflection, it is limited by the common deflection of both members. In most cases this would cause a stress in the steel far below that usually assumed in designing steel members. It follows that if the steel member is designed on the basis of 16,000 or 18,000 pounds stress, the stone will crack before the steel has reached that load. The same reasoning applies to any masonry spandrel, or space between the head and sill of two openings in a wall, as soon as the mortar in the joints has hardened. The spandrel then becomes a beam with the general characteristics common to all beams, namely, deflection under load with compression in the upper part and tension in the lower part. If a steel member is placed in or under such a masonry spandrel, the masonry will still carry nearly all the load unless the steel member is as stiff as the masonry spandrel, which is seldom the case.

The above comments apply only after the mortar in the joints has hardened. Previous to that the masonry acts as a somewhat viscous mass and will conform to the contour of the support without damage as it deflects under the increasing load. In a few hours, however, the mortar will have hardened, after which any further deflection will cause cracks, and deflection and cracks will occur unless the masonry itself, acting as a beam, can support the added load or unless the steel lintel is stiff enough to prevent damaging deflection.

An example of such a deferred load is a lintel supporting a floor load as well as the masonry over the open ing such as that shown in Figs. 5 and 7. Another type of deferred load is a lintel carrying a masonry pier over a spandrel such as that indicated at Fig. 3F.

The only difference between a spandrel between windows and a wall of indefinite height over an opening is that in the latter case the masonry beam is of relatively greater depth. In this case the wall is usually said to "arch" over the opening. In reality it acts as a deep beam. It may surprise some readers to be told that after the mortar has thoroughly hardened, a well built brick wall will carry itself over a very wide opening, without a lintel or any support whatever, even though the head of the opening is flat. This is true, however, and it is a beam action and not an arch action, for it does not require buttresses but only an ability to resist tension

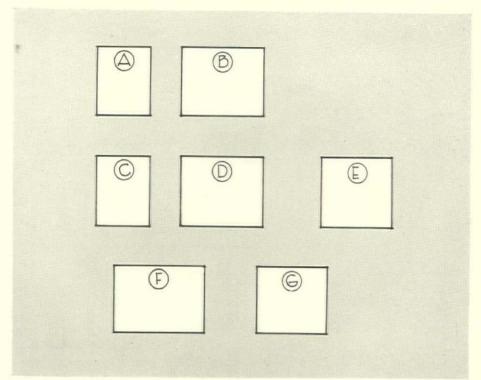


FIGURE 3

TYPES OF LINTEL LOADING. TYPE I, Fig. 3-E, a simple lintel carrying walls of considerable height and not affected by other openings in the wall. TYPE 2, Figs. 3-F and G, where, due to the proximity of other openings, the lintels carry more than their normal load. TYPE 3, Figs. 3-A, B, C and D, lintels support relatively shallow masonry spandrels. TYPE 4, Fig. 3-F (see also Figs. 5 and 7), lintels which support spandrels in addition to other loads which will become active after the mortar has set.

in the mortar. The wall, for example, in Fig. 1, supported on two columns, will be entirely self-supporting after the mortar has hardened. It has no buttresses and therefore acts as a beam. If the bricks were laid up without mortar, this structure would collapse, for it has no tensile strength; but if the wall were extended beyond the opening to provide buttresses, as in Fig. 2, only the unsupported bricks in the center would fall, showing that this wall was supported by arch action or by an interlocking of the units similar to arch action.

F a brick wall will carry itself in the manner shown in Fig. 1, the question arises, why have lintels at all? They could, in fact, be dispensed with in many cases and the wall built on removable forms, but it is advisable to provide lintels, even in solid walls, both for convenience and insurance against falling masonry caused by settlement or other unforseen causes.

The speed with which a brick wall is built may affect the load carried by a lintel under it. The reason for this is apparent when the time factor in building the wall is considered. When the first courses of brickwork are laid, the mortar is soft and the wall has no transverse strength whatever. The lintel carries all the weight at this stage and deflects as the weight is added. Within a few hours, however, the mortar in the lower courses begins to harden and the masonry begins to act as a beam. As the wall is built higher, both the hardness of the mortar and the depth of the masonry beam

increase, so that the strength of the beam increases progressively. The faster the wall is built, therefore, the greater is the weight of soft masonry to be carried by the lintel before the wall can harden and begin to carry its load as a true beam.

TABLE I

Sizes of angles that may be used to support each 4" of brickwork in lintels of Fig. 3, Type 1:

Size of Angle	Maximum Span
3" x 3" x 1/4"	4'-0"
31/2" x 31/2" x 5/16"	9'-0"
4" x 4" x 5/16"	10'-0"
4" x 4" x 3/8"	11'-0"
6" x 4" x 3/8"	15'-0"
6" x 4" x 1/2"	16'-0"

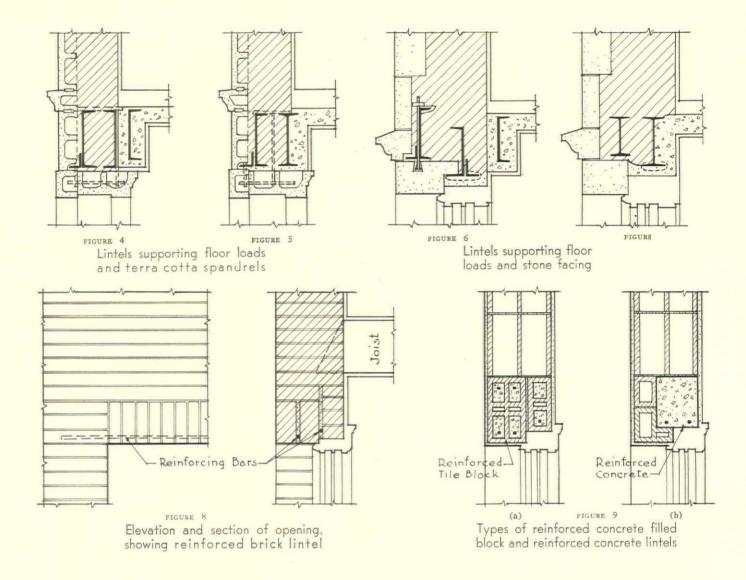
TABLE II

Total moment of inertia (I) required for a lintel to support a 12" solid brick wall having a height at least two-thirds of the span (Fig. 3, Type I) without deflecting over 1/50" per foot of span. Having determined the required I from the table, select a suitable member, or combination of members, from any steel mill hand book. For walls more or less than 12" thick, change the value of I in proportion to the thickness of the wall.

	Moment of	
Span	Inertia (I)	Load (Lbs.)
4'-0"	0.81	1,280
5'-0"	2.0	2,000
6'-0"	4.1	2,880
7'-0"	7.6	3,920
8'-0"	13.0	5,120
9'-0"	20.8	6,500
10'-0"	31.6	8,000
11'-0"	46.3	9,700
12'-0"	65.5	11,500
13'-0"	90.5	13,500
14'-0"	121.0	15,700
15'-0"	159.5	18,000
16'-0"	191.0	20,500
17'-0"	263.0	23,100
18'-0"	332.0	25,900
19'-0"	413.0	28.900
20'-0"	506.0	32,000

The four types of lintel loading which require separate treatment in design are illustrated in Fig. 3. In Type 1, the lintel is hardly more than a form to support the masonry during construction, but it must carry, without undue deflection, whatever weight of masonry is built over it previous to the hardening of the mortar in the lower courses. It is impossible to determine this load with any exactness, but this is not necessary, as the load will not exceed the weight of a wall about two-thirds as high as the opening is wide, uniformly distributed. The limit of deflection should not exceed 1/50 of an inch per foot of span. For moderate spans it is convenient to allow one steel angle to each four inches of brickwork in the thickness of the wall.

Lintels of Type 2 carry more than a normal load due to the proximity of other openings in the wall. Such



loads must be estimated from the conditions in each case. Above window G in Fig. 3, the load on the lintel will be the weight of the entire wall from the lintel to the parapet in addition to half the spandrels over windows B, D, and E. In this type the load may be large and the bearings under the ends of the lintel should be carefully investigated, as that is frequently the critical point. If the wall is a bearing wall, all floor loads on the portion of wall carried by the lintel must be added to the weight of the wall in estimating the load on the lintel.

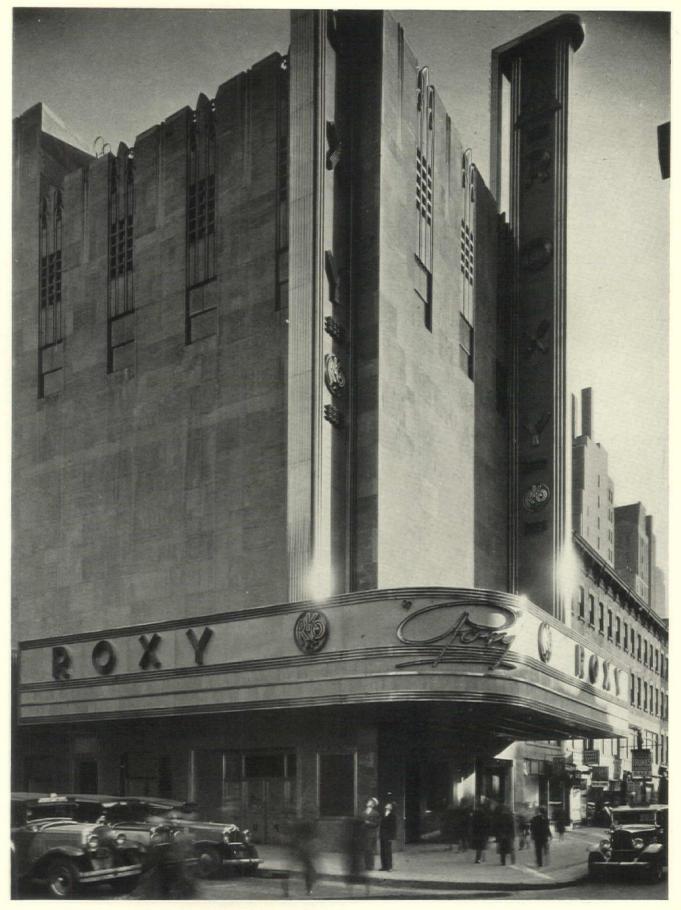
Lintels of Type 3, supporting relatively long and shallow spandrels, are discussed in the opening para-They can be designed in the same way as Type 1 lintels, by the use of Tables I and II, provided they are built in a continuous operation, so that the masonry will conform to the deflection of the lintel before it has time to set. However, if they are built on a wood form or centering, the steel will not take its load until the form is removed and the deflection is then liable to crack the masonry. This is particularly true of terra cotta spandrels, which are usually built on forms. The terra cotta has often been blamed for cracks at the haunches and branded as defective when the real cause was insufficient stiffness in the steel support, which was assumed to be adequate because it had ample strength to carry the load.

Fig. 4 illustrates the condition just described. The two channels forming the lintel will not act until the

form which supports the terra cotta during construction has been removed. If they were designed merely to carry load, the deflection would probably crack the terra cotta or open the joints, although the same deflection would not damage a plastered ceiling. The remedy for this is to design the lintel with considerable extra strength in order to gain stiffness. The method of design recommended is to first find the most economical member required for strength alone and calculate the deflection (D') for this member by the table of deflection coefficients to be found in any steel handbook. Then find the minimum allowable deflection (D) by dividing the span in inches by 600. Finally, increase the section modulus in the proportion of D/D' and use a lintel section with a modulus not less than this.

N Fig. 4, if the span is 18'-0" and the total load 14,400 lbs., the section modulus (S) required for strength is 21.6, corresponding to a 10"B 21 lbs. The deflection for this section is found to be .6". The allowable deflection is 18"x12"/600=.36". The section modulus required for the lintel is therefore 21.1x.60/.36=36 and two 12" channels should be used.

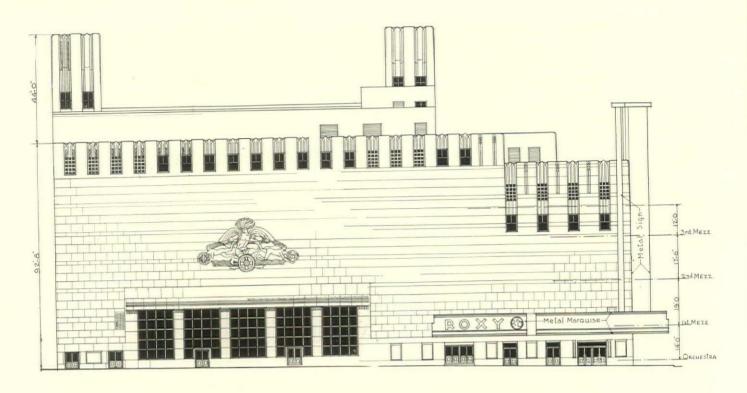
It should be noted that no matter how stiff the lintel is there is always some deflection. For this reason, in long lintels, it is advisable to rake out the joints and repoint after other work is completed. In some cases expansion joints are needed. (Continued on page 83)



RADIO-KEITH-ORPHEUM THEATRE

UNIT NO. 8, ROCKEFELLER CENTER, NEW YORK
REINHARD & HOFMEISTER: CORBETT, HARRISON & MAC MURRAY: HOOD & FOUILHOUX, ARCHITECTS

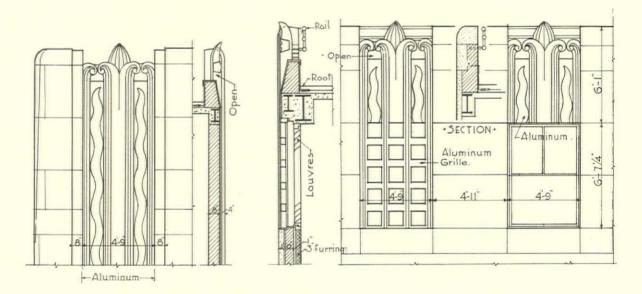
Photographs by Browning Studios



ELEVATION ON FORTY-NINTH STREET

Base and trim around large windows, granite. Stone above base is shot sawn, rustic buff limestone, twenty-five per cent set vertical and seventy-five per cent set horizontal. Spandrels, window grilles and parapet ornaments of aluminum with marquees and signs

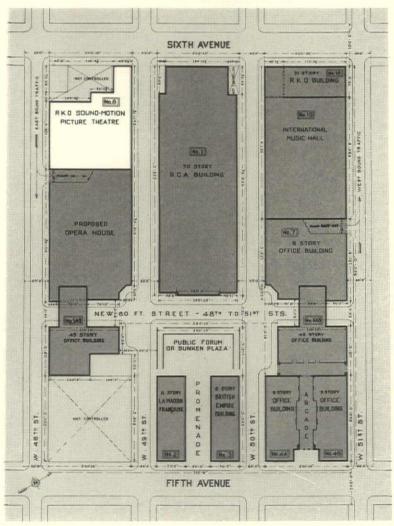
in metal to match. The two towers conceal water tanks for cooling system and fire protection. The large windows are double glazed with concealed illuminating units between sash. The decorative enamelled metal plaque above the windows is shown in detail on facing page



DETAIL OF TOWER PARAPET

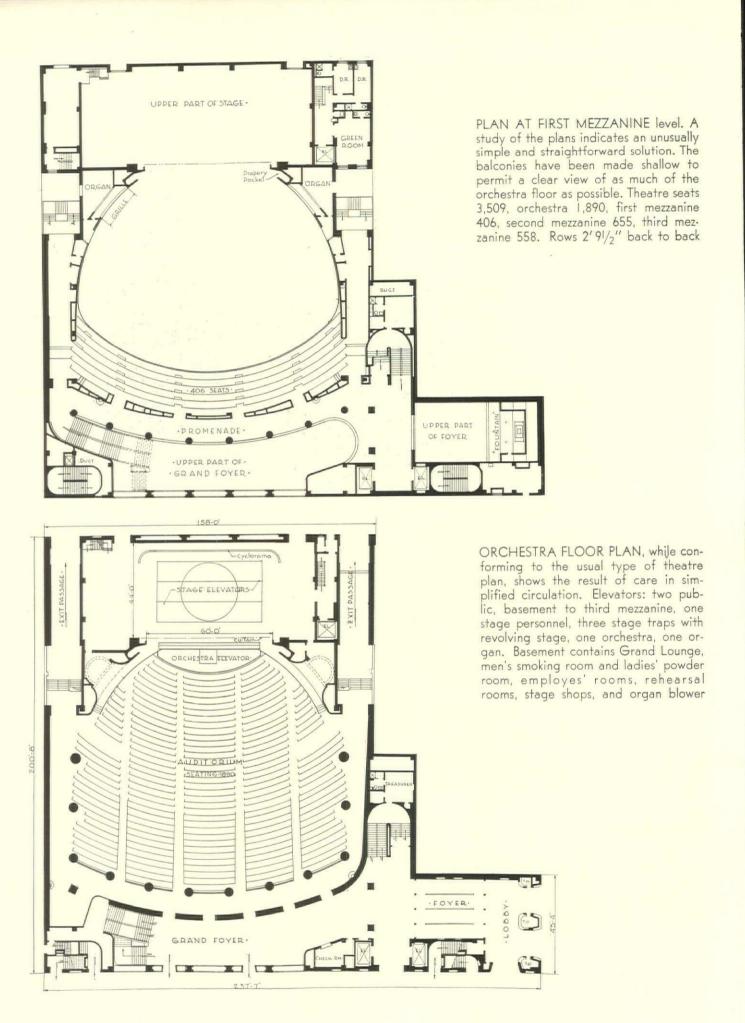
DETAIL OF TYPICAL WALL PARAPET

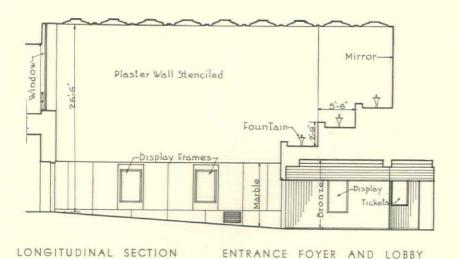


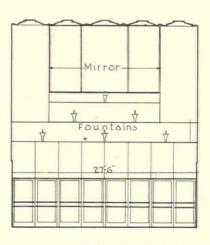


RADIO and Television encompassing the Earth. Exterior decorative metal and enamel wall plaque designed by Miss Hildreth Meiere and executed by Oscar B. Bach. It is 18 feet high and 35 feet long.

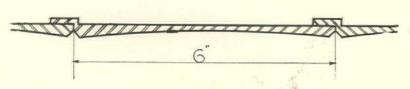
PLOT PLAN of Rockefeller Center is shown at the left. Unit No. 8, the Radio-Keith-Orpheum Theatre, is the first building to be completed. Unit No. 10, the International Music Hall and R-K-O Building, is nearing completion, as is the seventy-story R.C.A. Building. The steel frame of Unit No. 3, facing Fifth Avenue, has been erected. Foundations for other units are in various stages of construction





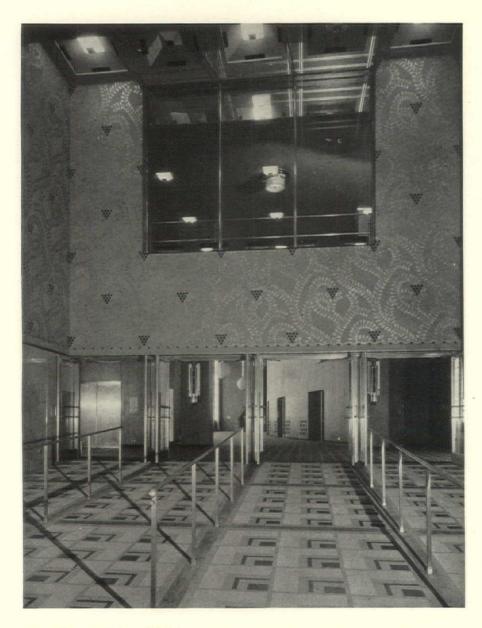


TRANSVERSE SECTION





DETAIL OF BRONZE PANELING IN LOBBY DETAIL OF FOYER CEILING RIBS



ENTRANCE FOYER, at left. Walls, buff-tan with black and gold stencilled design by Edward Trumbull; wainscot, yellow Numidian marble. Ceiling coffers painted vermilion. Floor, orange and black rubber mat. Metal, bronze, satin finish. Large window at end opens on first mezzanine promenade and faces decorative fountain over the entrance lobby

REINHARD & HOFMEISTER; COR-BETT, HARRISON & MACMURRAY; HOOD & FOUILHOUX, ARCHITECTS



GRAND FOYER

The rose-purple walls are of Bubinga wood, veneered on metal. Columns are painted vermilion, ceiling medium blue. Windows at left are translucent, sand-blasted glass lighted from behind. Note carpet specially designed to provide pattern in three directions. Eugene Schoen & Sons, decorators and consultants

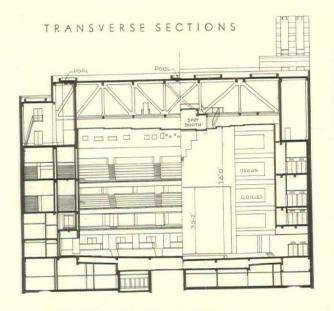
RADIO-KEITH-ORPHEUM THEATRE-UNIT NO. 8, ROCKEFELLER CENTER, NEW YORK

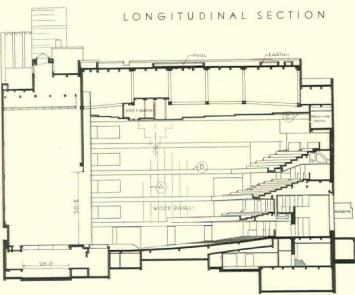


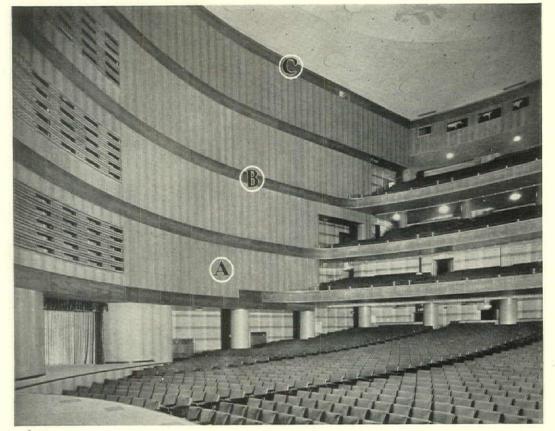
GRAND FOYER DOORS TO AUDITORIUM

Black and silver metal inlay over doors designed by Rene Chambellan. Doors covered with vermilion colored leather and studded with bronze stars. Carpet: background brown-purple, circles deep scarlet and vermilion, Z pattern dark plum. Metal trim and hardware is of satin finish bronze. Eugene Schoen & Sons, decorators

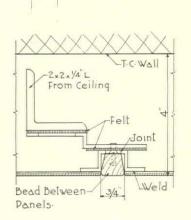
REINHARD & HOFMEISTER; CORBETT, HARRISON & MACMURRAY; HOOD & FOUILHOUX, ARCHITECTS



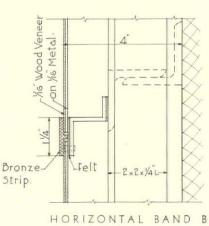


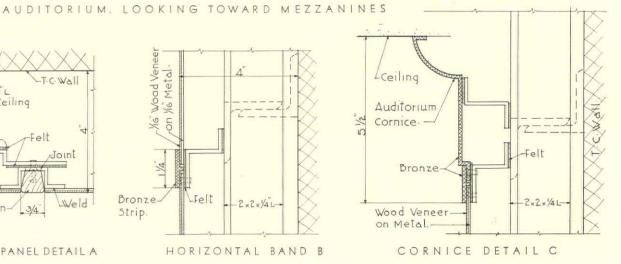


Vertical wall panels of ribbon mahogany veneered on metal. Horizontal bands are of same material separated by bronze strips. Ceiling designs, based on the constellations



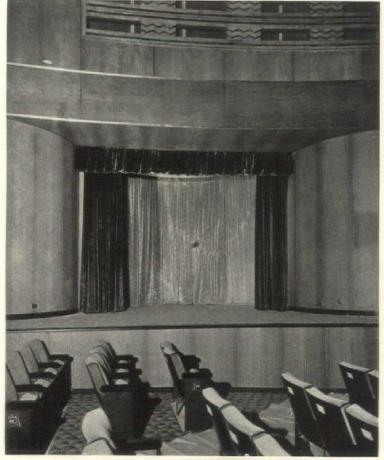
VERTICAL PANEL DETAIL A





AMERICAN ARCHITECT

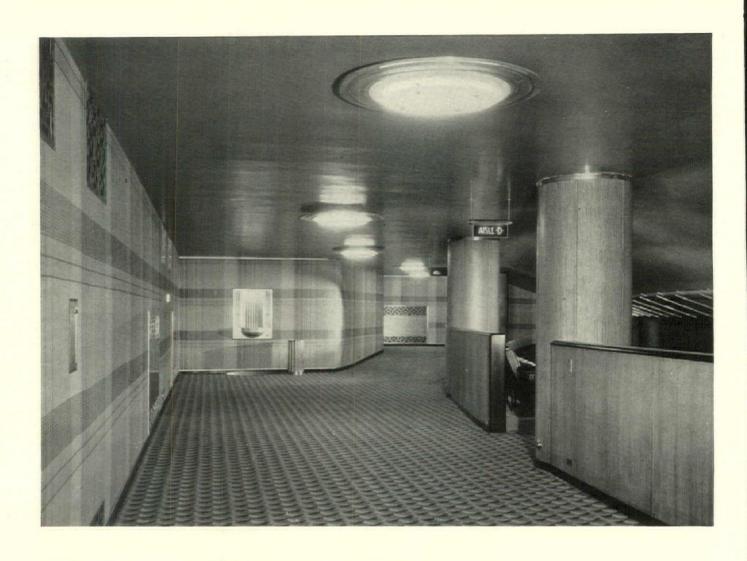




PROSCENIUM opening is filled with a nine-point suspension light cream-tan velvet curtain. First curtain is of dark gray velvet. Main chandelier is about twenty-five feet in diameter. Large dark areas near chandelier are spotlight openings; small dark areas in ceiling are illuminated stars. Self-raising seats are upholstered in terra cotta colored fabric. Program light on back of seats. Aisle seats have illuminated row letters. Carpet same as mezzanine

SIDE STAGE openings are arranged on each side of proscenium and connect with front and back stage. Organ grilles are of wood and bronze. Eugene Schoen & Sons, consultants

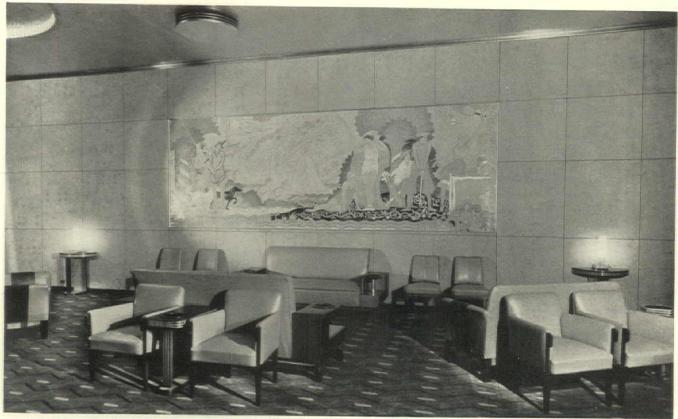
REINHARD & HOFMEISTER; CORBETT, HARRISON & MAC MURRAY; HOOD & FOUILHOUX, ARCHITECTS





SECOND MEZZANINE PROM-ENADE. Walls covered with linen of special design in cream, gray, brown, red and bright lemon yellow arranged in a plaid pattern to be in scale with self and auditorium details. Vertical strips are 12 inches on center; horizontal bands 36 inches. Linen is applied to sound insulating board backed-up with mineral wool. Ceiling, brown-tan. Carpet is of special design with small repeat pattern due to curves and irregular shape of floor area. Colors: deep terra cotta, black and vermilion. Illuminated drinking fountain at left is of bronze with drinking cups contained behind grilles. Eugene Schoen & Sons, decorators

RADIO-KEITH-ORPHEUM THEATRE, UNIT NO. 8 ROCKEFELLER CENTER, NEW YORK



GRAND LOUNGE. Walls, mottled cream colored leather with red welt between squares. Ceiling, gold and silver. Carpet, same as grand foyer. Furniture, East Indian Rosewood and Marnut, covered with vermilion colored leather. Mural painted by Arthur Crisp



WOMEN'S LOUNGE. Walls and ceilings, chartreuse yellow. Carpet, blue with design in gray, black and vermilion. Furniture, plum colored enamel, upholstered in yellow and black horsehair. Curtains, plum color. Illuminated glass mural depicting Amelia Earhart's transatlantic flight executed by Maurice Heaton

LOUNGES AND THEIR FURNISHINGS DESIGNED BY EUGENE SCHOEN & SONS, DECORATORS



F. S. LINCOLN

MEN'S SMOKING ROOM adjoining the Grand Lounge. Dado, brown and black Yuba wood. Black and white photo murals above dado, depicting army, navy and civil aviation, photographed and composed by Edward Steichen. Floor, brown-yellow and deep red terrazzo. Furniture, South American oak covered with blue-green leather. Eugene Schoen & Sons, decorators



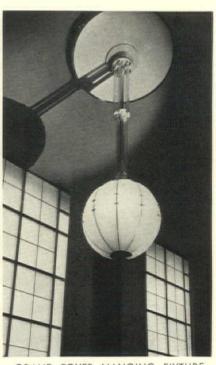
SECOND MEZZANINE LOUNGE. Walls and ceiling, silver with stippled gray opaque glaze. Furniture, Australian blackwood and Padouk, covered with blue fabric. Decoration, in black on silver, by Hugo Gellert represents a strip of film. Eugene Schoen & Sons, decorators



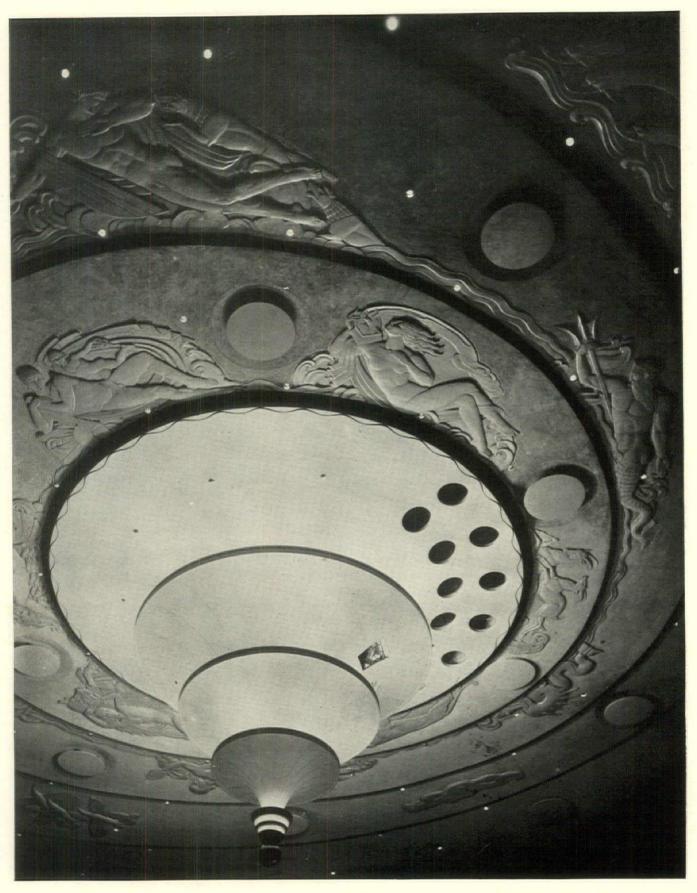
GRAND FOYER LIGHTING FIXTURE



GRAND LOUNGE CEILING FIXTURE



GRAND FOYER HANGING FIXTURE



CENTRAL LIGHTING FIXTURE in theatre auditorium, called the world's largest chandelier. It is twenty-five feet in diameter and weighs about six and a half tons. Openings in upper ring are for stage spot lights. Opening in second ring is for control observation. Small spots in ceiling are star lights. Chandelier designed by Foster Gunnison and built by Cox, Nostrand & Gunnison. Ceiling modelled in white plaster from designs of Rene Chambellan



SIDE AND STREET ELEVATION

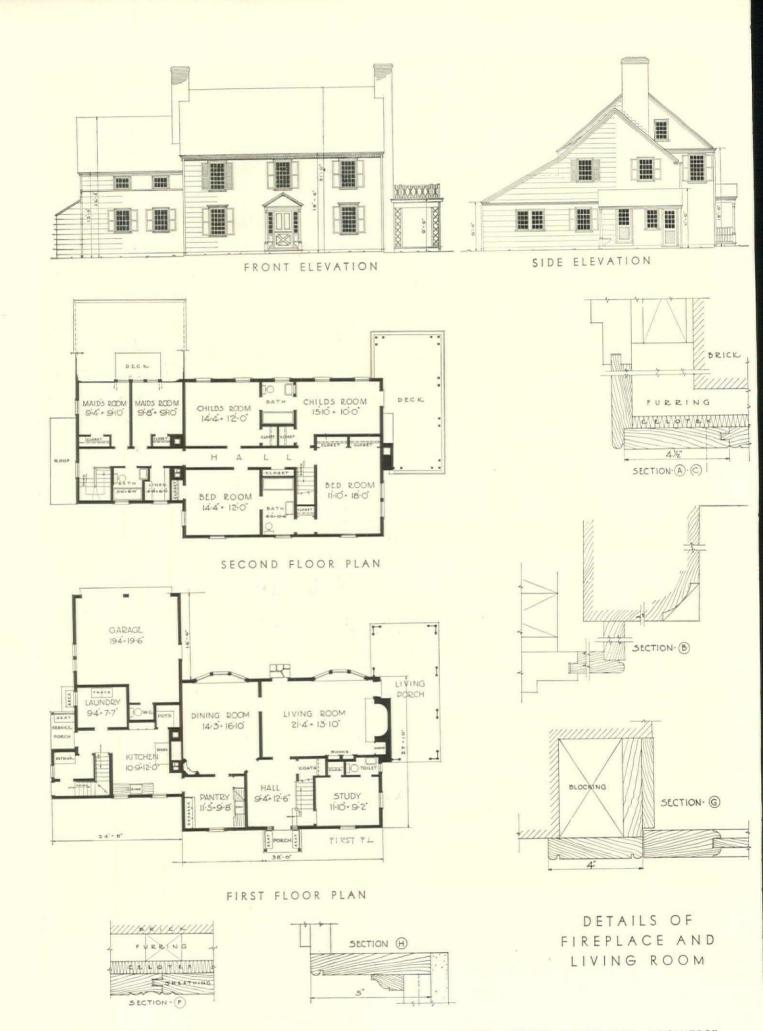


VAN ANDA

GARDEN ELEVATION

HOUSE OF HAROLD SATTERLEE WILLIS GREAT NECK, LONG ISLAND

ROGER H. BULLARD, ARCHITECT



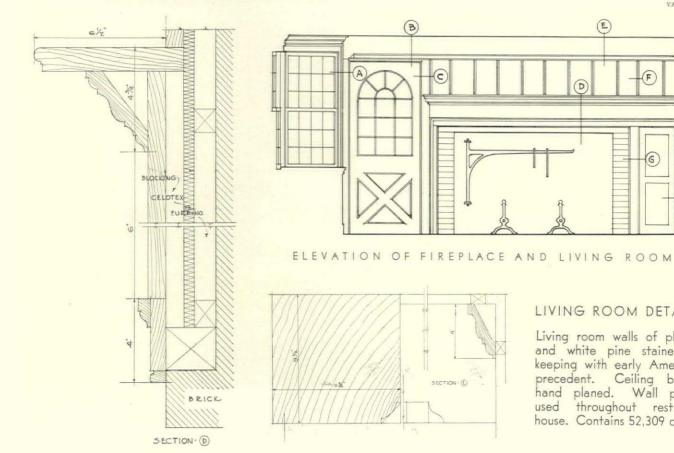
HOUSE OF HAROLD SATTERLEE WILLIS, GREAT NECK, LONG ISLAND. ROGER H. BULLARD, ARCHITECT

AMERICAN ARCHITECT



VAN ANDA

F



LIVING ROOM DETAILS

E

Living room walls of plaster and white pine stained in keeping with early American precedent. Ceiling beams hand planed. Wall paper used throughout rest of house. Contains 52,309 cu. ft.

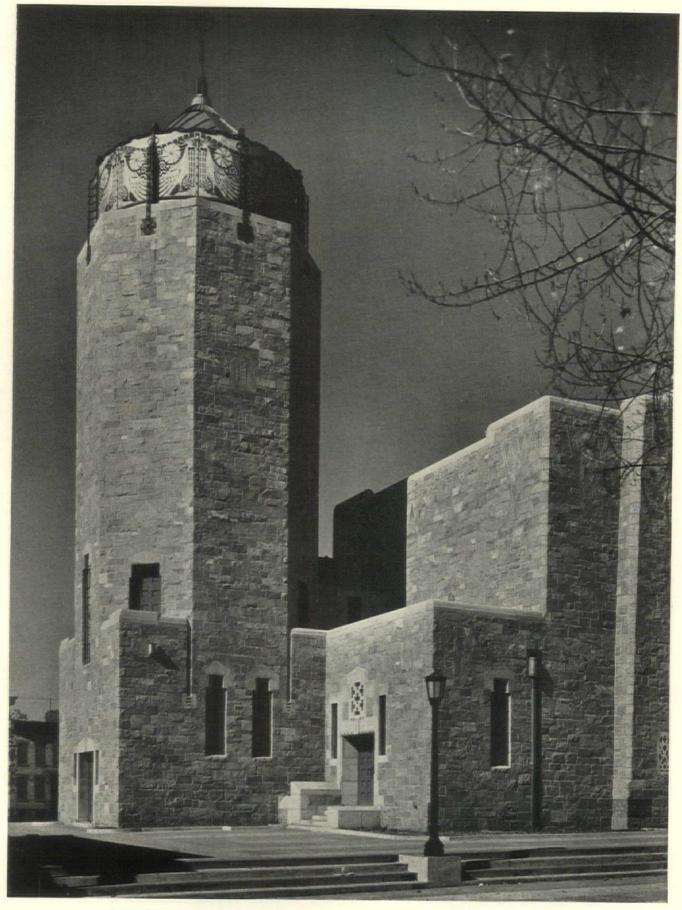
HOUSE OF HAROLD SATTERLEE WILLIS, GREAT NECK, LONG ISLAND. ROGER H. BULLARD, ARCHITECT



VAN ANDA

MAIN HALL AND STAIRWAY

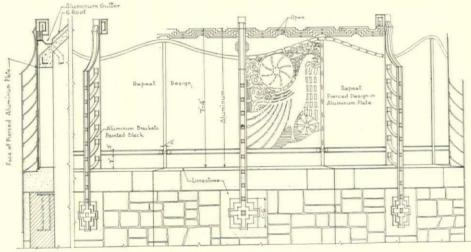
HOUSE OF HAROLD SATTERLEE WILLIS, GREAT NECK, LCNG ISLAND, ROGER H. BULLARD, ARCHITECT



CHURCH OF THE MOST PRECIOUS BLOOD
ASTORIA, NEW YORK CITY

OFFICE OF HENRY J. McGILL, ARCHITECT Photographs by Samuel Gottscho ALUMINUM forming the crowning feature of the tower harmonizes in color with the warm gray masonry of the walls. The roof is of aluminum as is the pierced circular side wall of the bell chamber. The pierced metal is satin finish, the brackets black





EXTERIOR masonry is of seam face granite mixed with ten per cent split face. Color varies from light, warm gray and russets to cool tones of green and purple. Copings and trim, limestone. Rear and portion of side walls faced with wire-cut brick in varied shades of red and a small percentage of yellow and light green

PLAN.

Limestone Coping

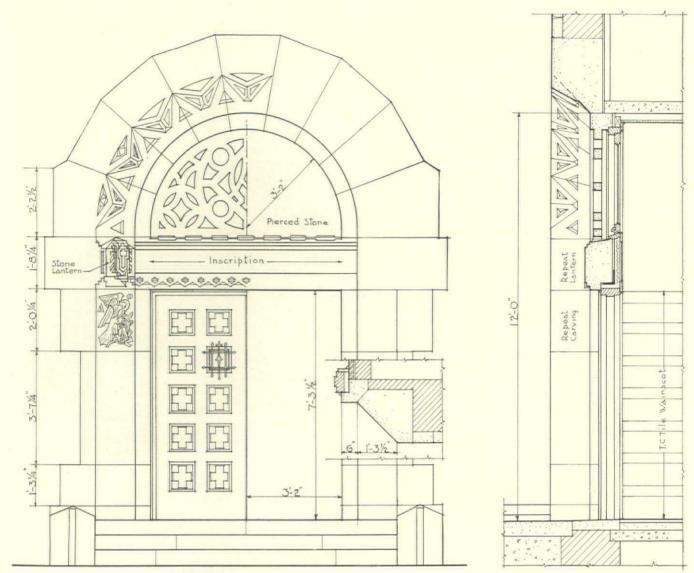
PLAN.

36 Pierced Aluminum Plate

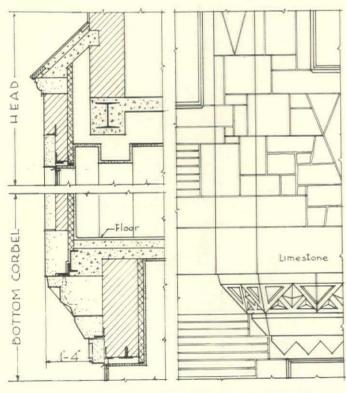
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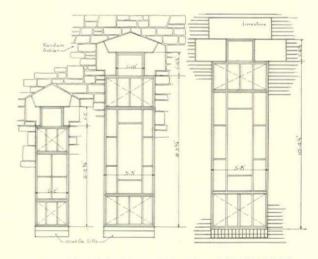
DETAIL OF
BELL TOWER
TERMINAL
MOTIF



DETAIL OF MAIN ENTRANCE. NOTE USE OF PIERCED STONE LANTERN TO LIGHT ENTRANCE DOORWAY



DETAIL OF BAY WINDOW IN VESTRY

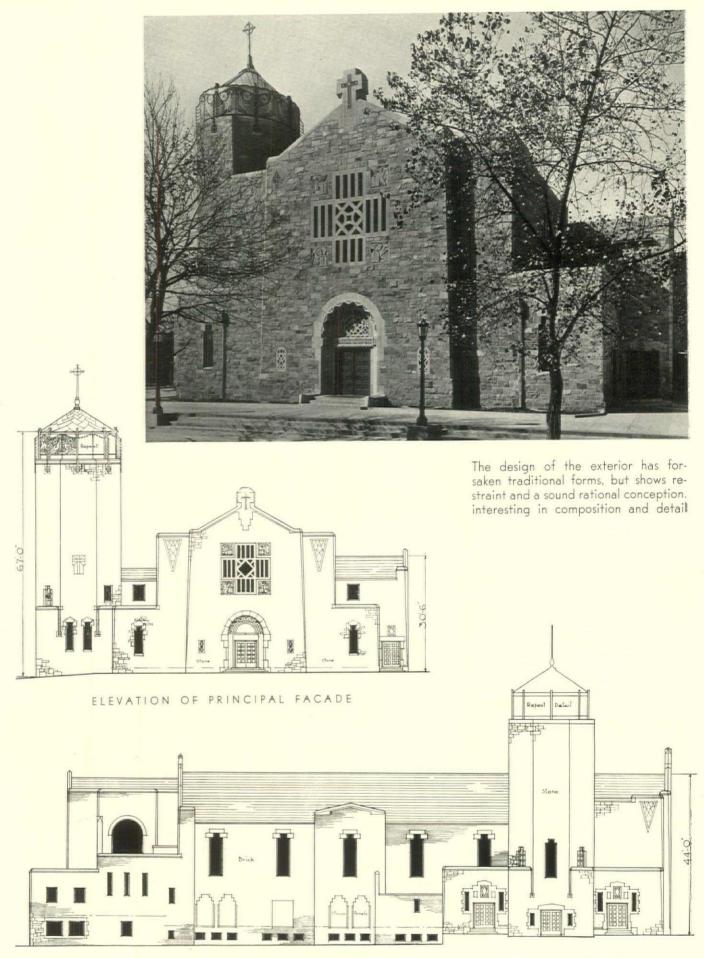


ELEVATIONS OF TYPICAL WINDOWS

CHURCH OF THE MOST PRECIOUS BLOOD

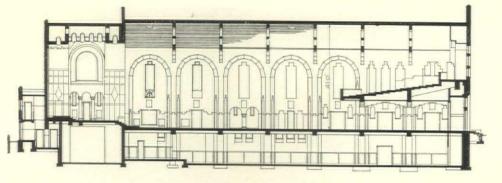
ASTORIA, NEW YORK CITY

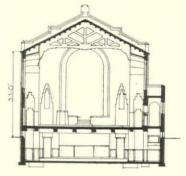
OFFICE OF HENRY McGILL, ARCHITECT



SIDE ELEVATION

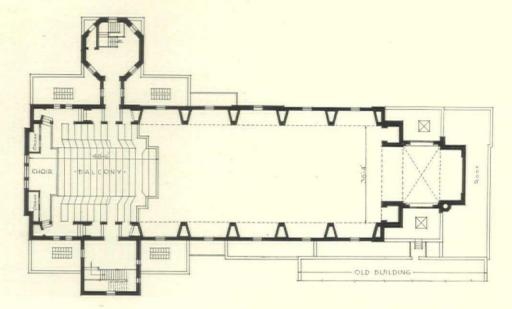
CHURCH OF THE MOST PRECIOUS BLOOD, ASTORIA, NEW YORK CITY, OFFICE OF HENRY J. McGILL, ARCHITECT



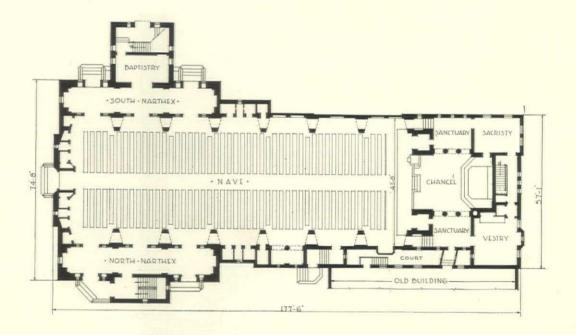


LONGITUDINAL SECTION LOOKING TOWARD NORTH NARTHEX

TRANSVERSE SECTION

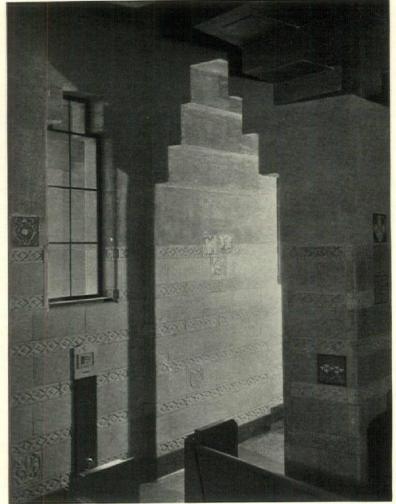


BALCONY PLAN

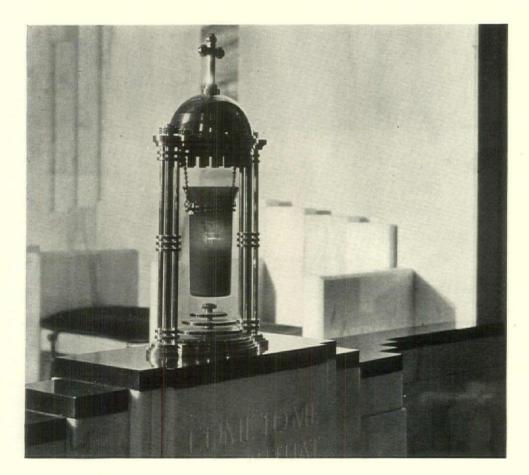


PLAN OF CHURCH FLOOR: A North and South Narthex, at either side, replace a single Narthex across the end to provide a nave of maximum length. Confessionals are placed on end wall on either side of main portal. Spur walls are effective in securing impression of weight in side walls

Upon the back wall of the sanctuary shown on the facing and following pages is the crucifixion executed in marble. The cross is of St. Victor rose marble, white with pink veining, inlaid with a mosaic of Numidian red marble. The corpus is of white statuary Carrara marble



HERBERT



The wainscot of the side aisles shown above is of matt glazed terra cotta. Base is dark mottled green; wall, mottled brown; symbolical inserts, polychrome. Interior walls, acoustical plaster. Floors, terrazzo and asphalt tile

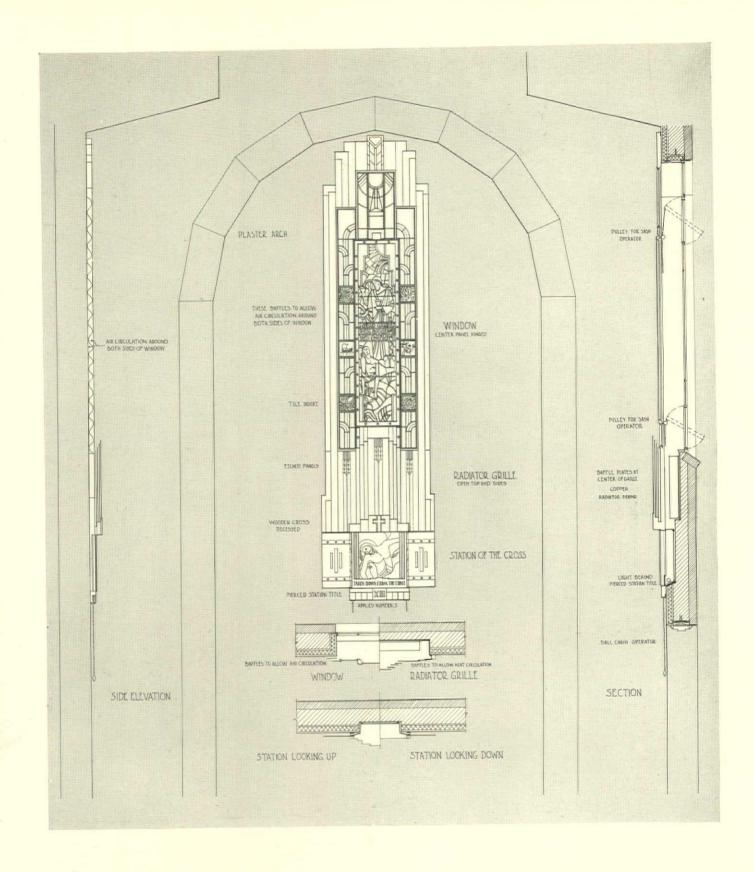
Sanctuary Lamp, shown at left, is of ruby glass in a frame of bright chrome steel with discs of brass. Mounted on a pedestal of St. Victor rose marble, with Belgian Black marble cap, it replaces the traditional hanging lamp and avoids obscuring the congregation's view of the crucifixion

DETAILS OF THE INTERIOR



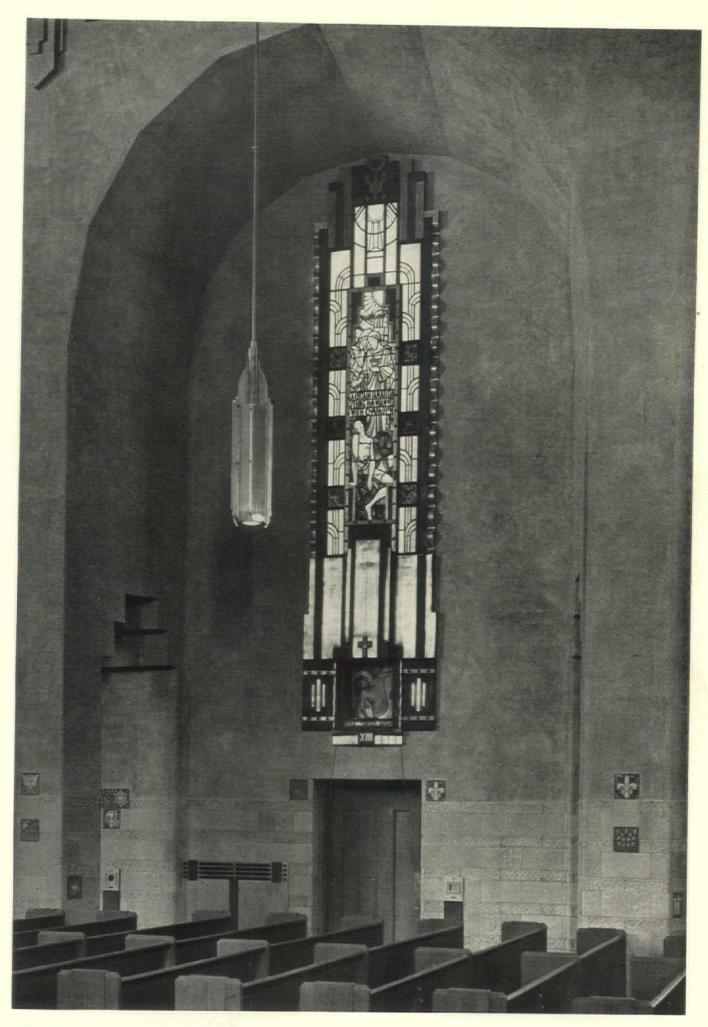
INTERIOR OF NAVE LOOKING TOWARD SANCTUARY

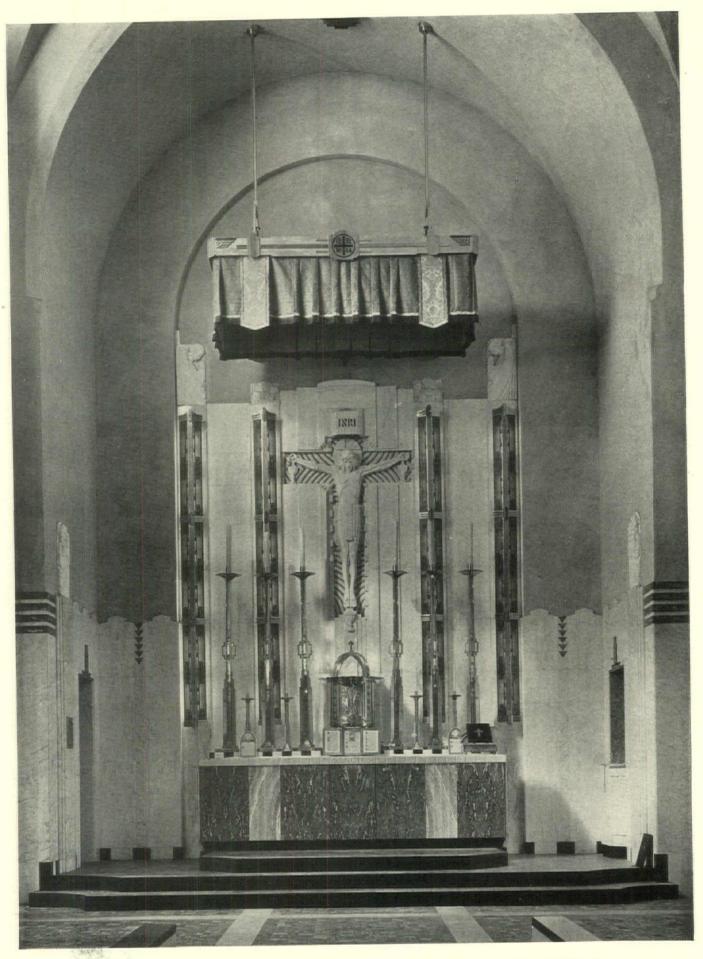
CHURCH OF THE MOST PRECIOUS BLOOD, ASTORIA, NEW YORK CITY, OFFICE OF HENRY J. McGILL, ARCHITECT FOR DECEMBER 1932



DETAIL OF TYPICAL WINDOW IN NAVE

Windows consist of wire glass in steel frame and an inner decorative draft-deflecting screen of leaded glass set in an aluminum frame. The colored glass is clear, using a minimum of painted work. The pictorial panel is surrounded by opalescent glass of rose, amber and mother of pearl tints, and inserts of Spanish tile. Stations of the cross by D. Dunbar Beck, Conrad Schmitt Studios





DETAIL OF SANCTUARY. SCULPTURE BY HAZEL CLERE

CHURCH OF THE MOST PRECIOUS BLOOD, ASTORIA, NEW YORK CITY, OFFICE OF HENRY J. McGILL, ARCHITECT

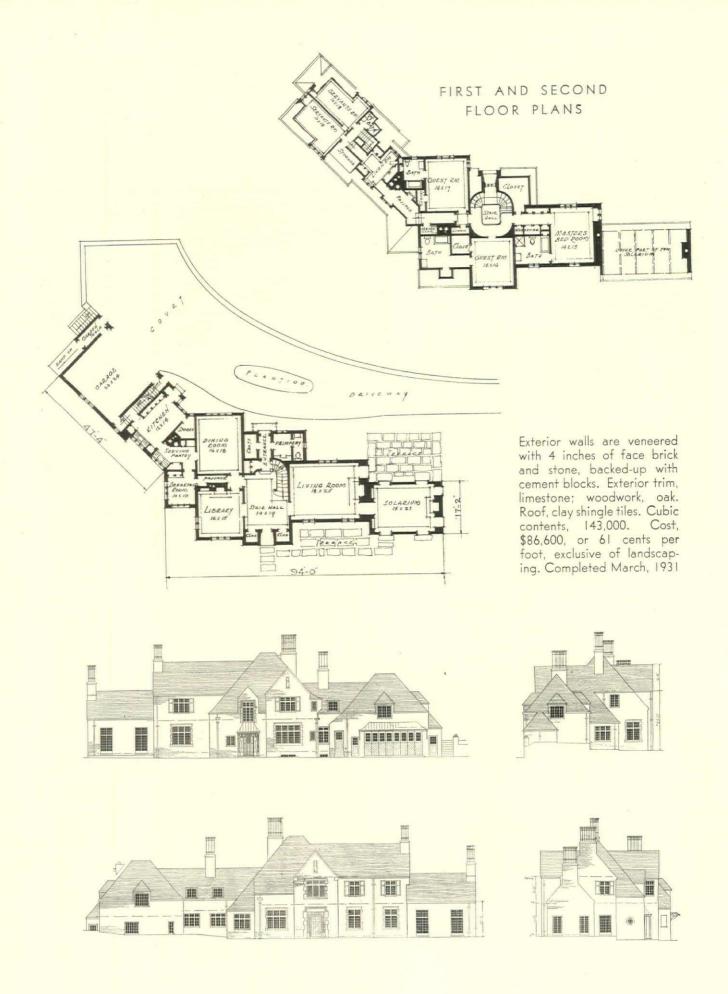




MAIN AND DRIVEWAY APPROACH ELEVATIONS

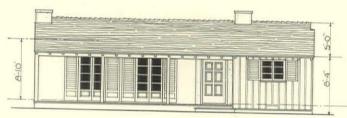
HOUSE OF R. J. RAMER, ANDERSON, SOUTH CAROLINA

HENRY IRVEN GAINES, ARCHITECT

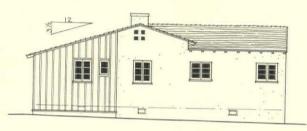




Soft yellow ochre stucco, brown-grey redwood posts and sheathing and thick butt random laid shingles of weathered grey establish the exterior color scheme



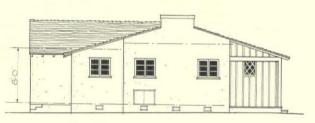
FRONT ELEVATION



SIDE ELEVATION



REAR ELEVATION



SIDE ELEVATION

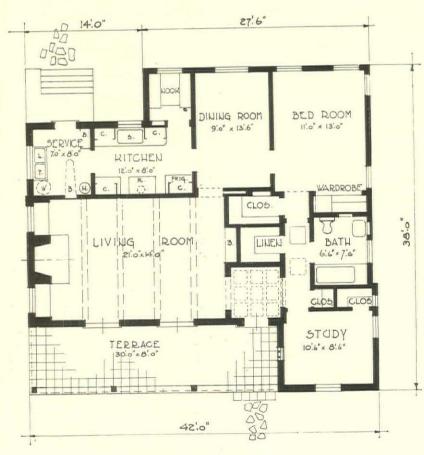
Exterior walls: stucco in wavy texture; study walls of I" redwood boards 12" wide with joints covered by 2l/2" battens laid over an insulating paper. All exposed woodwork rough sawn. Roof: wood shingles, factory stained. Terrace and walks: colored cement in tile and flagstone forms. Woodbox beside living-room fireplace serviced from outside. Warm air heating. Cost \$5,000, or 33 cents per cubic foot. Volume: 15,400 cubic feet. Completed January, 1932

HOUSE OF WILLARD B. MERRICK, LA MESA, CALIFORNIA

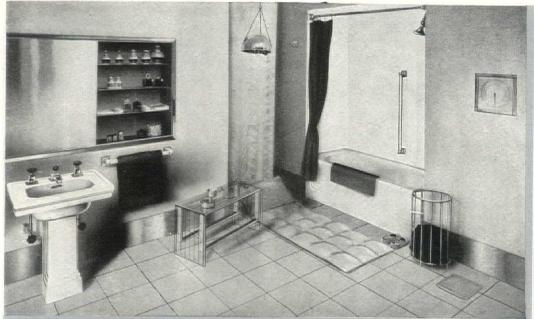
HERMAN LOUIS BODMER, ARCHITECT



END OF LIVING ROOM, LOOKING TOWARD THE ENTRANCE HALL



HOUSE OF WILLARD B. MERRICK, LA MESA, CALIFORNIA. HERMAN LOUIS BODMER, ARCHITECT



As shown in the "Standard" Bureau of Design Development



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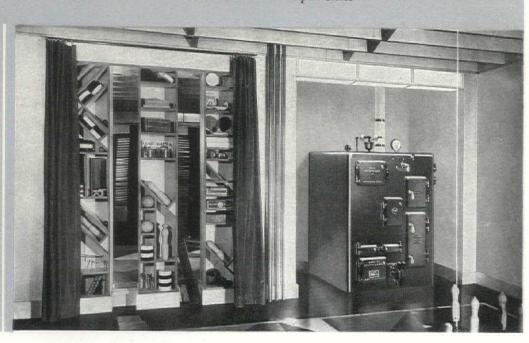
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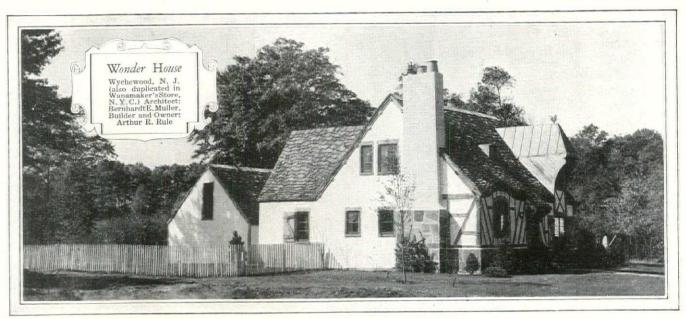
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Wonder House ... sponsored by John Wanamaker's and Pictorial Review Heated by an Arco-Petro Automatic Boiler

N Wychewood, a unique residential development at Westfield, N. J., a "Home Architectural Center" has been created. Wonder House is one of several demonstration houses now in process which will constitute a permanent exhibit of the best types of residential architecture in America. It includes the work of Ernest Flagg, Louis Bowman, Bernhardt E. Muller and others.

Mr. Muller specified oil heat, which enabled him to provide a panelled recreation room 30 x 15 feet in the basement. Mr. Rule, President of Wychewood Corporation, and builder and owner of Wonder House, selected the new Arco-Petro Automatic Boiler, a joint product of Petroleum Heat & Power Co. and American Radiator Co. This is a boiler and burner in a beautiful, self-contained, automatic unit, that also provides all the necessary domestic hot water both summer and winter. Though it costs no more than a comparable boiler alone, actual experience over several years has proved that it cuts heating costs from one-third to one-half.

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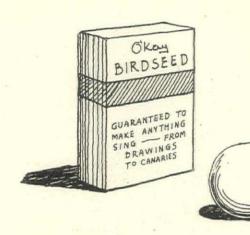
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Birdseed

VERSUS

The China Egg

BY ALFRED M. BUTTS

In which the poor down-trodden draftsman replies to Charles S. Kyson

SCAR PEEP threaded his way through the crowd cautiously, for he carried treasure. He held a tray, and on the tray rested a bowl of soup. His destination was a table in the corner already occupied by three others.

"Hi, Oscar. What makes you so late?"

"Only just finished a little conversation with the boss which included the information that I was fired."

"Hurrah. That makes it practically unanimous. What was the matter? Did the old man tell you he wouldn't need you any more, as his brother-in-law's cousin had a son who just finished college and couldn't get a job anywhere, but needed practical experience so he was willing to work for nothing?"

"No, it wasn't that this time. I think the real trouble was something went wrong on the Jones job and he took his grouch out on me. He gave me a long talk about overhead expenses and finished up by telling me I was the world's champion cross-hatcher and birdseed artist. Well, if I'm that, then he's the world's champion china egg."

"China egg? You mean he's hard-boiled?"

"Say, Charley, is that all you know about eggs? A china egg is lots worse than a hard-boiled one. I mean that no matter how many times he gets in the right place he never hatches into anything."

"Oh, boy! Did you tell him that, Oscar?"

"No. That's one of my weak points. I never think of those things until after it's all over."

"That sure is tough. But it does make me sick the way these bosses are always yelping about overhead. If an architect's overhead is high, it's his own fault. The draftsman has very little to do with it. In the first place, when there's plenty of work to be done the overhead is cut 'way down and it's the boss who's supposed to bring in the jobs. If we have nothing to do but twiddle our thumbs, it's his fault; not ours. And in the second place, the architect runs the office, not the draftsman. If the organization doesn't run smoothly, the overhead jumps up, but it's the boss's place to see that it does run smoothly."

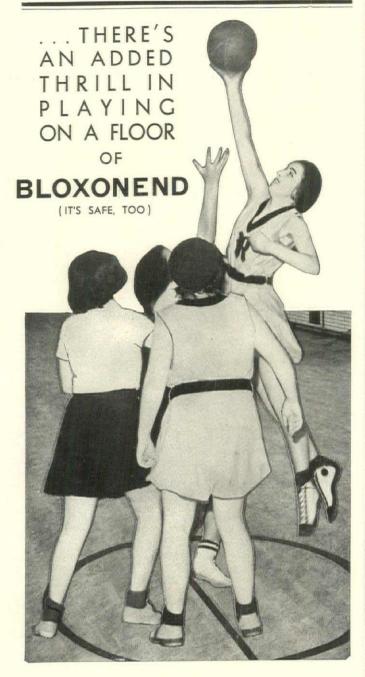
"You're right, Jim. You know what my old boss used to do? He'd spend half his time writing articles for magazines and newspapers. Of course the publicity racket is great, but with the typing and re-typing his stuff took almost the entire time of a secretary. If he

ever got anything for his junk, he'd put the cash in his pocket and forget that it was part of the office income, that his secretary's salary was on the office payroll and counted as overhead. But he would yell at me if I took time to put down an F pencil and pick up an HB."

"Yeah, it's just that sort of thing that gets my goat. They are always telling you nowadays that working drawings are simply instructions to a bunch of mechanics showing them how a certain building is to be constructed. But the man who draws those instructions is supposed to have a sense of beauty. You can't design a swell entrance doorway, if you haven't got some beauty in your soul, and, if you have that, you aren't going to turn out a drawing that looks like the scribblings of a man holding a telephone conversation with his mother-in-law."

"All that may be true, Oscar, but it smacks too much of aesthetics. That is great stuff for the reception room, but it's no go in the drafting room. This is my slant. The first real use of a set of working drawings is to get a figure for the cost of the work. Now, if the contractor and his subs can see at a glance just what the work is, if the cross-hatchings and birdseedery, as your boss calls it, show exactly where one material stops and another begins so that it's easy to take off quantities, then the figures are going to come in a lot lower than if everybody has to do a lot of guess work."

OU got the dope, Joe. One of my boss's favorite stunts was to come rushing into the drafting room and declare the drawings had to be sent out for printing the next day; we'd already spent too much time on them. The result was somebody had to spend the entire next two weeks at the telephone answering contractors' questions as to what the drawings meant. The reason the drawings took so long was because the boss spent so much time on the preliminary sketches. He couldn't decide whether the facade should be Georgian or Colonial. Then some of these birds always like to pull the stories of how so-and-so had a large mausoleum to design, cost about a million and a half and the drawings alone, without supervision, cost the architect seventy-five thousand or five per cent. Not that I doubt the tale at all. There are guys that call themselves architects who are just in this game for a hobby. They have plenty of jack of their own and don't expect to make a profit. They like to have drawings made on vellum,



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with hand-painted borders. Then the architects who are really trying to get somewhere with their business throw such stories at their draftsmen."

"Speaking of borders reminds me of what the old boy pulled on me some time ago. He called me into his private office and shot off a long line about how my salary was sixty-five dollars (don't get excited—I said this was some time ago) and it took a certain amount of time to put a border on a drawing. He finally figured out that it cost him one dollar and forty cents for me to draw that border. Then he wanted me to think how much he could save if those borders were all printed or stamped on the sheets. I had to be polite so I couldn't tell him exactly what I thought. My life ambition isn't to draw borders. If he were a good job-getter, he'd have so much work in the office that I wouldn't have any time to draw borders. I could work through a detail and then turn it over to the office-boy to birdseed it up."

"What gets me is that so many architects don't realize what a draftsman is up against. They drift through a college course on architecture, land a soft job for a couple of years, and then start out for themselves. A lot of their time is spent just hanging around the club. That's O.K. with me. I know you can get a lot of jobs just hanging around the right club, but the draftsman has a different row to hoe. He does nothing but sit on a stool and grind out pencil dust, on paper and off. Yet, if the boss comes in from the club and finds him taking ten seconds off to walk over to the water-cooler (I'm speaking of the old days when there were such expensive things in an architect's office), he blows up.

NOTHER thing; I read some where lately about a A wonderful method of drawing details. You're supposed to start the elevation in such a position that you'll have room on the same sheet to draw the plan at the bottom and the section at the side. So when you get stuck in the elevation you can project down to the plan and over to the section and study it all out. The result is supposed to be a perfect detail. Maybe I'm not experienced enough to know, but it does seem to me that the result will be a smudge instead of a drawing, unless you use so hard a pencil that the thing won't blueprint. My scheme always was to make a quick rough study of elevation, section, and plan on separate pieces of tracing paperit's easier to work one over the top of the other-and then trace the three on one sheet, making a clean, clear drawing and taking little, if any, more time. Probably that's just birdseed today."

"That's just what I used to do, Charley. I thought it gave the boss a chance to make any changes he wanted to, without messing up a finished drawing. But it didn't do any good. He could always think up changes after I finished tracing the rough studies. He loved to come in, take out his big black pencil, and then draw terrible crosses all over the place to show where he wanted changes. I'd spend hours trying to erase the things and then his marks would still show enough to come out in the blueprint. I guess I'm foolish, but I always have a respect for another fellow's drawing, even if I don't like it."

"Well, boys, what we really need is four soap boxes. We've wasted a bunch of speeches here. Let's call this session of the Automat Atomizers closed. The rest of us can start the round of looking for a job once again, while Oscar goes back to his china egg."

The Readers Have a Word to Say

 UNCONTROLLED SIGNS MAR BUILDINGS

Editor, AMERICAN ARCHITECT:

A S your magazine has been publishing so many interesting and diversified articles, I thought it would be interesting to show you what has been done to two projects which we have designed within the last few years here in Washington and what the owners have done to them.

First—A little bank on the outskirts of Washington, on one of the main avenues; built of Briar Hill Sandstone, with a marble doorway. There was enough interest in this to have Mr. Moore, of the Fine Arts Commission, make a particular research for the head of L'Enfant, which is the bas-relief to the left of the doorway, the other one being of Washington. Lately they have put up a burglar alarm on the stonework in the corner as shown. Is it any use to design buildings to make our cities look better and have them treated in this manner?

Secondly—We designed a group of buildings called the Parking Stores, with a large space in front of them to be used by patrons of the stores for parking their cars. On the main street front of this particular group front we designed a little drug store in the Colonial Style, simple, and we thought straightforward. I enclose a photograph of the building as it is now, and, ask again, "What's the use?"—Arthur B. Heaton, Architect, 1211A Connecticut Avenue, Washington, D. C.

A BUILDING OWNER RAISES A LEGAL QUESTION

Editor, AMERICAN ARCHITECT:

N your October issue you explain in part a matter on which I have been seeking information. In the article entitled "Damage Suits Against Architects for Negligence" the author explained it is incumbent upon the owner to secure the services of a clerk-of-the-works. We have a problem that has been an argument from the start.

An architect drew the plans and specifications for a building, and in his contract he specified that he is to recommend the clerk-of-the-works, and that this man is to come out of his office. I have been insisting that the architect had nothing to do with selecting the clerk-of-the-works, inasmuch as the article referred to states that it is incumbent upon the owner to select the clerk-of-the-works. In many cases I believe it good policy to request the architect's opinion on the subject, but due to the fact that we have a capable man for that position, I do not think it is necessary in this case.

I figure that the owner is paying this man and he has a right to hire him, but the architect persistently insists that this man be from his office. In case we did select our own man would that release the architect from his responsibility?—William M. Schlitt, Bay City, Michigan.

Editors' reply, condensed: The clerk must in a large measure represent the architect in the interpretation of





Uncontrolled Signs Mar Buildings

plans and the approval of materials and workmanship. Hence if the architect is not permitted to select a clerk in whom he has full confidence it would appear that the owner should relieve the architect of responsibility beyond normal supervision, and should be prepared to reimburse the architect for any extra work or costs incurred as a result of the activities of the owner's clerk-of-the-works. Mr. Blake stated in the article referred to "it is incumbent upon the owner to secure the services of a clerk-of-the-works."

GOVERNMENT EXTRAVAGANCE IN DESIGNS AND SPECIFICATIONS

Editor, AMERICAN ARCHITECT:

OUR comments on absurdities in government specifications, in the September number, give rise to other questions, particularly in view of the feeling now generally abroad, that government work is needlessly

extravagant and expensive.

The first of these that naturally comes to mind is, How can gold plating of any kind, in any government building, be justified, not even excepting the White House itself, let alone officers' and N. C. O. quarters? Is not this a very good example of extravagance in government work that is absolutely unwarranted, no matter from what angle the subject is considered?

Lately another item of waste in the preparation of government drawings and specifications has come to my notice, and that is the full detailing and specifying of standard articles that can be purchased in the open market, and that are made by so many concerns that there is no possibility of a monopoly. One example of this that I particularly noted was the full detailing of an ordinary lighting standard, when there are enough standard designs on the market, to satisfy any ordinary conditions of lighting of roads and grounds that are likely to arise.

Another instance was the full detailing, down to the last bolt and nut, of an ordinary 6-inch hydrant for fire lines. Again there are enough standard designs of hydrants on the market to satisfy practically any condition, the only thing to take care of being the threads for hose

connections.

It is a pity that there are so many government employes, evidently high in authority, who do not seem to realize that they are violating a trust when they waste the people's money, and that sooner or later there is bound to be a reckoning.—J. Harrington Gandolfo, Consulting Engineer and Architect, Montclair, N. J.

GOOD WORK FROM ALL LOCALITIES IS DESIRED

Editor, AMERICAN ARCHITECT:

// OW can the architects of the Middle West be made to feel that the architectural magazines are as glad to publish their work as those from any other locality—of equal merit?" Of course the last phrase is the all important one but we have all seen many articles or at least photographs of Eastern work far inferior to many unpublished works of the same type designed and erected in the Middle West by native talent. The question is are we, out here, hiding our lights under a bushel or are we ignored "because we think we are ignored"in other words, because we do not cooperate with our professional publications and send them material for possible publication? How much should architects do to get their best work published and how far should the publications go in traveling about trying to find the architectural gems tucked here and there?—Dale R. Mc-Enary, McEnary & Larson, Architects, Minneapolis, Minnesota.

Editor's Note: It is the editorial policy of AMERICAN ARCHITECT to publish work representative of every section of the United States. This is a large country and unfortunately the editors cannot personally cover it with sufficient frequency to find those hidden gems that often lie off beaten paths. Humanly, the editors have to choose from the material that is submitted to them or that they personally discover in their travels. The predominance of editorial offices in the East unquestionably tends toward the publication of more Eastern work than from

other parts of the country. The editors thus must rely upon architects themselves in all parts of the United States to write in, telling of work they are doing or have completed and wherever possible, to submit photographs of such work for possible publication. The addition of a 32 page plate section in AMERICAN ARCHITECT broadens the opportunity to publish the most interesting work from every section.

THE PARADOX IN MONEY-MAKING

Editor, AMERICAN ARCHITECT:

AM very much interested in articles on Office Practice, as that should be a topic of vital interest just now, when we must adjust production costs to incomes based on reduced building costs, at the same time rendering better and more expensive service to our clients. I confess I do not see the answer as yet.

Practitioners who skimp their service, or who are so brilliantly endowed that they achieve results with little study, have a chance to "get by" nowadays, but we find difficulty in maintaining a practice of the higher type,

and even making costs.

I would like some light on this from others.—Harvey A. Schwab, Schwab & Palmgreen, Architects, Pitts-

burgh, Pa.

Editor's Note: Architects who can suggest practical means of reducing office costs without loss of quality standards, are invited to submit short articles, preferably based on actual experiences. Usual rates will be paid for all articles accepted.



How to Avoid Cracks

(Continued from page 40)

Lintels of Type 4 carry loads that become active after the masonry is in place and the mortar set. Fig. 5 is an example of this. This is exactly the same as Fig. 4, except that the lintel carries part of the floor load. This should always be avoided where possible, especially if the opening is wide, such as a store window. If it is necessary, on account of structural or architectural requirements, to combine the floor construction with the lintel, the supporting member should be designed as described above, for Type 3. In such cases expansion joints should usually be provided to allow a certain amount of movement without damage. If possible, however, a separate member should be provided to carry the floor, as shown in Fig. 4, as this relieves the lintel of the variable and uncertain live load.

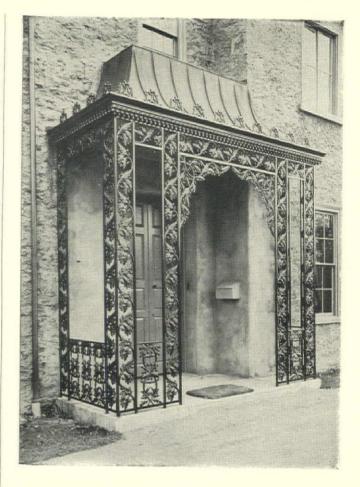
A NOTHER example of Type 4 lintel is that over window F in Fig. 3. In this case, the mortar in the spandrel will have set and hardened before the pier between the windows of the upper stories is built. Unless special provision has been made for this, cracks will develop at the haunches. The lintel should be designed for stiffness, as described above. In addition, if possible, the masonry at the ends of the spandrel should be left out and filled in after the wall above is built. If not, at least, the joints should be raked out and repointed.

The anchorage of ashlar facing and support of soffits frequently requires very careful study for both stone and terra cotta. Much makeshift work on the job and trouble later will be avoided by making well studied details of these cases. Fig. 6 is an example of the proper support of stone facing, and it would apply with little change to terra cotta. The soffit stone should be jointed, unless the span is such that it will be self-supporting, in which case the hanger should be omitted. If this lintel had been designed with an eye to economy of steel only, something like Fig. 7 would have developed. This brings live load on the lintel, (undesirable) and the support of the stonework in the field is more difficult.

In a brick wall, it is sometimes desirable for architectural reasons to omit all steel members in the soffits of windowheads and show only brick. This can be accomplished very satisfactorily by placing reinforcing rods in the joints. It is preferable, though not essential, to set one "soldier course" of bricks over the head of the window. The wood forms, on which the brickwork is built, should be left until the mortar has hardened.

An example of this construction is shown in Fig. 8. A 3/8" round rod in each vertical joint is sufficient for spans up to about five feet. Longer spans and shallow spandrels should be figured the same as reinforced concrete beams.

In walls built of terra cotta or concrete building blocks, the voids in the blocks over the windows may be filled solid with concrete and reinforced with rods, as in Fig. 9-a. Such lintels should be pre-cast and allowed to harden for some time before they are set in place. These lintels are heavy and difficult to handle and sometimes delay the job. A better method is to use reinforced concrete, cast in place, with a facing of thin blocks. The angle shaped tile, known as "header backer tile," shown in Fig. 9-b, is suitable for this purpose.



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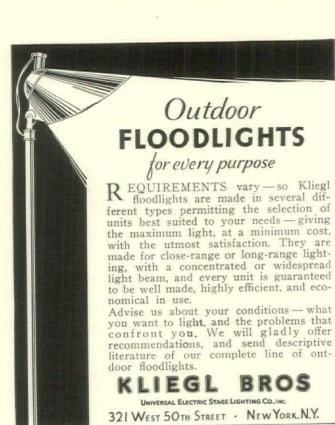
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Of AMERICAN ARCHITECT, published monthly at New York, N. Y., for October 1, 1932.

State of New York County of New York ss.:

Before me, a Notary Public in and for the State and county aforesaid, personally appeared R. F. Gardner, who, having been duly sworn according to law, deposes and says that he is the Business Manager of the AMERICAN ARCHITECT and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of Aug. 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, International Publications, Inc., 959 8th Ave., New York City; Managing Editor, Tyler Rogers, 959 8th Ave., New York City; Business Manager, R. F. Gardner, 959 8th Ave., New York City; Business Manager, R. F. Gardner, 959 8th Ave., New York City.

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R. F. GARDNER, Business Manager.

Sworn to and subscribed before me this 30th day of September, 193 (Seal) G. E. STAHL.

Notary Public Queens County No. 1802. Reg. No. 5950. Certificate filed in N. Y. County No. 83, Reg. No. 3S74. Commission expires March 30, 1933.

Modern Spirit Enters Church

(Continued from page 17)

successfully attain a "mystic" character without monumentality was sufficiently demonstrated in the Fourteenth Century when architecture, not without a struggle, transformed itself from Romanesque weight and shadow into the lightness and luminosity of cathedrals made almost wholly of glass. This lightness and luminosity is recaptured in the Stahlkirche where the immense windows recall those of the St. Stephens in Vienna and the Sainte Chapelle of Paris. The Stahlkirche is indeed a modern Sainte Chapelle. The architect of Sainte Chapelle, deprived of his stone cutters and given a command of steel framing, would have built like this.

HE extensive use of glass in the Stahlkirche and the frank use of slender metallic supports resulted in a surprising grace and spirituality of effect, but it must be admitted that this did not wholly compensate for a certain monotony and even restlessness that was the result of so extensive a use of patterned surfaces. The glass was, emphatically, not so good as at Sainte Chapelle.

A more successful experiment, in some respects, is the church built at Miskovice, in Czecho-Slovakia, by Mr. F. L. Cahura. Here the steel frame is not exposed, but its lightness and metallic quality are expressed by the thin membrane-like wall unloaded by ornament. The windows are small, except in the chancel where the architect has exploited one of the resources of his medium by the introduction of angular windows which give greater luminosity, and greater interest to the chancel. The interior, finely architectonic, has a reposeful simplicity of character.

ANY churches of the type of that at Miskovice have been built recently in Central and Southern Germany. The church by Volkart and Trudniger, near Stuttgart, is a good example. I cannot see how anyone can fail to recognize the sincerity and directness inherent in this design. If there is such a thing as a Christian expression in art it must surely be like this, sincere, honest and intelligent. I think that the Christians of the First Century had they possessed our technique would have built like this. They were Greeks and would have understood that profound emotion is impossible, either in religion or in architecture, without intellectual assent.

I think that the Christians of the First Century would have delighted in interiors like that of the Evangelical Church built last year at Cologne by Mr. Theodore Merrill. I see here the quality of Christianity as it existed before Rome gave it a political character and the North transformed it into a religion of fear; and before we gave it the last devastating touch of romance. The simple rendering of structure, the quiet adaptation of form to ritual, lucid planes and clear untroubled light are, I think, wholly congenial to Christian expression. They are, I think, most beautiful.

Beauty is not something added to a building. Beauty is not scholarship. Beauty is not technique. Beauty is not expense. Beauty is a spirit; and when she enters a building she dwells at its heart, informing all of its fabric with an inward and mystic radiance.

What Architects Are Talking About

(Continued from page 29)

the Julius Rosenwald Fund. While no conclusions are offered or recommendations made, a commentary chapter states that there is a demand for information by the public, that definite results are usually obtained by campaigns directed against a specific disease, and that campaigns must be conducted over long periods of time. This report also frowns upon personal advertising by physicians, but approves group educational advertising.

There is a noticeable trend toward the acceptance of paid group advertising by professional bodies. The idea is sound in principle and one that can be utilized to the mutual advantage of such groups and the public.

THE Bureau of Standards has found that the sound absorbing properties of air vary with the temperature, moisture content, and barometric pressure. Air conditioning, which affects two of these three properties of air, may thus influence the acoustical characteristics of a room. Research paper No. 465 reports these findings in detail.

ASHINGTON Architects, Incorporated, has been formed in Seattle for the purpose of stimulating activity and to secure continued recognition of local professional service in Federal work. The Seattle Chamber of Commerce has formally approved the organization, which is state wide in scope and embraces the A. I. A. and the Washington State Society of Architects.

A LBERT A. RUMSCHIK, architect, formerly associated with Bley & Lyman, Architects, Buffalo, N. Y., has opened an office for the practice of architecture at his residence, 410 Parker Ave., Buffalo, N. Y.

S OMETHING after the manner of "money, money everywhere—but never a cent for building," "The Constructor," published by The Associated General Contractors of America, recently said:

"One year ago facts pointed to the necessity for decisive action in launching construction work as a first essential to the reconstruction of the business life of the United States. The Governing Boards of the Associated General Contractors at that time openly recognized those facts and courageously proposed a program which, if applied, promised to create employment, stimulate business and break the vicious downward cycle.

"That program, to provide financing for needed self-liquidating projects, was so obviously necessary and sensible that it overcame all opposition. It provided a sound basis for returning confidence. The promise of activity bolstered drooping spirits, provided new courage and brought new hope.

"To date that promise has remained just a promise. Out of the \$1,500,000,000 allotted to the Reconstruction Finance Corporation not one man has as yet been put to work on even the few projects on which loans have been made. The program fostered by organized contractors is not being carried out with the speed that is required and which is an essential feature of that program. This is a situation which must be remedied or the beneficial results so far due to renewed hope and optimism will find themselves without a foundation of concrete activity."

THE 39th Annual Meeting of the American Society of Heating and Ventilating Engineers is to be held under the auspices of the Cincinnati Chapter of the Society at Hotel Gibson, January 23 to 25, 1933.

DURING 1931 and 1932, the Bureau of Labor Statistics, United States Department of Labor, studied the cost of building construction in fifteen cities in the United States. Data on 204 buildings, including houses, apartment houses, stores, office buildings and factories or warehouses, were obtained. The figures secured cover only the actual construction cost of the buildings exclusive of property cost, architect's fees, financing and so forth.

The average cost of materials entering into residential buildings was found to be 62.7 per cent, leaving 37.3 per cent for labor. In nonresidential types the relative percentages were about the same, making an average for both types of material 63.6 per cent; labor 36.4 per cent. It was found that the (Continued on page 87)



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proportion of labor and material costs varied widely. The figures, from the October, 1932, issue of Monthly Labor Review, giving breakdown percentages for fifteen cities combined were:

	(Residential)	
Class of Work	Material	Labor
Excavating and grading	. 1.5	98.5
Brickwork	. 58.4	41.6
Carpenter work (builders' hardware	2	
lumber and millwork)	. 67.1	32.9
Tile work	. 56.0	44.0
Concrete work	. 63.5	36.5
Electric wiring and fixtures	. 64.0	36.0
Plumbing	. 75.3	24.7
Heating and ventilating	. 79.7	20.3
Painting	. 33.4	66.6
Papering	. 38.5	61.5
Plastering	. 44.6	55.4
Roofing	. 67.7	32.3
Miscellaneous	. 75.2	24.8
	(Nonres	
Class of Work	Material	
Excavating and grading	. 14.5	85.5
Brickwork	. 63.3	36.7
Carpenter work (builders' hardware	,	
lumber and millwork)	. 62.8	37.2
Tile work	. 52.8	47.2
Concrete work	. 58.4	41.6
Structural Steel	. 81.2	18.8
Electric wiring and fixtures	. 63.9	36.1
Heating and ventilating	. 73.5	26.5
Plumbing	. 67.8	32.2
Plastering	. 33.7	66.3
Painting	32.8	67.2
Roofing		29.3
Glass and glazing		19.9
Elevators		19.4
Miscellaneous	76.7	23.3

Here	is	how	the	building	dollar	goes.
TTOTE	10	TION	LILL	Dunning	UUHAL	EUCS.

rece is now the building donar	(Residential Buildings)
Class of Work	Percentage of Total Cost
Excavating and grading	1.3
Brickwork	14.8
Carpenter work	27.3
Tile work	3.5
Concrete work	11.7
Electric wiring and fixtures	4.5
Heating and ventilating	6.6
Plumbing	10.1
Plastering and lathing	8.2
Painting	4.2
Papering	0.5
Roofing	1.8
Miscellaneous	5.5
Total	100.0

Class of Work	(Nonresidential Percentage of	
Excavating and grading	2.5	
Brickwork	17.2	
Carpenter work	6.4	
Tile work	1.7	
Concrete work	20.7	
Structural steel	8.7	F-4
Electric wiring and fixtures	6.6	
Heating and ventilating	6.6	,
Plumbing	5.2	2
Plastering and lathing	4.3	1
Painting	1.6	
Roofing	1.3	
Glass and glazing	1.3	
Elevators	7.6	
Miscellaneous	8.3	
Total	100.0	



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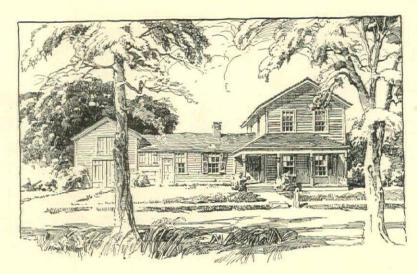
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THE WIZARD AND THE WOODSHED

Cinderella-like changes, delightfully fabulous, are no longer found only in children's books. Nothing less than that takes place in the American home today, as the accompanying illustrations show, and Good Housekeeping for December tells another modern fairy story with the architect as the wizard, and his pencil the wand. Not fiction this time, but facts and figures, as Good Housekeeping continues to prove to its 1,350,000 readers the value of the architect's services in the small house field.

As a result, many a speculative eye will turn on buildings long given up as hopeless. Thus is created many another lively prospect for the architect—prospects financially able to carry out the materialization.

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