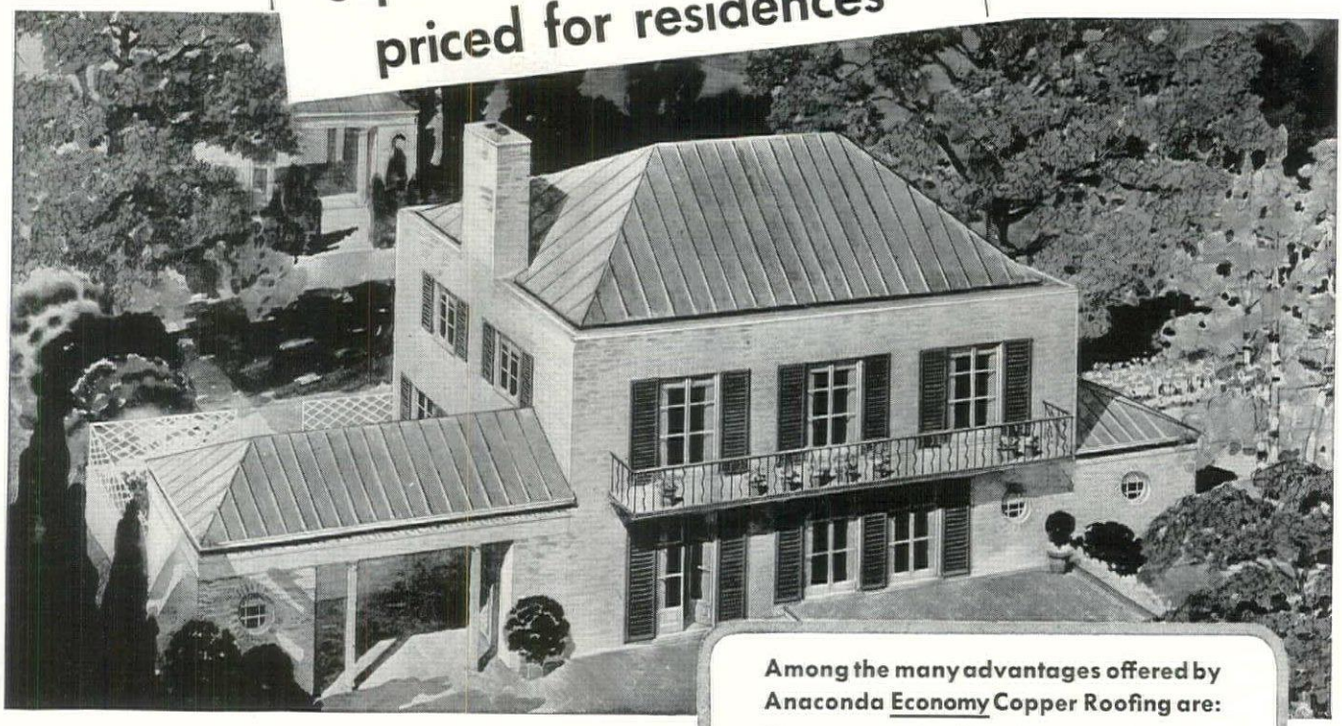
AMERICAN ARCHITECT AND ARCHITECTURE

HERE IS COPPER ROOFING

especially designed and priced for residences



This rendering of a house with a standing seam copper roof designed by Frank J. Forster, Architect, illustrates his conception of an effective employment of copper as a durable and practical roofing material.

ANACONDA *Economy* Copper Roofing offers all the traditional beauty and durability of copper, minimum expense for maintenance and many other distinctive features . . . *at a new low cost*. In fact, it provides the homeowner with a combination of advantages possessed by no other roofing material.

This new durable copper roofing (standing seam construction) is offered primarily for residences. Installations in various localities throughout the country are evoking widespread interest. Anaconda *Economy* Copper Roofing is lighter in weight (10 ounces per square foot) and is furnished in narrower sheets which provide a space of but 13¾ inches between standing seams. This reduced width is more in keeping with residential lines, and gives the 10-ounce copper approximately the same rigidity and wind resistance as heavier, more expensive material in wider widths.

Among the many advantages offered by Anaconda Economy Copper Roofing are:

Charm and Dignity—Weathered copper harmonizes with landscaping at all seasons.

Fire-Proof—Copper roofing eliminates the flying spark hazard.

Lightning-Proof—When properly grounded, copper roofing protects the structure against lightning.

Light Weight—One of the lightest of roofing materials, copper does not need heavy, costly supporting structure.

Insulation Protection—Impervious to moisture, copper preserves the efficiency of under-roof insulating materials of cellular type.

36189

Anaconda Copper

ANACONDA
from mine to consumer

THE AMERICAN BRASS COMPANY, General Offices: WATERBURY, CONNECTICUT

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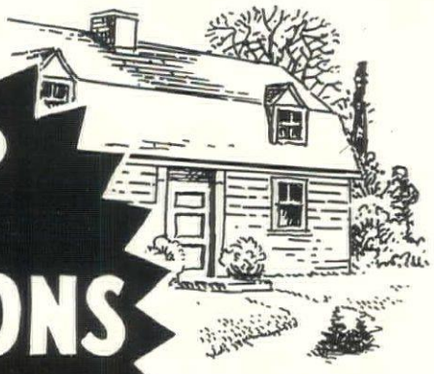
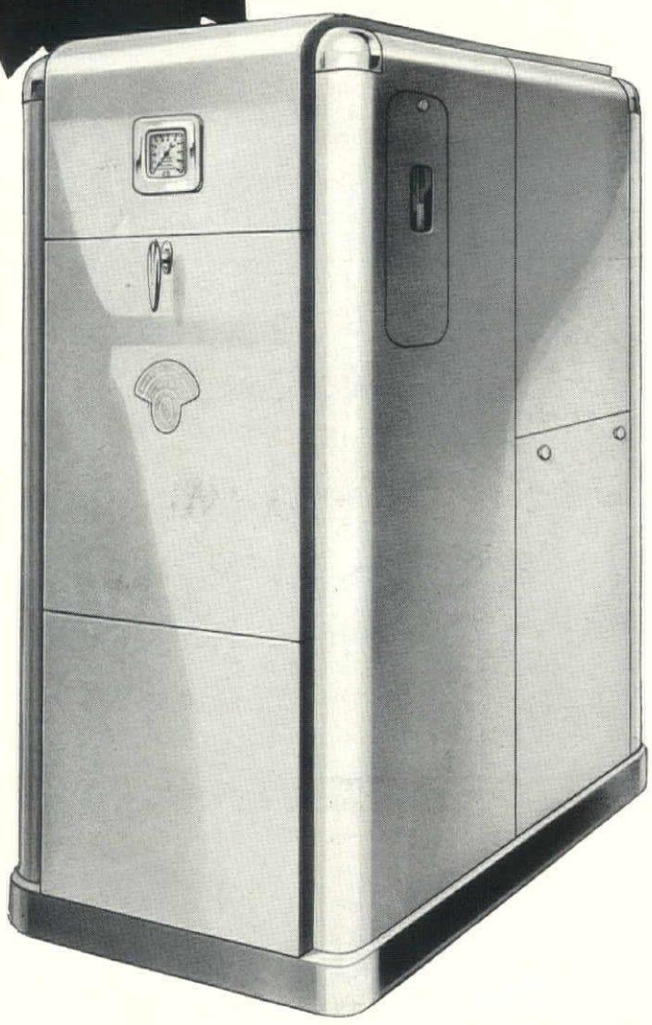
The mark of a well-built house



HEATED BY A FITZGIBBONS STEEL BOILER



There is no more accurate means of gauging the livable qualities of a home than by noting the character of its heating equipment. Farsighted architects know this, and give proof of their purpose to provide the best their client's money can buy, in specifying FITZGIBBONS Steel Boilers for heating and tankless hot water supply . . . Builders know this, and make quick sales by installing FITZGIBBONS Steel Boilers in the homes they build — Prospective homeowners know it, too, and invariably react favorably to the home equipped with the beautiful, yet workmanlike Fitzgibbons Oil-Eighty Automatic, with a good burner concealed beneath the enameled jacket.

•

In the heating plant, penny-saving in first cost is far from true economy. Design or build for long-term saving —with Fitzgibbons Steel Boilers.

EVERY ARCHITECT AND BUILDER

will want the facts about FITZGIBBONS Steel Boilers for oil, coal, gas or stoker . . .

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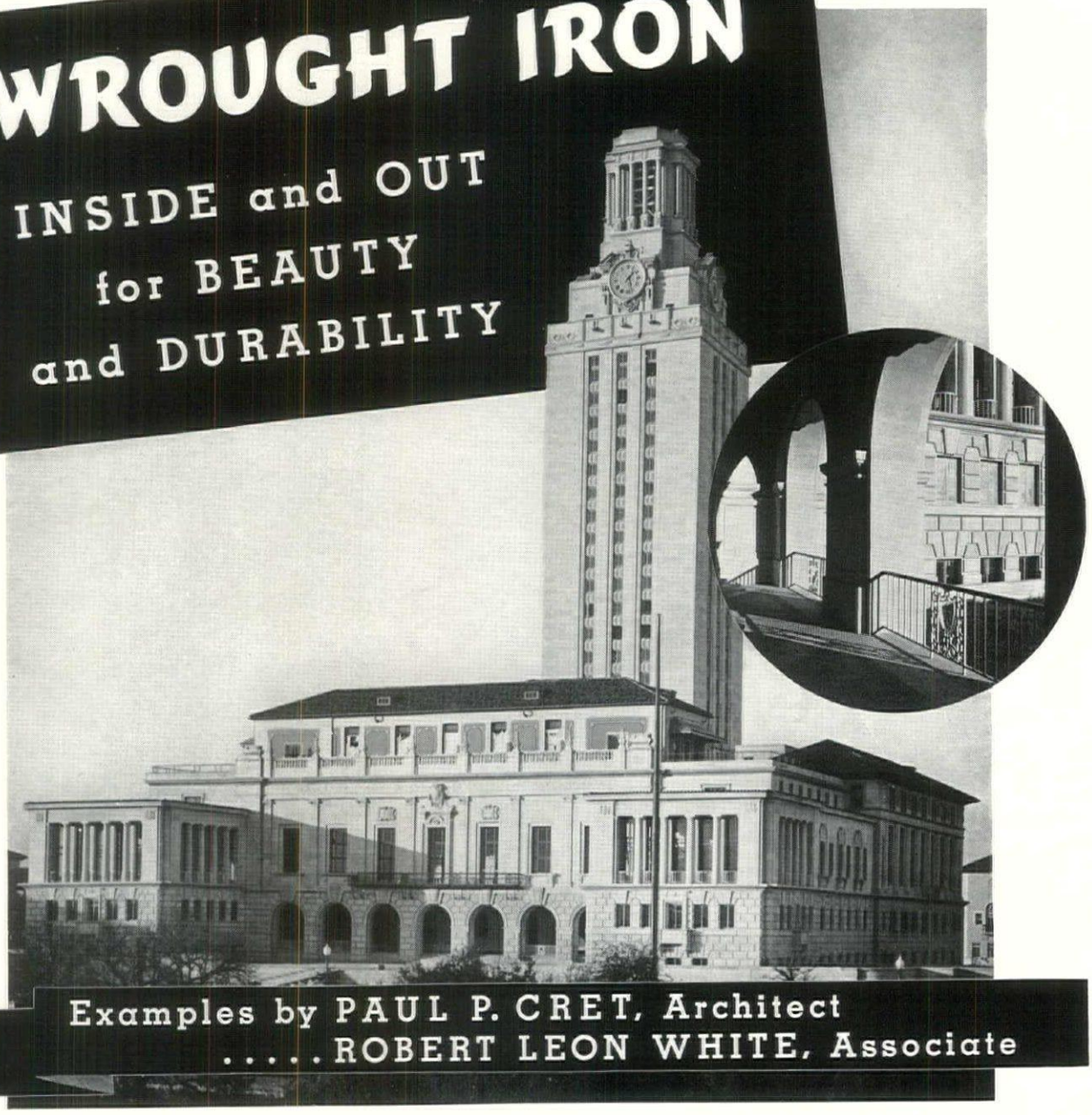
American Architect and Architecture, published monthly by Hearst Magazines Inc., 572 Madison Avenue, New York, N. Y. $3.00 per year; Canada, $4.00; Foreign, $5.00. Entered as second class matter April 5th, 1926, at the Post Office at New York, N. Y., under the act of March 3rd, 1879. Issue 2655, dated March, 1937.

WROUGHT IRON

INSIDE and OUT for BEAUTY and DURABILITY



Examples by PAUL P. CRET, Architect
.....ROBERT LEON WHITE, Associate

● Byers Wrought Iron, long famous for its durability in piping services, is winning increased favor among architects and engineers for the beauty it adds when used for ornamental work.

Here is a good example. Another beautiful building on the University of Texas campus has been completed—the Administration Building and Library Extension. Paul P. Cret is the architect and his associate is Robert Leon White.

Interesting is the way in which Byers Wrought Iron bars were fabricated by Southern Ornamental Iron Works into balconies, window grilles, and stair railings. The beauty created by the architects in their designs has been accentuated and will be preserved for the years to come through being executed in fine wrought iron.

Also of interest is the varied use of wrought iron pipe for such services as hot and cold water, fire lines, heating supply and return lines in the several new buildings comprising the extension program of the University.

You will find our Engineering Service Department a splendid source of information on material specifications, photographs and blueprints of current ornamental wrought iron designs, and information leading to corrosion studies or specific recommendations. We invite you to use our facilities, and in the meantime ask for a report "The Use of Wrought Iron in Ornamental Work." A. M. Byers Company, Established 1864. Pittsburgh, Boston, New York, Philadelphia, Washington, Chicago, St. Louis, Houston, Seattle, San Francisco.

BYERS
GENUINE WROUGHT IRON PRODUCTS

Specify Byers Genuine Wrought Iron Pipe for corrosive services and Byers Steel Pipe for your other requirements

PIPE - WELDING FITTINGS - SPECIAL BENDING PIPE
PLATES - SHEETS - O. D. TUBES - FORGING BILLETS
STRUCTURALS - BAR IRON - RIVETS - CULVERTS

AMERICAN ARCHITECT AND ARCHITECTURE

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MARCH 1937

Vol. CL No. 2655

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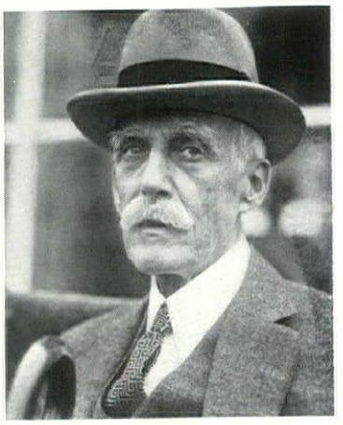
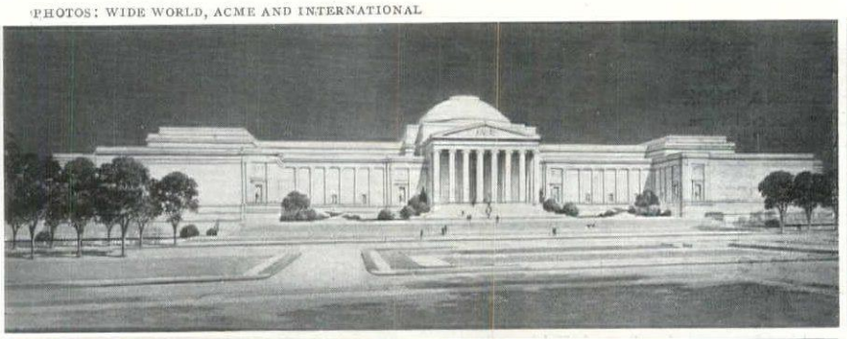
ART

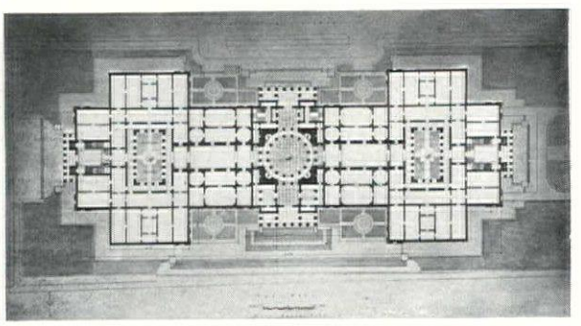
WASHINGTON is the only capital city of a great nation that does not have a first class art museum. Therefore when Andrew W. Mellon offered his vast collection of old masters and an $8,000,000 museum to the Government, he not only made what will probably be the biggest art news of the year, but also indicated that the capital city may soon be the nation's cultural center. The Mellon collection including additions from the Morgan collection and from the Hermitage in Moscow is too large for discussion here. It, however, includes at least one work from nearly all the great masters, and is an incredible cross section of painting technique from Botticelli to Goya.

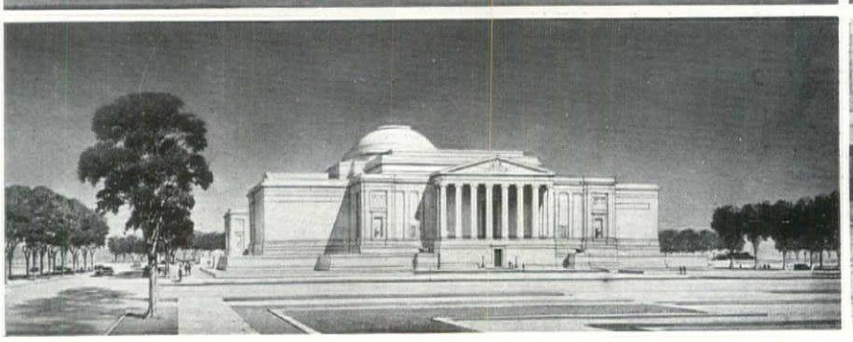
Mr. Mellon was characteristically exact in his offers. Since he considers his collection merely the nucleus of a future greater one, he specified that the museum must be large enough "to permit the indefinite growth of the collection under a conservative policy regulating acquisitions." He also specified that the architecture of the building be typical of pre-new deal Washington. In other words, a domed building with plenty of columns. Naturally he went to the office of John Russell Pope for this.



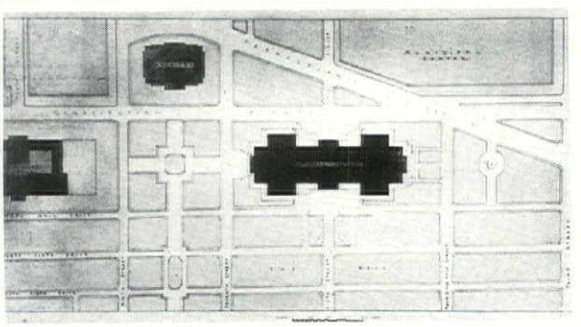
PHOTOS: WIDE WORLD, ACME AND INTERNATIONAL



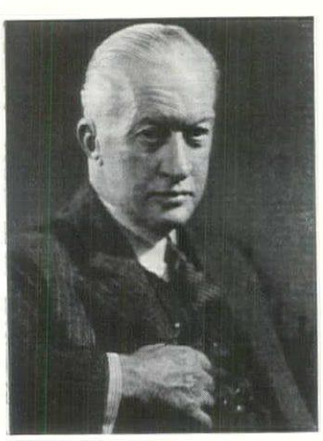




Elevations of the museum clearly indicate that the office of John Russell Pope is not taking any liberties with the classical style.

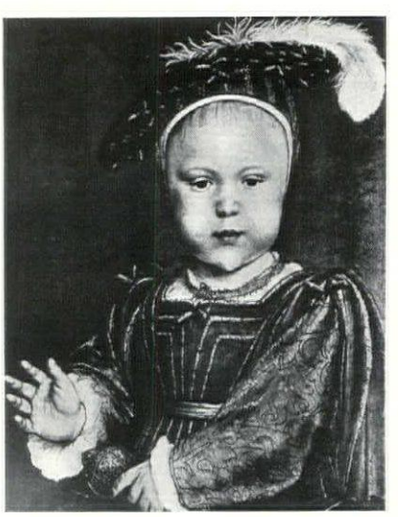


The main facade of the National Gallery will face on Constitution Avenue at Sixth Street near the new Archives Building

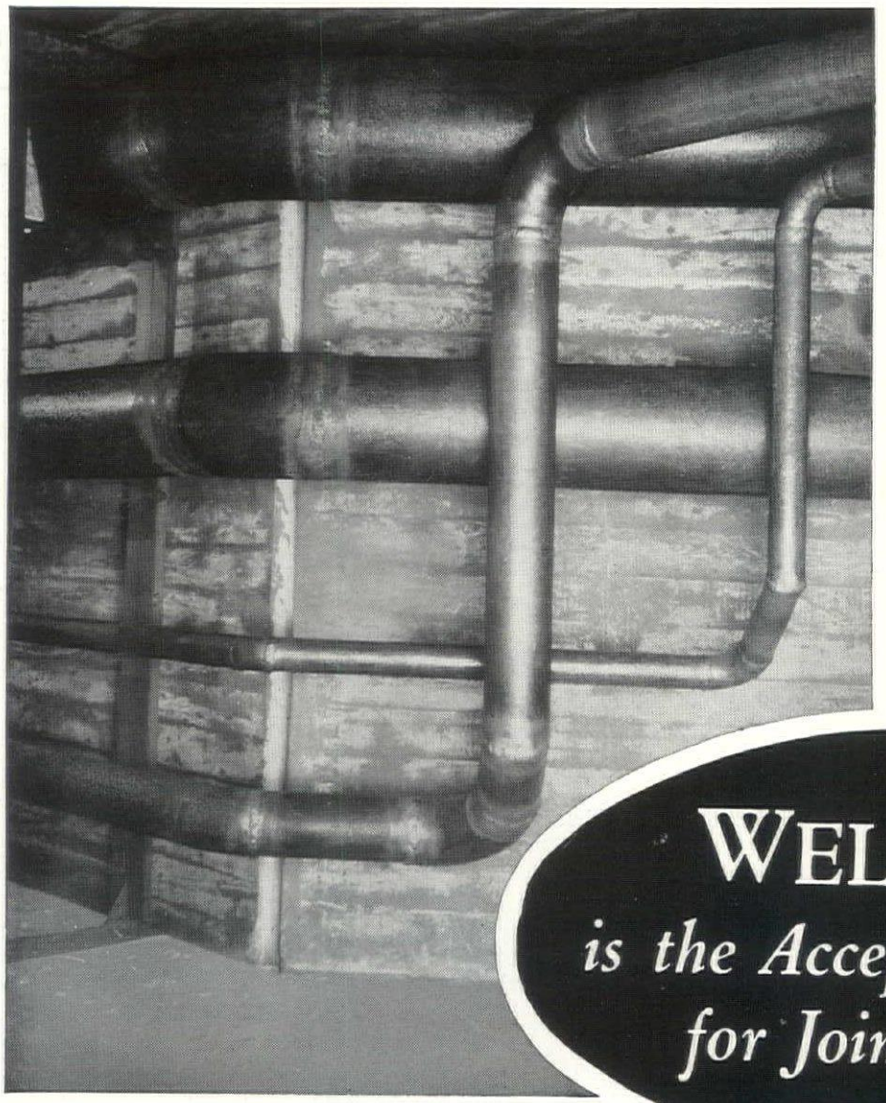


John Russell Pope, City College, Columbia, Ecole des Beaux Arts, Fellow American Academy in Rome. Honorary M.A., Yale; Litt.D., Columbia; Dr. of Fine Arts, Syracuse University.

Raphael's "Madonna of the House of Alba" because it is a popular "Holy Picture" is probably the most widely known Mellon painting.



"Prince Edward," by Hans Holbein, became newsworthy at the time of Edward's abdication. It cost Mr. Mellon $437,400.



WELDING
is the Accepted Method for Joining Pipe

The Rockefeller Center Building in New York, the Chicago Civic Opera House, and the Terminal Tower in Cleveland, are typical of the many important buildings in which welding has been used to join the piping. More and more are modern piping installations being made by oxy-acetylene welding.

Welding makes piping systems integral—without joints. The welded system is therefore *leakproof for the life of the pipe.* Designs and specifications are simplified, and many restrictions inherent in other methods of installation are removed. The welds when properly made have the full strength of the pipe, take up less space than any other type of joint, look neater, save on insulation, and involve no additional cost or time in erection.

Linde engineers have cooperated in the design and installation of many millions of feet of building, and power piping and over 20,000 miles of overland pipelines. They have prepared technical data especially for those interested in designing and specifying "Piping Joined by Oxy-Acetylene Welding." Ask the Linde office in your city for complete details. The Linde Air Products Company, Unit of Union Carbide and Carbon Corporation, New York and principal cities.

Everything for Oxy-Acetylene Welding and Cutting

LINDE OXYGEN • PREST-O-LITE ACETYLENE • OXWELD APPARATUS AND SUPPLIES FROM PRODUCTS OF UNITS OF UCC UNION CARBIDE AND CARBON CORPORATION LINDE UNION CARBIDE

GOVERNMENT

UNDER THE GUIDING HAND of the Federal Housing Administration, more than a million and a half individual loans have been made by private lending institutions, to be used in home financing and modernization. A good part of this can be traced to the hand-in-glove opposition of FHA and reputable manufacturers, distributors, contractors, and trade associations against "jerry" builders and buildings.

The shoddy practices of "jerry" builders have unwittingly created this bond because their activity is not only detrimental to the objectives of the National Housing Act but to the building industry as well. The general purpose of the Act is to create a sound mortgage structure, and to improve housing standards. A long step toward this end is FHA's insured mortgage system which protects the borrower and the lender. Obviously, however, the ability of financial institutions to lend on long-term mortgage security counts heavily on the soundness of the actual structure over a period of years. So important does FHA regard the matter of good materials and substantial construction, that, when a commitment is issued, its underwriters make regular inspections during the period of erection. So impressed are the institutions submitting mortgages for approval, that they, too, are now paying more attention to these factors in the houses on which they write mortgages.

The scope of FHA's activity during 1936 is shown, says Administrator Stewart McDonald, by the fact that property owners in more than 3,000 of the 3,100 counties in the United States borrowed funds from local private institutions. Insured modernization notes range in size from less than $100 up to $50,000, and the fact that sixty-one per cent of all loans were for $300 or less, and only one per cent for amounts exceeding $2,000, is evidence that families of moderate incomes are enjoying most of the benefit. A further indication of this is the fact that, of the $650,000,000 accepted for insurance—representing 160,000 mortgages—over one-third were for $3,000 or less, and 58 per cent were for less than $4,000. The total of all mortgages, and modernization or repair notes, accepted for insurance during 1936 was $1,166,000,000.

While many types of property are eligible for insured credit, the largest volume of loans—some 86 per cent—was naturally made in the residential field. In addition to these, however, approximately 100,000 small business concerns have been enabled to improve their plants and equipment.

—ENCOMIUM—
our highest praise to
SENATOR ROBERT F. WAGNER
of New York

Because, by introducing in the Senate a revised billion dollar low-rental house and slum clearance bill, he has shown the courage and perseverance to face down an eat-humble-pie attitude toward last year's Wagner-Ellenbogen Bill.

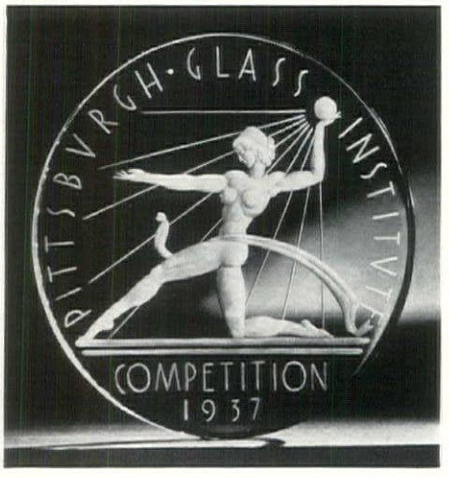
Because, coupled with a sound pay-as-you-go policy, the bill places a mutual responsibility on local authorities and the Federal Government to "keep the faith" in true low-cost housing.

Because, "no other undertaking of the Federal Government in the last four years holds such certain prospect of economy, business stimulation, and social advancement."

Because, far from limiting its benefits to one field, the Wagner Bill will have widespread influence on housing for other income groups as well.

Because he has taken a sound step toward ending the penny-wise, pound-foolish competition of those looking for immediate profit rather than ultimate effect.

UNDER A PASSING GLANCE, Cuba appears to be humming with activity. The young government of President Frederico Bru has started a building program, for urgently needed public works projects, by prodding civic leaders and wealthy landholders into so-called co-operative associations. Prominent citizens all over the island are being called on to contribute to the new works system, which, its sponsors claim, is an important part in the rehabilitation plans of Colonel Batista, the power behind the Bru government. Apparently this is the only way such a building program could have been tackled. Faced with a defaulted public indebtedness of more than $80,000,000—owed mostly to North Americans, and virtually ignored by the last eight administrations—the Batista-Bru administration is determined to carry out its program without further mortgaging the island. The army will supply technicians and laborers to those communities initiating works projects, and, where it is deemed necessary, the government will share some of the expense. Otherwise the projects will be promoted, financed, and supervised by citizens attached to the association in each community.



SIDNEY WAUGH designed the engraved glass medal which is to be awarded the winners of the Pittsburgh Glass Institute's current competition based on executed examples of work in glass in architecture, decoration and the allied arts

CONSTRUCTION

THE LUMBER INDUSTRY, in co-operation with the Federal Housing Administration, has set out to prove that a good house can be built in the low-cost range from $2,500 to $4,500.

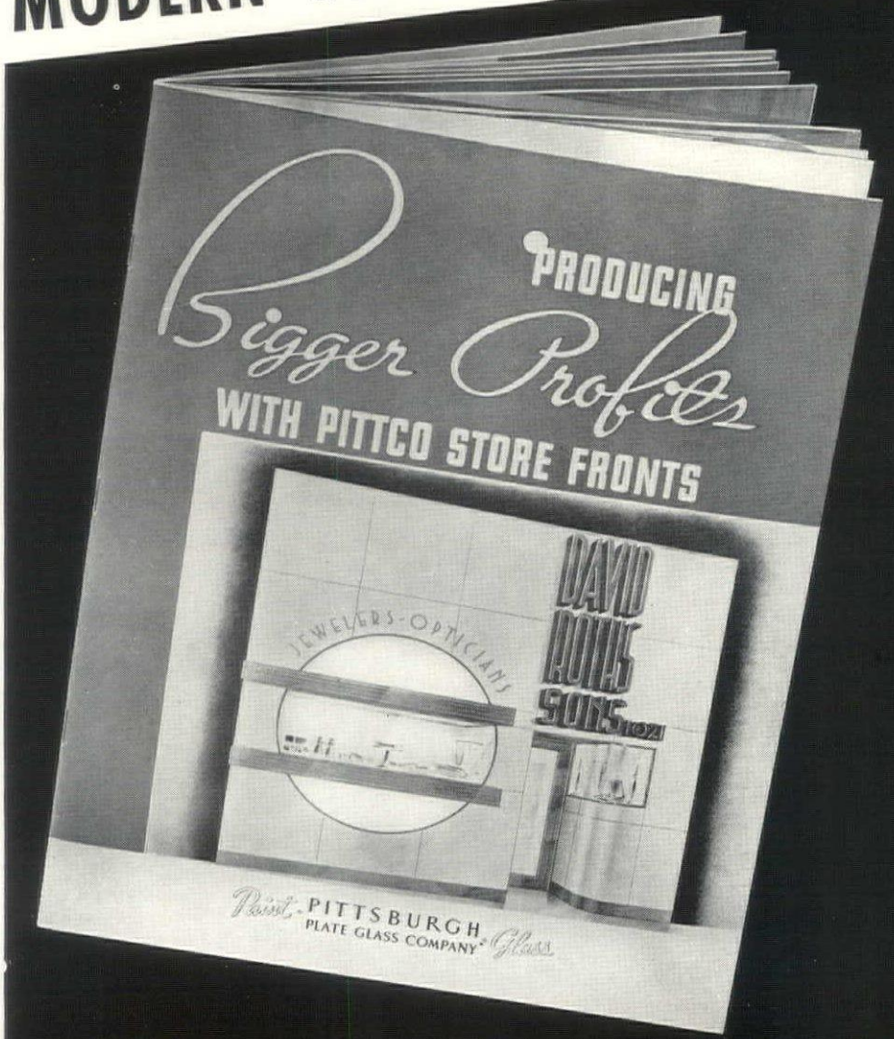
Before May 1st, 1,000 houses will be built in 1,000 communities, to serve as demonstration units. FHA is furnishing five basic plans which may be varied slightly. Anyone who desires to put up a house immediately can obtain plans and specifications for $5. The demonstration houses will be finished in wood, but there is nothing to prevent each house from being finished in various materials.

The whole project comes as the result of an experiment conducted last year in Bethesda, Md., where the lumber industry built three houses from FHA plans. Of two-story, or bungalow, construction, the prices ranged from $3,780 to $4,120, including the land, architect's fees, taxes, landscaping, gutters, and insurance. FHA financed them over a 20-year period with insured loans, 20 per cent down, monthly payments of $20 to $25. The fact that three hundred families wanted to buy the houses before they were finished, played an important part in crystallizing the present program.

DURING THE FIRST MONTH or two of every new year, officials in all fields are busy trying to discover a panacea for whatever ill affects their field of interest, by looking forward and backward at the

(*Continued on page* 10)

Send for this FREE Book of MODERN STORE FRONT IDEAS



We believe this new book . . . just off the presses . . . will prove valuable to you. It contains many "before" and "after" photographs of actual, profit-making store front installations throughout the country which we know will be of interest. It provides accurate information concerning the qualities and possibilities of the complete line of storefront products manufactured by the Pittsburgh Plate Glass Company. It shows you how we are attempting to create more store front jobs for you. And it may inspire some original ideas in storefront design or installation which you will be able to elaborate and use in your own store front remodeling work. Sign and mail the coupon . . . now . . . for your free copy. *Be sure to see the Pittco Store Front Caravan, now on a nation-wide tour. Contact our local branch for information as to when it will visit your territory.*

PITTCO
STORE FRONTS
glass . . . metal . . . paint

BACK of Pittsburgh Glass Products and Pittsburgh Paints stands more than half a century of glass and paint making. Half a century of experience in field and factory, of vital research and development work, of wide acquaintance with architectural and building requirements. We invite you to call upon us for any information you may desire in connection with the use of paint and glass.

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A complete line of Pittsburgh Products of the following types is available through our 74 branches in leading cities:

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Ornamental Glass
Pittsburgh Mirrors

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Waterspar Enamel
Waterspar Varnish
Florhide Enamel

PITTCO STORE FRONT METAL

See Sweet's for complete specifications and for addresses of Pittsburgh Plate Glass Company branches.

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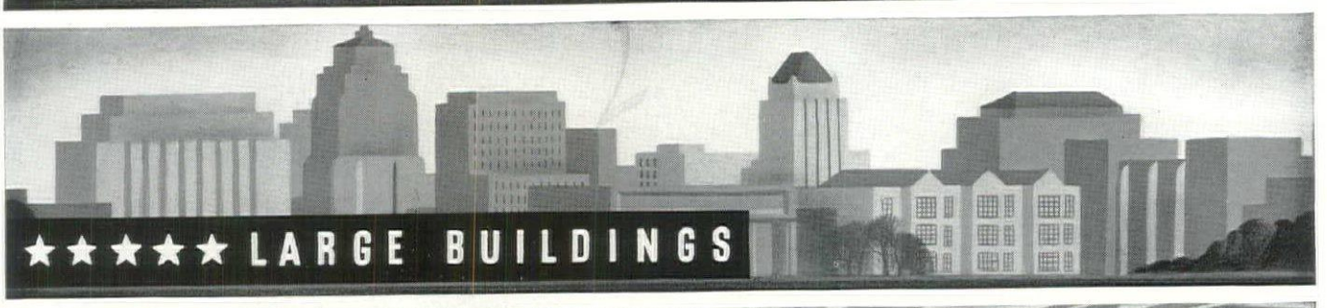
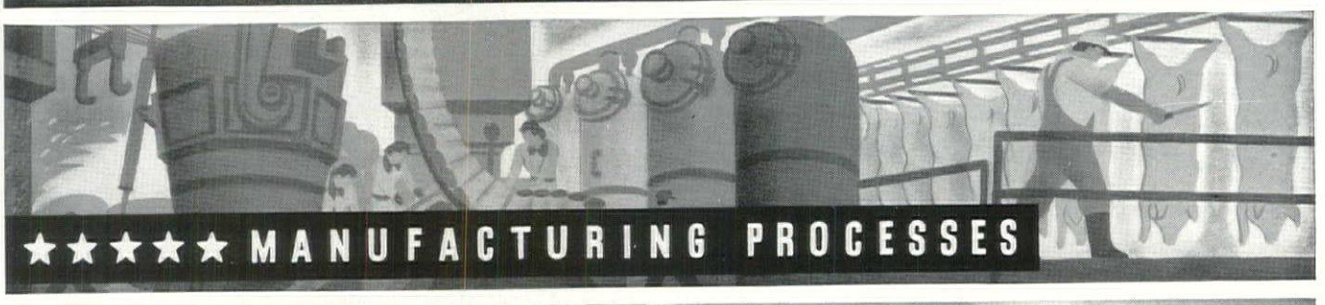
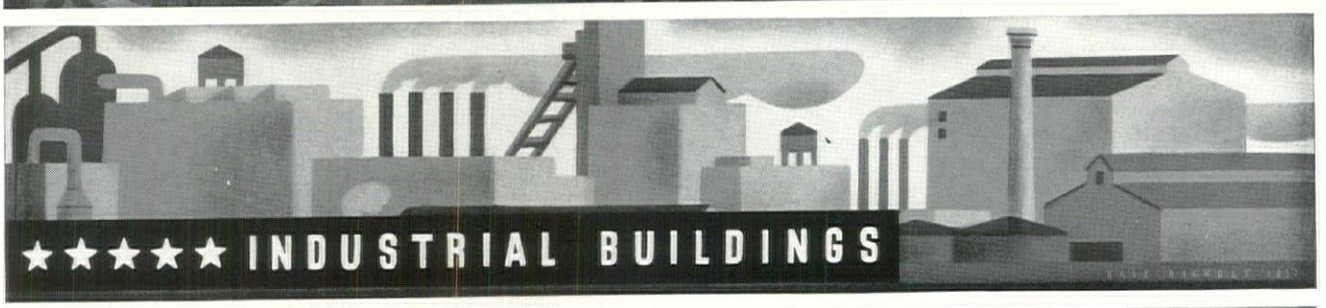
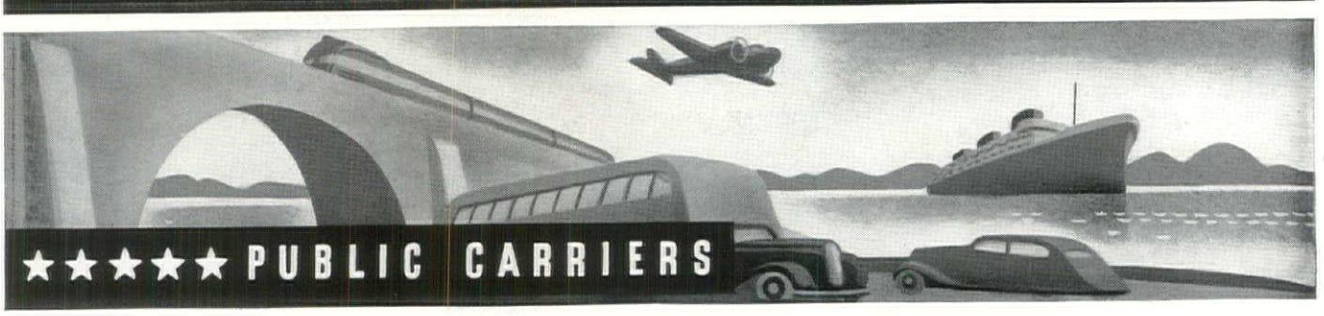




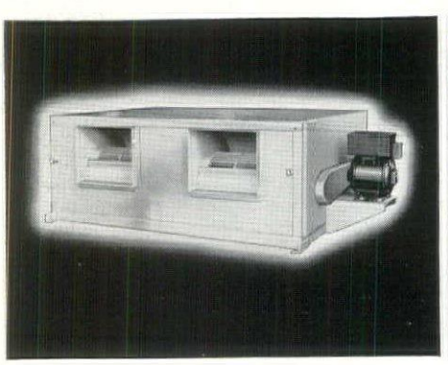




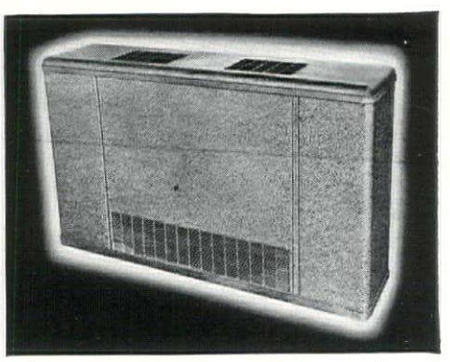
For complete
★★★★★
air conditioning

you need

ALL FIVE PHASES
★★★★★



★ **HUMIDIFYING** air for purity and optimum health or product levels is a major phase of Trane specialization in air conditioning.



★ **DEHUMIDIFYING** equipment has been specified for years by the country's foremost specialists in drying.

AN ENGINEER LOOKS AT *Air Conditioning*

● It has lately been apparent that there is an unnecessary amount of confusion and misapprehension about air conditioning on the part of the general public.

In reality it is the scientific collaboration of several long established and progressive engineering professions: heating—ventilating—cooling—humidifying—dehumidifying—and the automatic control of each operation or combination of operations.

In the evolution of each of these industries, many valuable, but to the public unknown, mechanical appliances have been brought to a high degree of perfection by the individual companies, and which are now being used in combination to create a "custom-made" air conditioning job.

Now almost all applications of air conditioning are necessarily custom-made for several reasons: First, there are as many technical problems as there are conditions in the building to be served due to its existing shape, size, and available equipment already installed. Second, the objective requirements of people or manufacturing processes make additional demands.

In other words, true air conditioning deals with the directed use of the five professions, and the variables of appliances in a confusing number ot possible combinations.

The choice of the most suitable combination, of course, rests with the local professional consultant and the men whose responsibility it will be to make it work—the contractor.

We are fortunate in this company to have behind us a ripe professional experience both in the laboratory and in the field in the major individual engineering endeavors that, combined, make air conditioning.

We were privileged to be the creators of a revolutionary heat transfer surface unit without which an air conditioning system is helpless. We are the largest manufacturers in the country of non-ferrous convectors, considered to be the successor to the old fashioned radiator. Our work in industrial fields of cooling, humidifying, and drying with the attendant study of air movement and air cleaning has given us an enviable birdseye view of the engineering problems of application.

Trane coils for heating and cooling have been specified for many years as the standard in those fields by the foremost engineering consultants and by other manufacturers in their finished products.

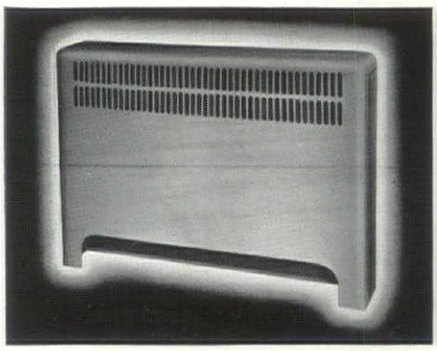
Consequently, we have had the inestimable advantage of a constant interchange of experiment and experience that today we count priceless. Nor has *our* self education stopped. While we have always conducted engineering schools in heating, cooling, drying, humidification, in the development of the trained engineering personnel that man our sixty or more offices, this was sometime ago amplified by the addition to our staff of one of the foremost technical authorities in air conditioning, whose duty it is to reduce the seldom defined principles of air conditioning to a practical form that is available not only to our own staff but that of any air conditioning contractor or architect.

Air conditioning, now coming of age, has developed within itself a number of noteworthy, but little known specialists, consulting engineers and engineering corporations, whose work entitles them to special recognition in their fields. To them and the growing number of responsible contractors by whom we are represented, this company owes its more than satisfactory growth and position of responsibility in the industry.

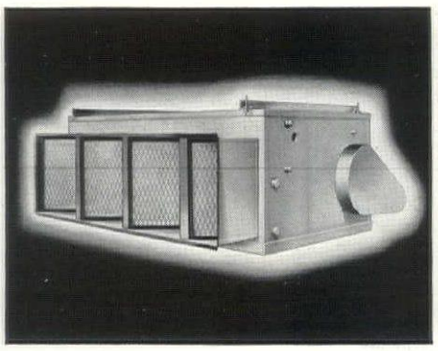
NOTE: *The above statement of interest to architects, engineers and property owners is the first of a series of advertisements now appearing in Time magazine.*

TRANE ★★★★★

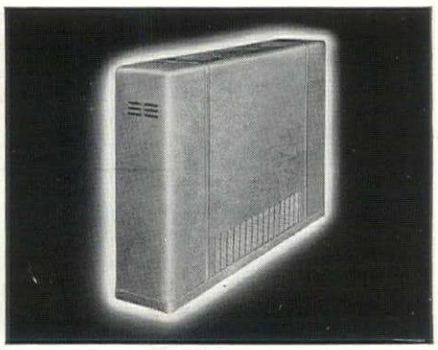
THE TRANE COMPANY • LA CROSSE, WISCONSIN



★ **HEATING** equipment, systems, traps and valves have earned a substantial place in planning any full or partial air conditioning installation.



★ **COOLING** and Direct Expansion Coils are found in thousands of satisfactory installations, ranging the entire gamut of air conditioning application.



★ **VENTILATING.** Air-tempering for health and comfort has brought Trane special ventilating equipment into contact with every form of ventilating problem.

Evidently there is a movement afoot to make government publicity a little more subtle by digging into the records. This arch in Salt Lake City, constructed during the 1859 depression by unemployed Mormons, thus becomes an asset for PWA ballyhoo

same time. In the field of building and construction, government experts vie with business leaders in analyzing and predicting, quite as we should expect, building and construction. The amusing part of this game, which admittedly has a beneficial, educational side, too, is that no two ever choose the same period, or the same datum. It is a convenience which seems to exclude the possibility of checking or correlating one set of "statistics" with another.

For the first *eleven months* of 1936, Secretary of Labor Perkins announces an aggregate value of $1,219,157,000 for permits issued for all classes of building construction, in cities of ten thousand or more. This is a gain of 63 per cent compared with the corresponding period of 1935. All classes shared the gain, but the greatest improvement was shown in new residential construction.

Stewart McDonald, FHA Administrator, looking forward for the government, said recently that from 400,000 to 500,000 non-farm units would be constructed during 1937, allowing for certain assumptions which he enumerated.

Business comes to bat, through Engineering News-Record. Estimating the building volume for 1936 at $5,600,000,000, they asserted that construction activity had exceeded all advance predictions. "There is every indication to look forward to an increase of another 25 per cent in construction during 1937!"

One thing, at least, seems certain. Considered from the standpoint of building permits, construction, or insured mortgages, the purchase and construction of new homes leads the field, and should continue to do so.

But it is a little confusing.

DUN & BRADSTREET, INC., report that the "January building permit volume showed a decline from December that was somewhat more than seasonal, but continued substantially above the corresponding month of 1936, despite floods and unseasonable weather in many sections of the country. The total estimated cost of January permits for the 215 cities reporting to Dun & Bradstreet, Inc., amounted to $68,341,235. This was a drop of 18.2 per cent from the volume recorded in December . . . but a gain of 24.4 per cent over January, 1936." Among the twenty leading cities, the worst and best gains took place, respectively in New York, a decline of 10.4 per cent, and in Boston, an increase of 1,243.5 per cent.

ACCORDING TO AMOTT-BAKER & CO., real estate bond issues, based upon their average of 200 carefully selected issues of properties in New York, Philadelphia, Pittsburgh, and other eastern cities, made a further advance of 217 per cent during January. This gain compares with an advance in bid prices of 3 per cent for December.

LEGISLATION

SENATOR ROBERT WAGNER, the New York Democrat whose sponsorship of low-cost housing was mentioned several months ago, is in Washington now to introduce a bill making funds immediately available for the replacement of city tenements with modern, cheap apartments and row houses. The proposal as now planned, will create a United States Housing Authority as an independent agency. It will be empowered to grant $10,000,000 during the balance of this fiscal year, $50,000,000 in 1938, $65,000,000 in 1939, and $75,000,000 in 1940 to municipality building projects. The Authority will probably be given the power to issue up to $450,000,000 in federal bonds to finance local loans. These will augment government grants which range up to 45 per cent of a project's cost. Informed sources recently indicated that President Roosevelt plans to support this program. It will call for a total expenditure of one billion dollars within the next four years.

THE PRIMARY PURPOSE of real estate taxation is to raise revenue for the local government. Under the system now in use, however, such taxes are being called on for building up revenue alone, under the lax standards of "what the traffic will bear." As Oscar Fisher has pointed out in a recent article in Land Usage, the results, or the secondary effects, are rarely studied. In many cases they have been the direct cause of deterring proper types of construction and keeping large areas of urban land out of use entirely. For example, a recent study in Westchester County, New York, revealed that vacant lands were responsible for 52.5 per cent of all unpaid taxes in the county, although they represented less than 12 per cent of the total taxable values.

Perhaps no other subject has received so much public attention, or aroused such bitter controversy, as that of assessments on real estate. It is hoped that current legislation will speedily clear up a situation which has forced land sweating, and so discouraged home ownership.

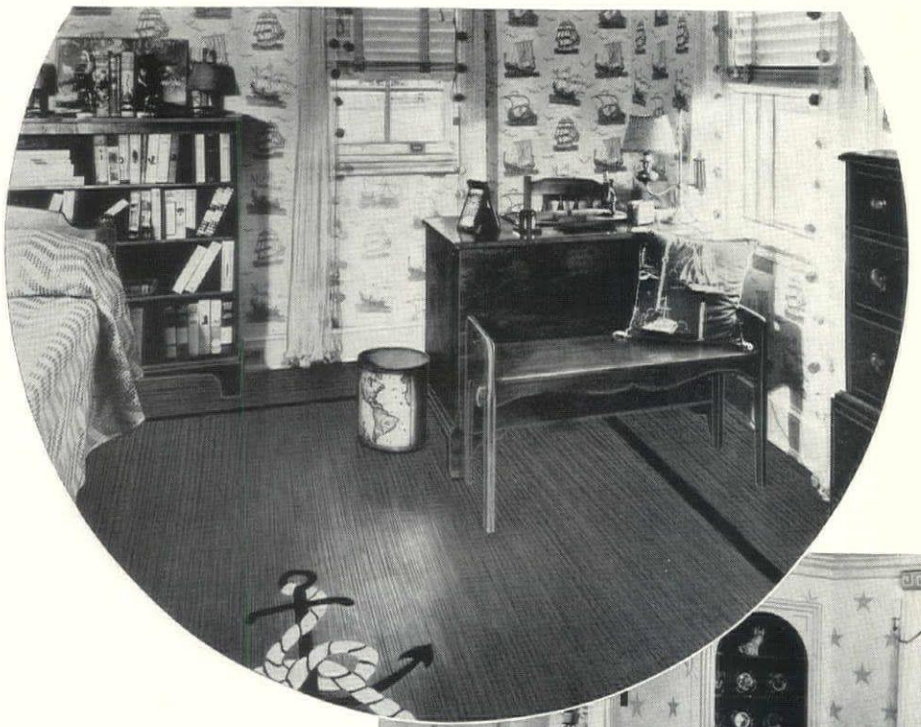
HOUSING

ONE WONDERS on what common ground the realty companies and business interests will meet, when it comes to discussions of the part government should play in low-cost housing.

Recently the Merchants' Association of New York distributed several thousand pamphlets entitled, "A Business View of the Housing Problem."

(*Continued on page* 14)

FLOORS FOR MODERN LIVING



LEFT—*Boy's Room in the Moderne Manor Model Home, Lancaster, Pa. A custom-designed floor of Armstrong's Linoleum completes the nautical touch Field is No. 14 Rose Taupe Jaspe Linoleum, with anchor of No. 23 White and No. 43 Oriental Blue Plain Linoleum.*

~ ~ ~

BELOW—*In the Moderne Manor, an attractive custom-designed floor makes this dining-room bright and cheerful. Field is Armstrong's Plain Linoleum, Chocolate No. 46, with flowers of No. 23 White and leaves of No. 26 Silver Gray.*

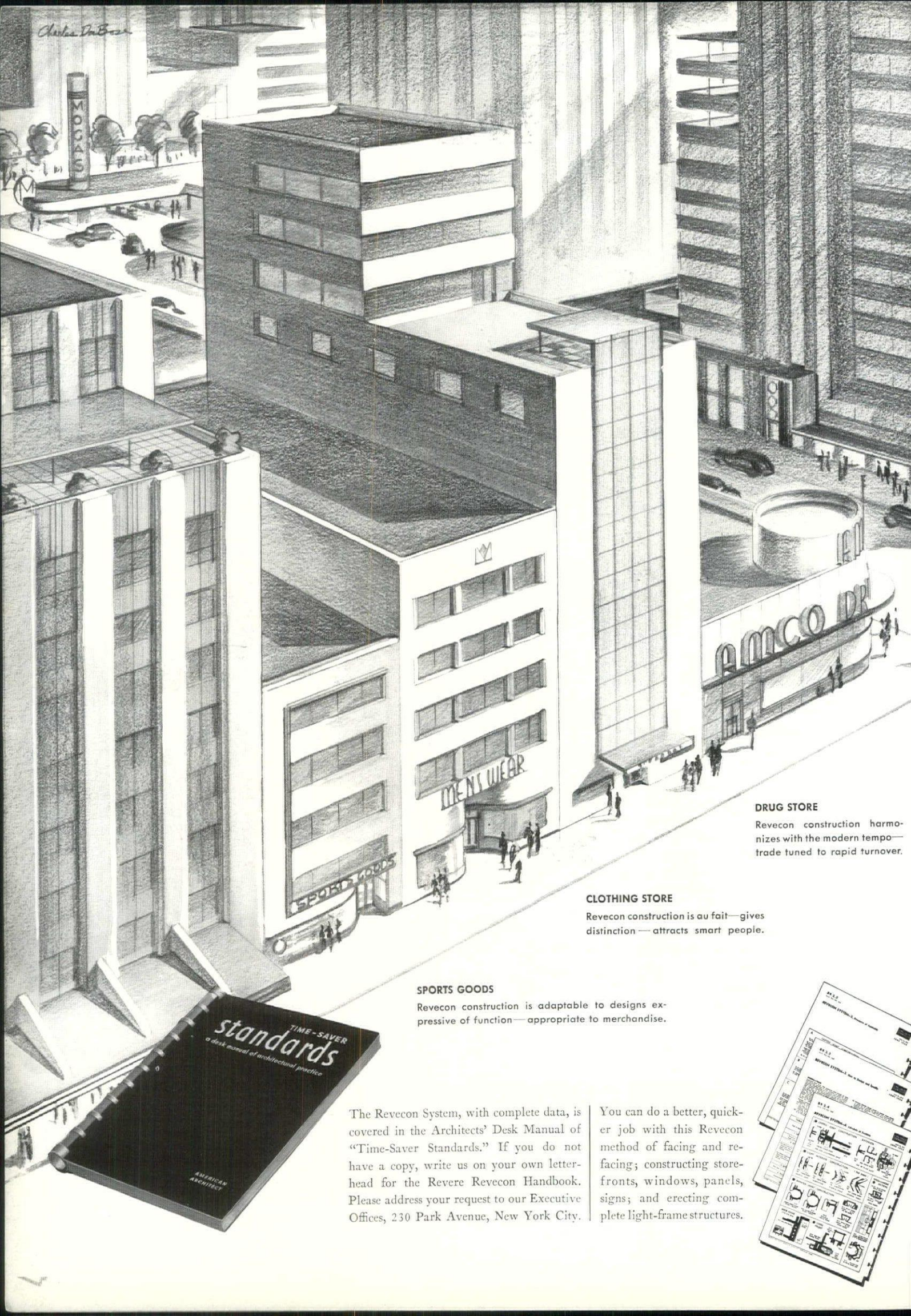
WITH Armstrong's Linoleum, it is easy to plan individualized floors for any interior. This versatile material offers you practically unlimited possibilities for decorative harmony between the floors and the other furnishings in the rooms you plan. Any design you draw can be faithfully reproduced in Plain, Marbelle, Jaspe, or Raybelle Linoleum—from a selection of more than fifty colors.

Besides the design freedom you enjoy with Armstrong's Linoleum, it offers many practical features... ease of cleaning . . . durability . . . comfort and quiet underfoot . . . and rich colors that won't fade or wear off.

Armstrong offers the only *complete* line of resilient floors—Linoleum, Linotile, Accotile, Cork Tile, and Reinforced Rubber Tile. You are invited to consult Armstrong's Architectural Bureau on your next floor job. The completeness of the Armstrong Line enables us to give you unbiased suggestions on the best type floor for any room. For full information, see *Sweet's* (Sec. 17, Catalog 54, 1937 edition) or write today for a free copy of "Floors That Keep Homes in Fashion." Armstrong Cork Products Company, Floor Division, 1201 State Street, Lancaster, Pennsylvania.

ARMSTRONG'S *Linoleum* *and* RESILIENT TILE FLOORS

LINOTILE · ACCOTILE · CORK TILE · RUBBER TILE · LINOWALL · ACOUSTICAL CEILINGS



DRUG STORE

Revecon construction harmonizes with the modern tempo—trade tuned to rapid turnover.

CLOTHING STORE

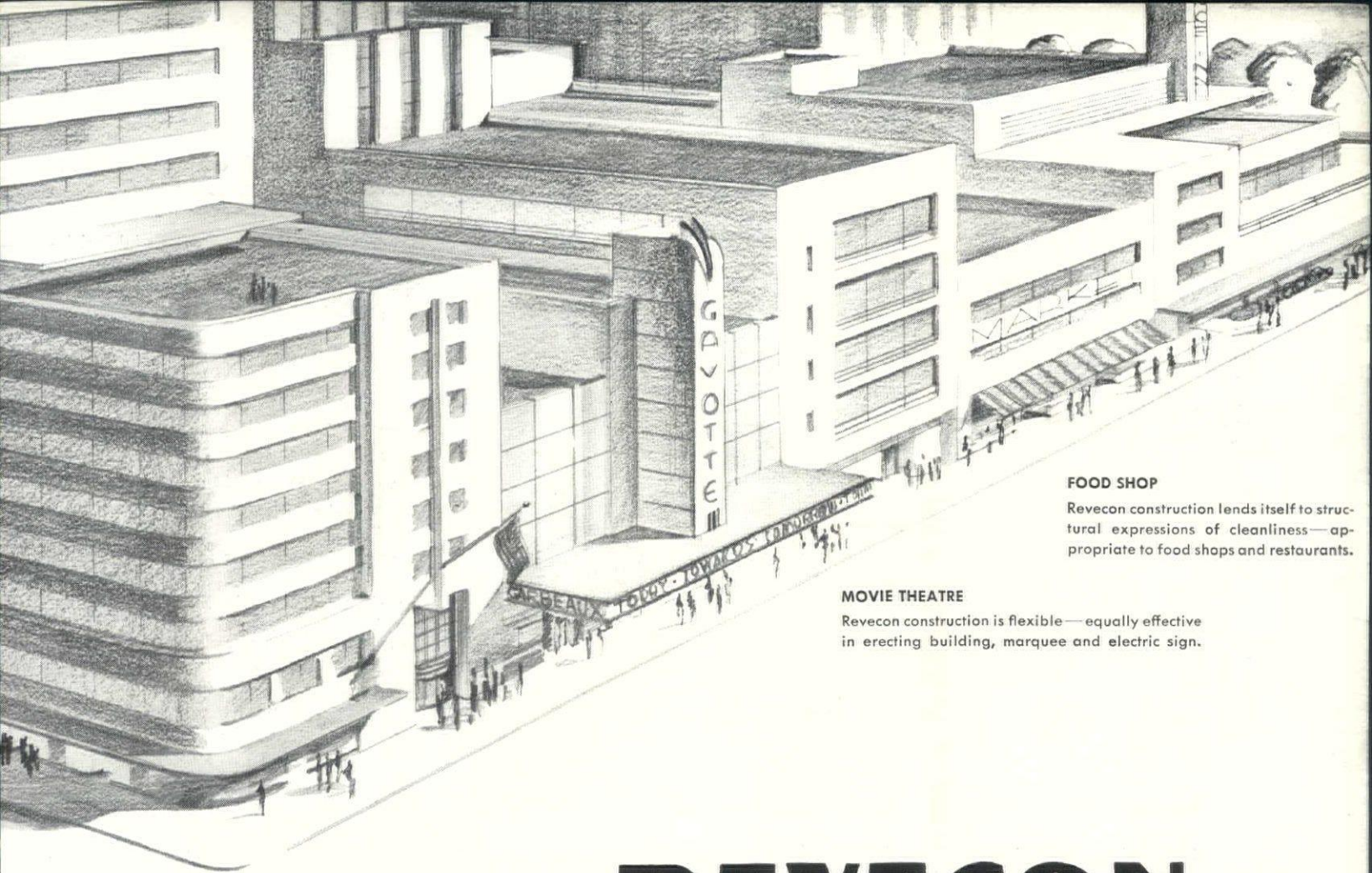
Revecon construction is au fait—gives distinction—attracts smart people.

SPORTS GOODS

Revecon construction is adaptable to designs expressive of function—appropriate to merchandise.

The Revecon System, with complete data, is covered in the Architects' Desk Manual of "Time-Saver Standards." If you do not have a copy, write us on your own letterhead for the Revere Revecon Handbook. Please address your request to our Executive Offices, 230 Park Avenue, New York City.

You can do a better, quicker job with this Revecon method of facing and refacing; constructing storefronts, windows, panels, signs; and erecting complete light-frame structures.



FOOD SHOP
Revecon construction lends itself to structural expressions of cleanliness—appropriate to food shops and restaurants.

MOVIE THEATRE
Revecon construction is flexible—equally effective in erecting building, marquee and electric sign.

OFFICE BUILDING
Revecon construction is up to date —lends prestige—draws tenants.

REVECON
for the new world

New functional architecture—vivid, vibrant! Streamlined buildings . . . using the new sheet materials, cleverly combined in contrasted textures and colors to express the modern tempo!

And now this new Revere Revecon system of aluminum alloy structural sections, aiding architect and builder to create these new day structures.

Revecon brings new freedom to design . . . new economy to construction. To reconstruction, too, it brings new possibilities in effective remodeling of buildings and store-fronts that are outmoded, outworn, unprofitable.

To architect, builder and owner, Revecon is opportunity.

● Sheet materials used with Revecon may be glass, any of the decorative metals, Lumar marble, resins, asbestos-cement, wall and insulating boards, etc. Construction may be capped or pointed-joint. Either provides an integral structural unit with all elements interconnected yet free to expand or contract without distortion. Sheets may be removed or replaced without disturbing adjacent panels.

Revere Copper *and* Brass

FOUNDED BY PAUL REVERE

INCORPORATED

EXECUTIVE OFFICES: 230 PARK AVENUE, NEW YORK CITY • MILLS: BALTIMORE, MD. • TAUNTON, MASS.

PHOTO: PICTURES INC.

Part of Mustapha Kemal's scheme to westernize Turkey is an extensive public school system. One of the finest schools is the Agronomic Institute in Angora which now has 650 students of both sexes studying Agriculture, Forestry, Veterinary Science, Natural Science and Agricultural Technology

Their effort is directed toward the development of a plan which will bring about the solution of this problem by private enterprise, rather than the wholesale entrance of national, state, and local governments. The report generally takes the view that the construction of housing is not a governmental function, but that governmental policies should be directed so as to give the fullest encouragement to private enterprise to provide housing on an economic basis. Where there is inability on the part of low-income groups to meet their own needs, the government should help with rent subsidies rather than direct invasion of the building field. Doubt is expressed that the Federal Government has a right under the Constitution to build, own and operate housing independent of local authority and exempt from local taxation.

In direct contrast to this are some of the statements made by Joseph Milner, head of the realty company bearing his name. He says, "A common objection to government subsidized low-rental housing is that it is competitive with private enterprise. The experience of the English in this field has exposed this fear as being without basis. Since 1920, the British Government has built more than 1,200,000 subsidized low-rental family units. The effect of this program was so instrumental in restoring private activity that, while in 1926 unsubsidized private enterprise built only 30 per cent of the new homes, in 1934 . . . they provided more than 85 per cent of the total new residential construction.

"During 1932-34 the index of production in England on the 1928 basis rose 17 points . . . and steel, one of the barometers of building activity, rose from 62 to 104."

Mr. Milner concludes that, "Private enterprise has nothing to fear from government subsidized low-rental housing. It will take care of that part of our population for which private enterprise has never built, and cannot build, because it is not profitable."

An interesting interpretation of the *industrial* side of the story was given by N. K. Winston, before a group of industrial leaders, when he termed many of the recent criticisms and suggestions on Federal low-cost housing as "irrelevant and immaterial." "The only solution of the nation's housing problem, he declared, "is mass production and intelligent merchandising by well financed national building organizations. . . . These are the premises upon which my associates and I are embarking on a simultaneous series of industrial building operations in various sections of the East and South where shortages of housing exist. We recently broke ground for an operation in Kingsport, Tenn., where approximately 4,000 of 10,000 well-paid factory workers have to commute daily from twenty to forty miles because there are no homes for them to rent or buy in Kingsport. . . . There is no financing problem there that requires special legislation, nor can I see where there will be in any of our operations—any more than there is right here in New York City. The purchasers are workers, can easily afford the $25 to $40 monthly payments, and the few who lack the entire $600 to $900 first payments can readily borrow from local financial institutions or from their employers."

IF WE ACCEPT AS A STANDARD the fact that London has cared for only 72,000 families with new municipal houses since the war, it seems fair to assume that the combined government and private plans for slum clearance in New York cannot within this generation reach more than one-fifth of the half million families now living in old law tenements. "To protect the other 400,000 families," the Tenement House Committee of the Charity Organization Society has pointed out, "it is imperative that existing dwellings of the low rental range be brought into conformity with minimum standards of decency."

"Realism in Housing," the brochure which they recently made public, outlines four steps toward achieving healthful and decent living conditions:

1. The formation of an advisory service to extend property management guidance, and housing information, to tenants and owners; and to set up minimum standards for repairs.
2. To provide penalties for violations, imposed by the Municipal Court.
3. Vacating power, and legislation requiring the demolition or complete renovation, of uninhabitable buildings.
4. An increase in the Tenement House Department budget, so that additional inspection personnel can be added. New requirements, based on an up-to-date merit system, which would ensure well qualified housing inspectors.

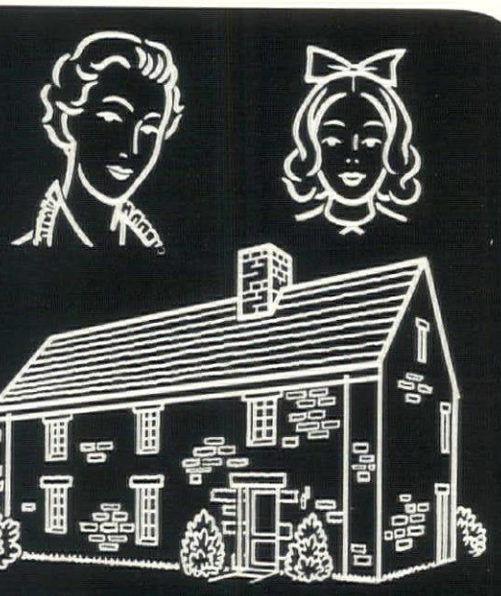
FLOAT YOUR HOME DOWN THE RIVER, or pick it up with a tractor crane and move it wherever you like. At least, that is what can be done with the 1937 Model Steel House produced by R. G. Le Tourneau. Probably the first all-steel all-welded house ever built—and certainly the first full-sized house ever constructed complete inside a building, for use outdoors—the only other materials used were three tons of rock wool insulation, copper tubing for water pipes, and chromium for plumbing fixtures.

The bold imagination of R. G. Le Tourneau planned the house, and details of design were worked out by Ephraim Field, architect and engineer. Five units are now under construction at the Le Tourneau grading machinery factory in

(*Continued on page* 18)

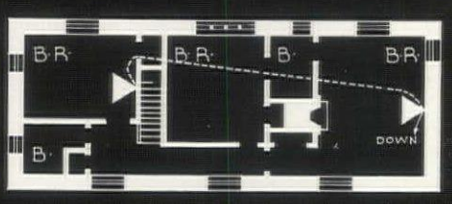
THIS MAN IS A WRITER

HERE IS HIS FAMILY

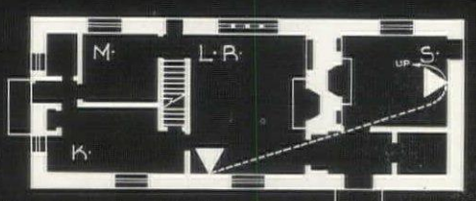


HERE IS THE HOUSE HE WILL BUILD

PROBLEM NO. 6



SECOND FLOOR



FIRST FLOOR

In asking you to design his new house, the client first wanted living comfort for his wife and daughter and self. He also asked you to provide him with a quiet room where he could work. With these floor plans approved,

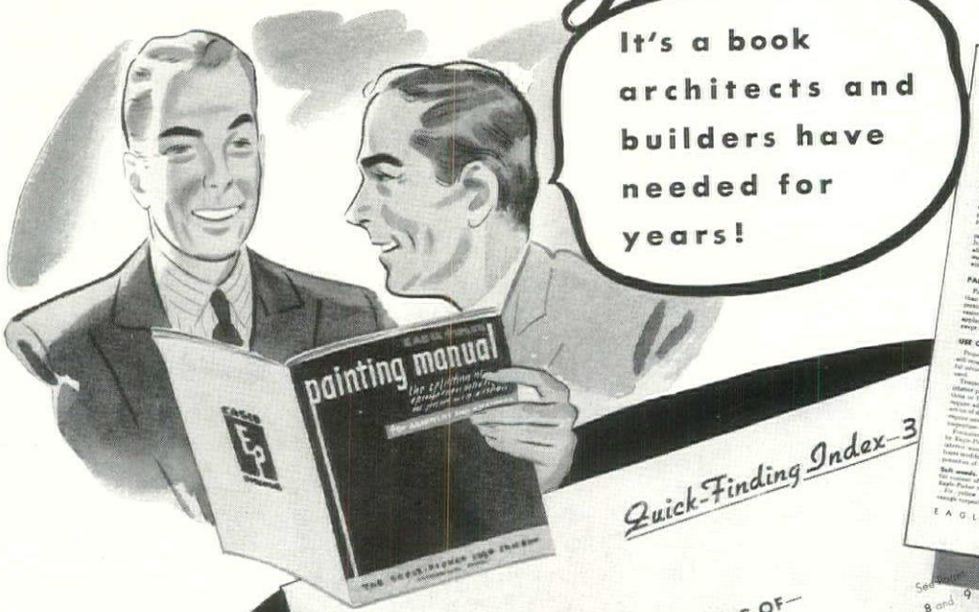
HOW SHOULD THE TELEPHONES BE ARRANGED?

Telephone conduit costs little to install in walls and floors while the house is under construction. Yet it assures the client of protection against certain types of service interruption and conceals all wiring.

An outlet in the master's bedroom and one for a portable telephone in the guest room offer convenient telephone service at both ends of the second floor. An outlet in the living room will serve as the main telephone on the first floor. An outlet for a portable telephone in the study will save many steps for the client during the day.

This is a suggested approach to a typical problem. Our engineers will be glad to help you in developing efficient, economical conduit layouts. No charge. No obligation. Just call your local telephone office and ask for "Architects' and Builders' Service."

Send today for this new



Quick-Finding Index—3

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PAINTING CONDITIONS

USE OF FORMULAS

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EAGLE-PICHER PAINTING MANUAL

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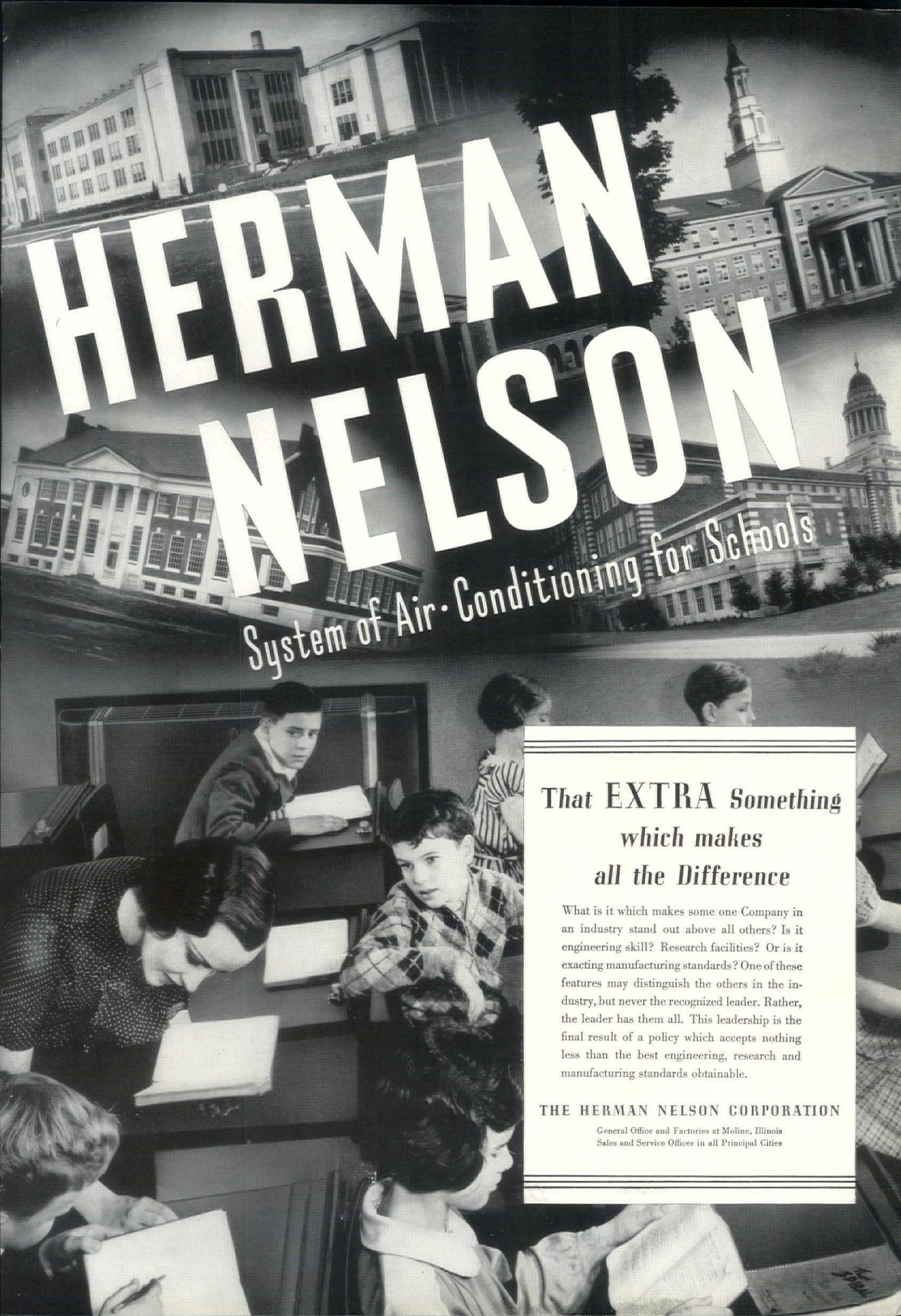
EAGLE-PICHER PAINTING MANUAL

26—TROUBLE-SHOOTING DEFECTIVE PAINT

EAGLE-PICHER PAINTING MANUAL

● Edited by the technical staff of American Architect in collaboration with Research Laboratories of The Eagle-Picher Lead Company.

THE EAGLE-PICHER LEAD



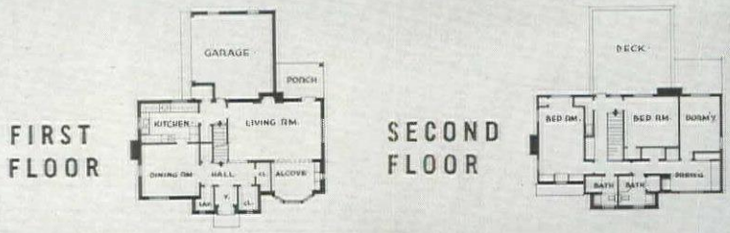
That EXTRA *Something which makes all the Difference*

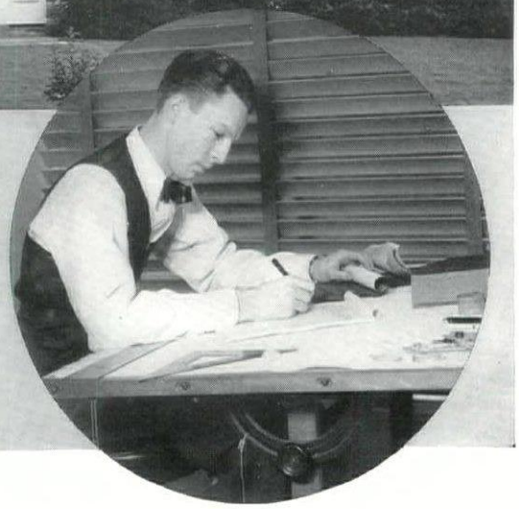
What is it which makes some one Company in an industry stand out above all others? Is it engineering skill? Research facilities? Or is it exacting manufacturing standards? One of these features may distinguish the others in the industry, but never the recognized leader. Rather, the leader has them all. This leadership is the final result of a policy which accepts nothing less than the best engineering, research and manufacturing standards obtainable.

THE HERMAN NELSON CORPORATION

General Office and Factories at Moline, Illinois
Sales and Service Offices in all Principal Cities

Residence of Mr. H. L. Townsend, Shaker Heights, Cleveland, Ohio





"HERE'S A HOUSE THAT WAS PLANNED FROM THE KITCHEN OUT" SAYS J. O. Willard

ARCHITECT, CLEVELAND, OHIO

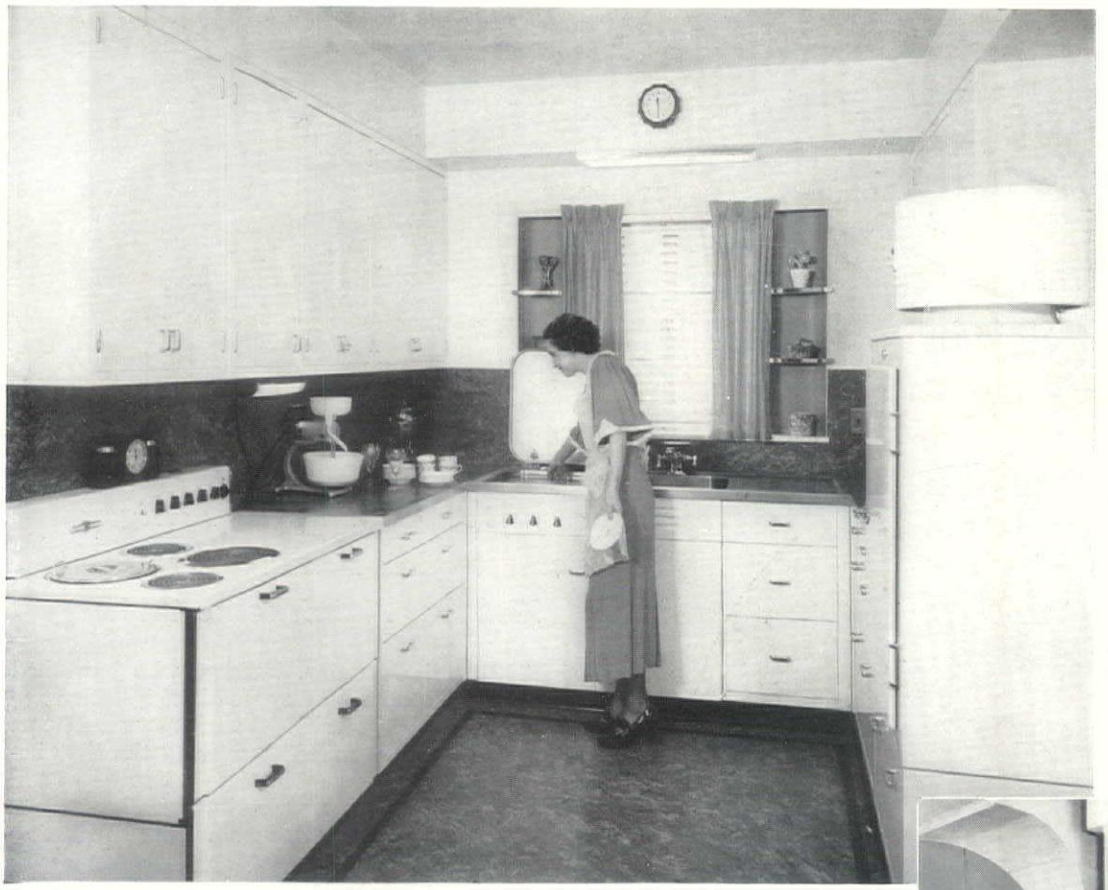
"THIS house was designed with a woman in mind—so it was literally planned from the kitchen out, unorthodox as that may seem.

The layout provides an efficient culinary work shop—with a minimum of wasted steps, and wasted energy. General Electric kitchen equipment was chosen — G-E Range—Dishwasher—Refrigerator—Disposall waste unit, and ventilating fan—because we found no other equipment to compare with it in efficiency, operating economy and appearance.

General Electric Radial Wiring was specified because it is the one best wiring system. It ends the nuisance of blown out fuses—reduces voltage losses to the minimum thereby showing a saving on current consumption.

The architectural design is derived from the typical stone houses of early Pennsylvania."

(Signed) J. O. WILLARD



The whole modern trend in kitchens is exemplified in this room—which provides better light, greater working areas, more time for leisure.

LIFE FLOWS SMOOTHLY in this G-E planned kitchen with its electric range, dishwasher, refrigerator, and Disposall. The placing of the units was planned for logical sequence and the saving of hundreds of steps, daily. The refrigerator, opposite the range, makes it doubly easy for housewife or cook to take her edibles from storage place to stove with the least possible effort.

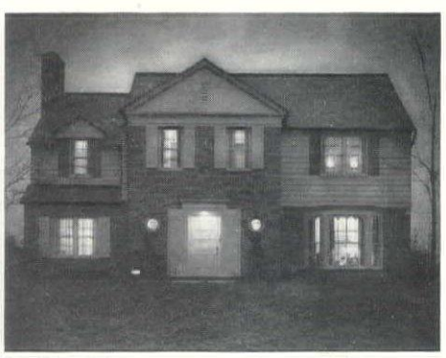
General Electric kitchen units are made in sizes that fit practically every type of interior. They may be added to, piece by piece, or installed all at once, as was done in this house.

HERE'S HELP FOR BUSY ARCHITECTS

The General Electric Home Bureau serves architects—and their clients—with technical advice and assistance on all home-electrification problems. We will check your plans from an electrical point of view—prepare wiring and heating specifications—scientific lighting plans—kitchen schemes—and Radial Wiring layouts. We can supply you with valuable data on new electrical materials, methods, and equipment. Let us help you on your next job. Address: The General Electric Home Bureau, 570 Lexington Avenue, New York.

The General Electric Warm-Air Conditioner provides the finest automatic gas heat *plus* complete winter air conditioning.

Radial Wiring eliminates blown out fuses in the H. L. Townsend home, reduces current consumption and provides ample outlets. It permits adding additional equipment without overload.



Well lighted houses mean easier seeing. Poor lighting can affect not only the eyes but the entire nervous system. This home is properly wired . . . and lighted with MAZDA lamps made by G-E . . . *the kind that stay brighter longer.*

Just Published! A new book on Kitchen Planning . . . packed with new ideas for making kitchens lovelier and more efficient. Mail the coupon now for your free copy.

AA-3-37

GENERAL ELECTRIC CO.
Home Bureau, 570 Lexington Ave., N.Y.

Please send me your new book on Kitchen Planning.

Name . . . . . .

Address . . . . . .

. . . . . .

GENERAL ELECTRIC

RESEARCH KEEPS GENERAL ELECTRIC YEARS AHEAD!

AFTER WIDE EXPERIENCE IN MANY PROPERTIES DURING THE PAST 9 YEARS...

PROMINENT BUILDER AGAIN CHOOSES SERVEL ELECTROLUX

THIS NEW BUILDING at 45 Hawthorne St., Brooklyn, N. Y., is the latest to be equipped with Servel Electrolux by Mr. Gustave Kellner, who has installed more than 600 of these refrigerators during the past nine years.

Mr. Gustave Kellner Equips New Brooklyn Apartment House With Gas Refrigeration Because Of Its Permanent Silence And Low Maintenance Cost

THROUGHOUT the country, builders who have had years of experience with all types of refrigeration are today choosing Servel Electrolux for their new structures. This nationwide trend becomes stronger all the time because Servel Electrolux—in more than a decade of "in service" performance—has *proved* that its basically different method of operation assures permanent silence and lasting efficiency.

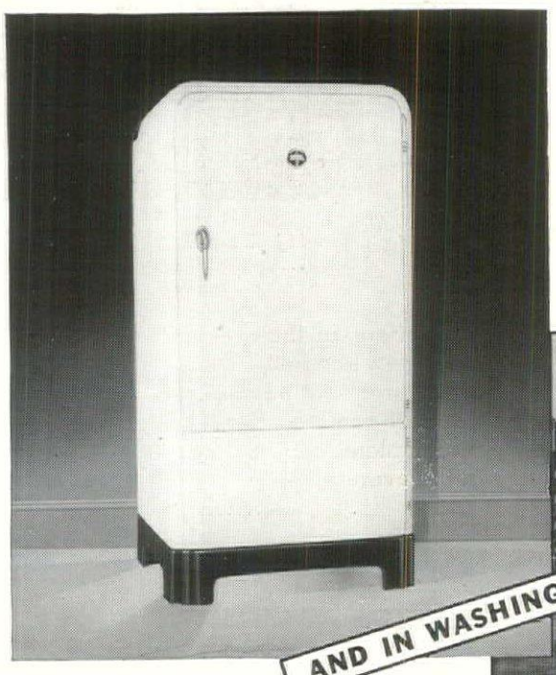
TENANT SATISFACTION

Read this letter from Mr. Gustave Kellner, well-known property owner of Brooklyn, N. Y.:

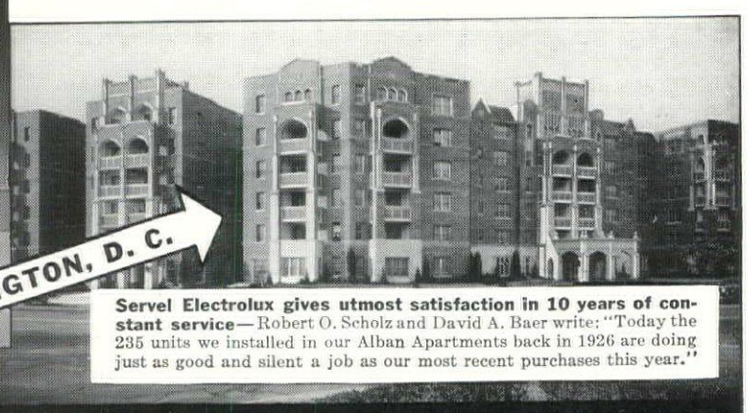
"Nearly nine years ago I bought my first Servel Electrolux Refrigerators. Since then, I have installed more than 600 of them in my various properties, including my new building at 45 Hawthorne St., Brooklyn. One reason for my repeated choice is that the silence and low operating cost of Servel Electrolux mean a lot to my tenants."

GAS COMPANY SERVICE

In addition to its long-lasting satisfaction and low maintenance cost, this refrigerator also gives you the advantage of prompt and reliable gas company service, in case it should ever be needed. That is why hundreds of builders and owners everywhere have found that it pays to install Servel Electrolux. See the new 1937 models on display at your local gas company showroom. Servel, Inc., Servel Electrolux Sales Division, Evansville, Indiana.



AND IN WASHINGTON, D. C.



Servel Electrolux gives utmost satisfaction in 10 years of constant service—Robert O. Scholz and David A. Baer write: "Today the 235 units we installed in our Alban Apartments back in 1926 are doing just as good and silent a job as our most recent purchases this year."

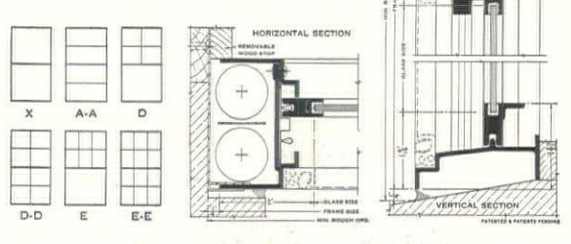
EXPERIENCED BUILDERS SPECIFY SERVEL ELECTROLUX

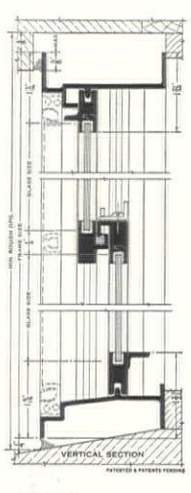
THE GAS REFRIGERATOR

SOLID ALUMINUM OR BRONZE WINDOWS FOR THE BETTER HOMES OF TODAY!

Kawneer
SEALAIR
WINDOWS

LIGHT SEALAIR WINDOWS are available for any type of architecture, in 6 standard types of muntin arrangement shown below. Patented Sealair Inside Glazing Stop permits easy re-glazing in case of glass breakage. Sealair construction, shown in details, produces an extremely low infiltration figure in tests made in the Engineering Laboratories of the Robert W. Hunt Co. Yet these windows operate with utmost ease at all times.





KAWNEER offers, in the practical LIGHT SEALAIR WINDOW, a new and better solution to the window problem. All the important advantages of fine rustless metal alloys and of patented Sealair construction are obtained in a complete, compact unit ready for quick installation in the average home.

These sturdy, double-hung windows are carefully fabricated from solid aluminum or bronze shapes; sash slide on integral weather strip guides, and interlock at head, meeting rail and sill. The unit is thus highly effective against wind and weather, though retaining exceptional ease of operation. Upkeep economy, permanence, beauty, compactness, and strength are other advantages—demonstrated by installations from coast to coast. Standard sizes range up to 36″ in width. Screens and storm sash are available in the same metals.

WRITE THE KAWNEER COMPANY, NILES, MICHIGAN, FOR COMPLETE DATA — TODAY!

NEW DESIGN
NEW VALUE
NEW
CONVENIENCE

CRANE *Neuvogue*

Now ready for your clients

● To architects looking for today's finest expression of bathroom beauty and utility, Crane presents *Neuvogue*—the history-making achievement in bathroom design which, even in advance of large-scale production, created such tremendous public interest and enthusiasm. Now *Neuvogue* is ready for delivery to *your* clients.

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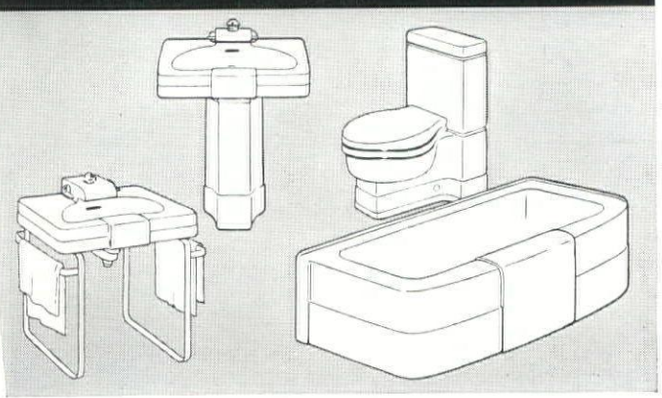

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AMERICAN ARCHITECT
AND ARCHITECTURE

THIS MONTH

EDGAR WILLIAMS fires the opening gun for open architectural competitions for public buildings with his article "Architectural Competitions—A Hope." It is too much to expect to keep politics out of the construction of public buildings but at least it is feasible to keep it out of their design.

THE COMPETITION FOR THE UNITED STATES CAPITOL was announced in the following quaint way—"A Premium of a lot in the city to be designated by impartial judges, and $500.00, or a medal of that value, at the option of the party, will be given by the Commissioners of Federal Building to persons who, before the 15th day of July, 1792, shall produce them the most approved plan, if adopted by them, for a Capitol to be erected in the City, and $250.00, or a medal for the plan deemed next in merit to the one they shall adopt; the building to be of brick and to contain the following compartments to wit: A conference room, room for representatives (to contain 300 persons each, a lobby or ante-chamber to the latter), senate room of 1200 sq. ft. of area, (an ante-chamber and lobby to the latter). These rooms to be of full elevation. 12 rooms of 600 sq. ft. area each for committee rooms and clerks, to be of half the elevation of the former. Drawings will be expected of the ground plot, elevation of each front, and section through the building in such direction as may be necessary to explain material structure, and an estimate of the cubic feet of the brick work composing the whole mass of the walls. (Signed) Thomas Jefferson, D. d. Stuart, Dan'l. Carroll, Commissioners."

THE ANNUAL HOUSE BEAUTIFUL SMALL HOUSE COMPETITION AWARDS are becoming increasingly coveted architectural prizes. Their results are also setting a higher standard of taste and construction in domestic architectural design.

ARNE JACOBSEN is doing some of the most significant work in the Scandanavian countries. All of his work has been done since 1930. Last spring he was awarded the Eckensberg medal for work on the Charlottenborg Spring Exhibition.

HARMON HENDRICK GOLDSTONE is a young architect in the offices of Harrison and Fouilhoux. He gained his architectural training at Harvard and at Columbia, where he was a favored student of the late Henry Wright. Last summer while surveying architectural progress abroad, he was struck by the adaptability of the Bellevue development to the American scene.

NEXT MONTH

DR. N. L. ENGELHARDT, professor of education at Teacher's College, Columbia University, has written an article "The School of Tomorrow" which is an extremely significant discussion of the change in teaching and its influence on architecture.

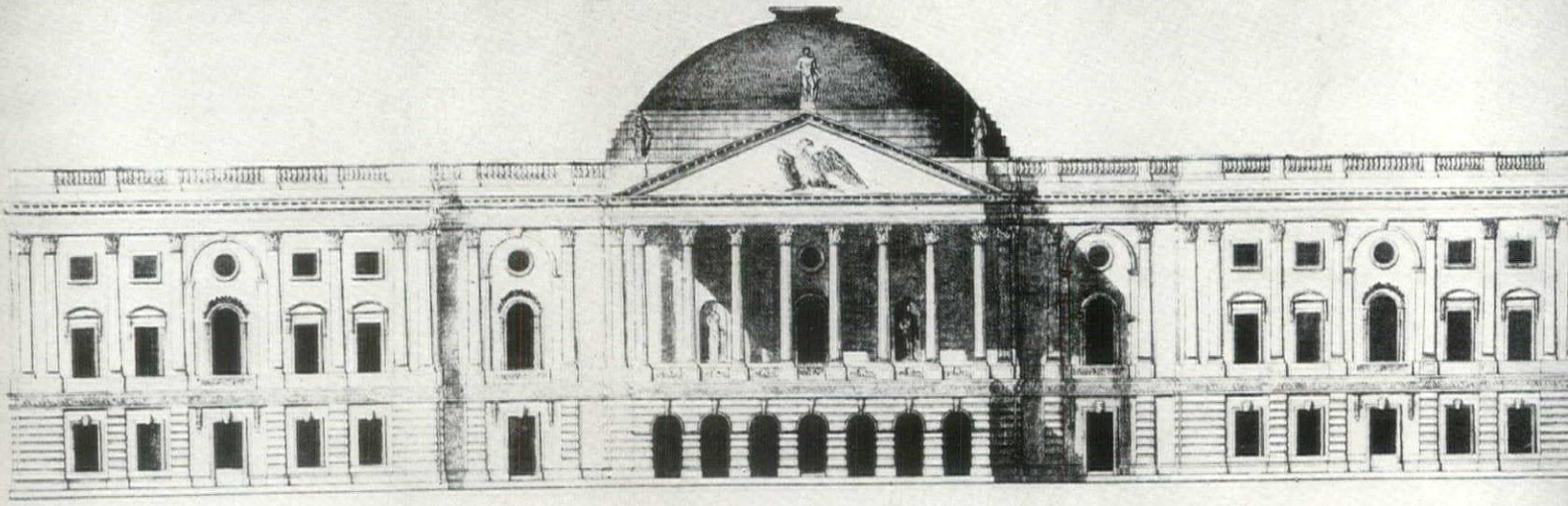
AUDIO-VISUAL CLASSROOMS are used for one of the newest methods of progressive teaching. Colonel F. L. Devereux, an authority on this subject, has written an excellent article well illustrated with photographs and drawings.

NILS AHRBOM and HELGE ZIMDAHL'S school in Stockholm is an outstanding example of foreign school planning. There will also be a number of fine examples of recent American school building.

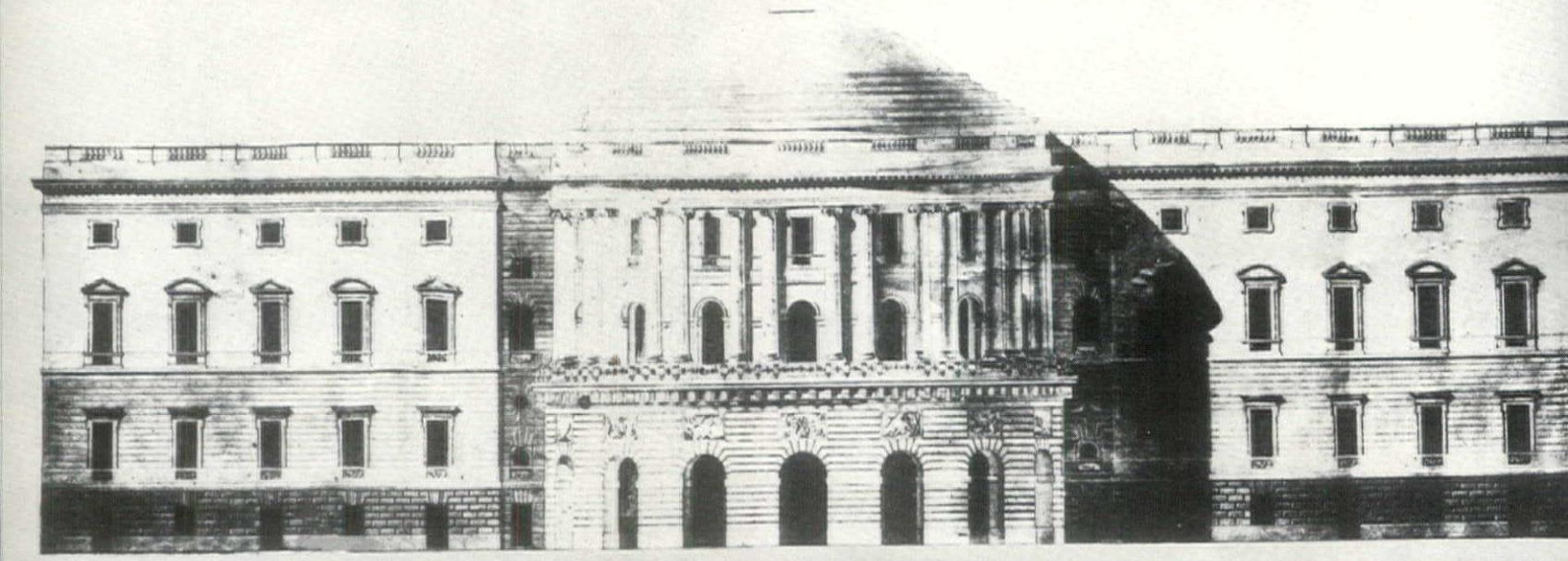
UNIT PLANNING of classrooms is an important subject. Factual elements found common to most classrooms are presented from data gained from school building codes of the majority of states participating in schoolhouse construction.

IT IS UNCOMMON to find a house that has been so completely transformed as the George R. Dyer Residence in Brookville, New York.

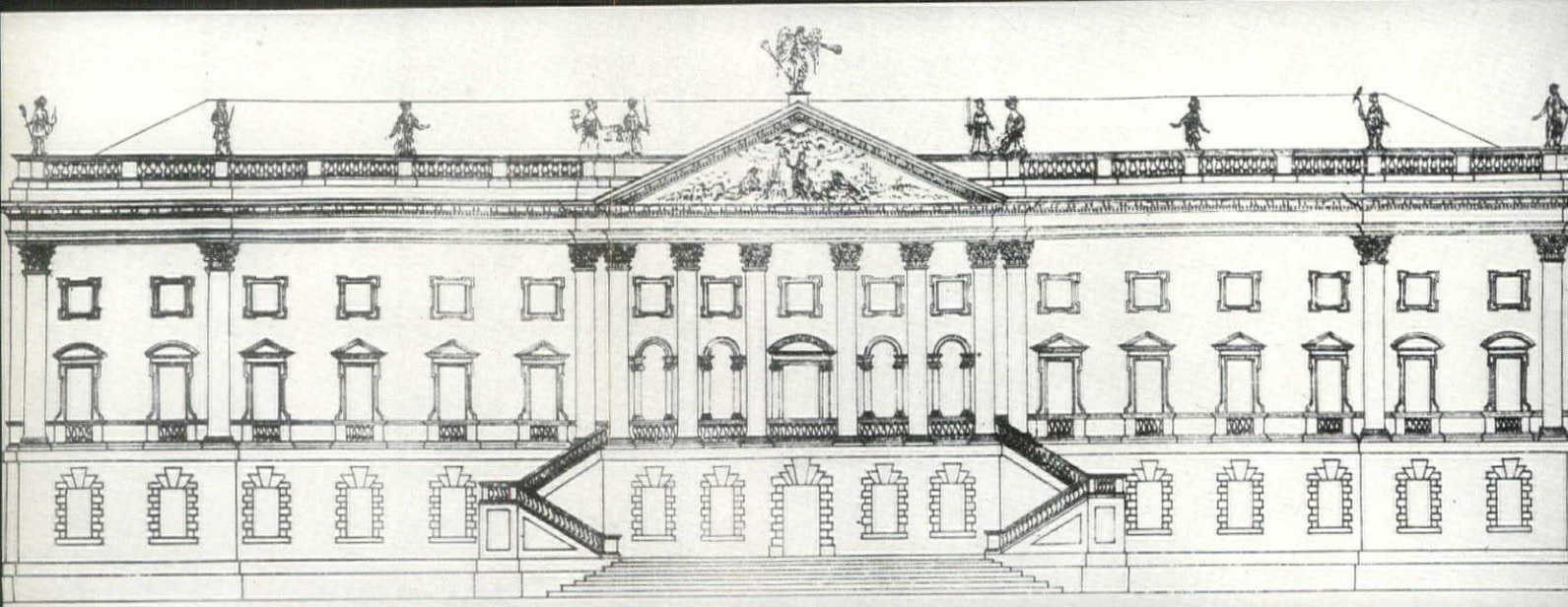
☆ U.S. CAPITOL COMPETITION 1792 ☆



ELEVATION . . . WINNING DESIGN BY WILLIAM THORNTON



ELEVATION . . . HALLET'S MODIFICATION OF THORNTON'S DESIGN



ELEVATION . . . ELEVATION OF DESIGN BY S. M. McINTIRE

From the History of the United States Capitol by Glenn Brown

ARCHITECTURAL COMPETITION . . . A HOPE

The construction of public buildings is often a rich political plum, but their design should never be. Open architectural competition eliminates this and also leads to the discovery of new talent and usually better architecture.

BY EDGAR I. WILLIAMS

UPON a revival of architectural competition rests one of the few hopes for the profession of architecture.

At the last convention of the American Institute of Architects a group of members presented a resolution calling for the selection of architects for public buildings by competition. The resolution brought out a spirited argument, but like most arguments over a principle it slipped from facts and fair opinion to cloudy issues. No one said the principle was subversive to society or against the Stars and Stripes. Not quite!

It was perhaps not forcefully brought out that the purpose of competition is to find out who can conceive the best solution of a given problem and select the best architect for it in a way that would be fair for all. No one can say that a man who has performed well will perform better than an untried man. No one knows.

Analyze for a moment the objectives of an architect's work. What is his primary function? It would be trite to say that his primary function is the setting down on paper of the complete rules and details governing the erection of a building which *someone else* builds, and that his next function is to follow the job to see that all the rules are complied with. We know he is technician, administrator, business man, judge, and artist. When a project is completed, when the last arguments are settled, all the bills paid and the dust swept from the corridors, there remains a building. However efficient the processes of administration which lead to the completion of that building and however important, its lasting qualities are its form and usefulness. The drawings alone indicate what the architecture was to be. They may have been drawn by whom you will, but the architecture they portrayed came from the mind of a designer, not from an orator or a business executive. Let no one reason in a woofley way that what architecture a man will produce can be found anywhere except in his drawings.

If we architects as a profession could dedicate ourselves impersonally to finding the best solutions of the architectural problems presented to us, we could only do so by comparing the conceptions offered. If we were to assume that only the known author can write well and that no work of another should be read or considered, then we would wait until death removed the leaders. We would then pick our next hero on the basis of personality, political preference or salesmanship. Fortunately for the author, paper and ink are within his grasp.

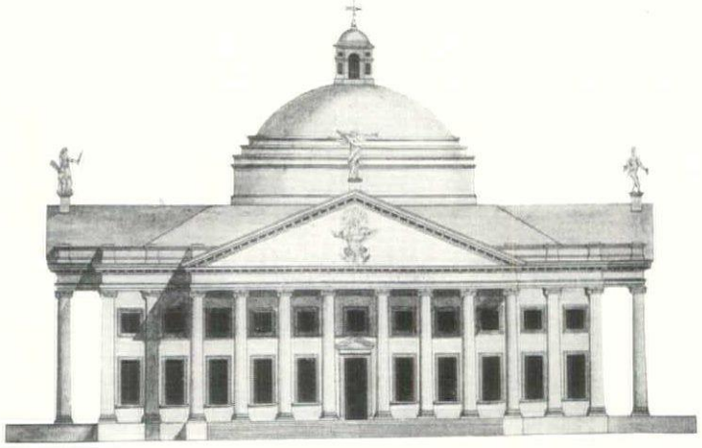
It is not so with the architect. He cannot build monumental buildings to show what he can do. His prospects are limited to edging in somewhere by sheer force-majeur or waiting for a paternal gratuity. By the possibility of a showing of drawings, he could find one more prospect.

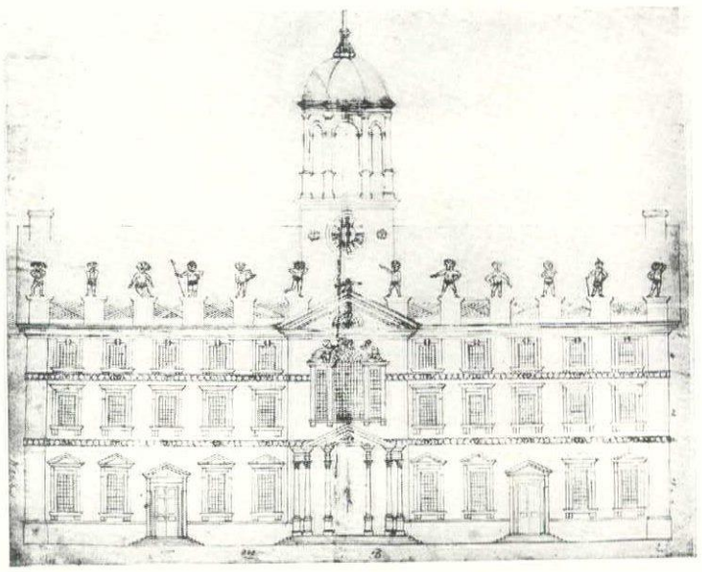
The public building offers the fairest field for finding the unknown man; the architect of the future. Let the banker pick his own man; let the silk merchant be convinced of the qualities of his architect, or the prospective home builder stumble into the selection of his wife's friend, if that be their desire. But let the public building be the forum where architectural ideas may be freely spread out so that the best may be selected. What that "best" is may be a matter of controversy. But reason as much as you will, I feel certain that there is within us all a conviction that competent juries will always find the good even if they do not unerringly pick the best according to our individual judgment.

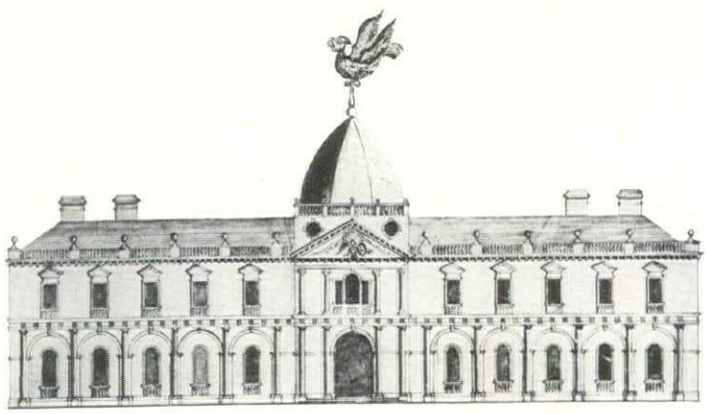
Instead of searching only for faults in the process of competitive selection of architecture, can someone present a more plausible, fairer method that will bring forth better architecture and will give more hope to the rising members of our profession?

This is the kernel of the nut. The discussion at the last A. I. A. convention brought out no better plan. The action was negative with respect to Public Buildings. Arguments against the proposal were that such a program for government buildings would be difficult, and that politics would soon control competitive selections. Politics! There is a term for a shot in billiards called "reverse English"; it would apply to this argument.

It is not a theory but a reality that the young members of the architectural profession are almost to the man massed against the A. I. A. They may be wrong in their attitude. I may be wrong about competitions, but I do not think so. Avoiding this and other issues, however, will never bring out truth. Avoidance of issues or the lack of courageous outspoken grappling with realities will make the A. I. A. and architecture sink farther in the mire.







Among the designs submitted in the first United States Capitol competition were those of Samuel Dobie (top), Philip Hart (center) and James Diamond. Their designs hold an excellent object lesson to the school of thought that claims that architects should be craftsmen before they are designers. The Messrs. Dobie, Hart and Diamond were carpenters and builders and their designs show it. Each indicates a certain taste and individuality, but their elevations are all out of scale. In the case of Diamond's design, the eagle seems prophetically capable of transporting the building to any part of the country.

Today, it is the fashion in school instruction to eliminate competition. There have been vices a-plenty in the method so popularized by the Beaux-Arts Society of America. The vices are not in the principle, but in the application. A weakness in the method is in the impossibility of handling practically the deluge of competitive submissions to the Beaux-Arts juries. There are many vulnerable points in the application of the principle in such a vast scholastic scheme: finding competent juries, for example. Yet is that reason for a complete abandonment of comparative studies? I think not. There is a lack of courage in an intellectualized theory which has the negative principle of "who are we to judge?" This smacks of art for art's sake or for some lesser worthy sake perhaps.

The Board of Design of the New York World's Fair 1939 conducted a competition for a typical building. There was much comment and criticism of what came out of it. But few old names showed in the premiated results. Perhaps the older established firms were above such nonsense. Perhaps they did not have what it takes. The results of the competition showed much vulgarity and little of an inspiring nature, but it seems to me the competition put yeast in the Fair's architectural dough. It was at least an opportunity to "put up or shut up."

Anent the Fair, the Federal Government will erect a building to house its exhibits. Here is a fitting problem for a competition. No other selective method could be as just. No other method would better lead to a comparative portrayal of American trends in architectural design of today. If some unknown youth should produce a masterpiece, his product could be built under the guidance of the Board of Design's structural division. It would be any way, so why worry. Here is a subject for a competition that is what the racetrack fans call "a natural." Incidentally the government might do better by itself than be represented by another domed Pantheon with long ears, as in Chicago.

The World War Memorial for Albany will, it seems, be done without benefit of the architectural profession's advice. Is there a self-respecting architect in New York State who would not gladly pit his abilities against his respected competitor rather than have this inspiring problem put in the hands of an arrogant political appointee; one who in this case is not even an architect?

In reviewing the results of competitions of the dim past, one can point to such buildings as the United States Capitol and the White House in Washington, or the New York City Hall. Review the names of winners of competitions in the recent past when the country was more architecturally minded. The best architects came through. Paul Cret came before the nation as the able man he is, by way of competitions. Eliel Saarinen's name became a national one by way of the Chicago Tribune Tower Competition. He did not win it. Fate seemed to be against him, but that competition gave Raymond Hood a grip on a budding brilliant career. Saarinen's design had far-reaching influence on contemporary American tall building design.

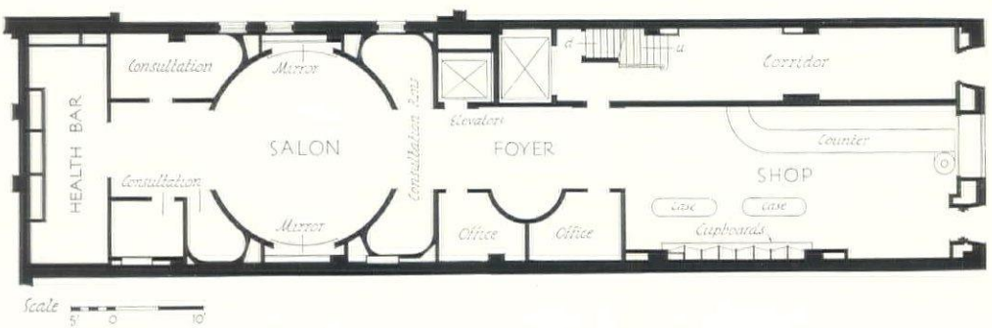
These are rich results. They are architectural results in the sense that design is the basis of good architecture, not business ability or political acumen. Above all, however, competitions offer hope to youth, and in youth lies the strength of continuing progress.

PHOTOS: NYHOLM

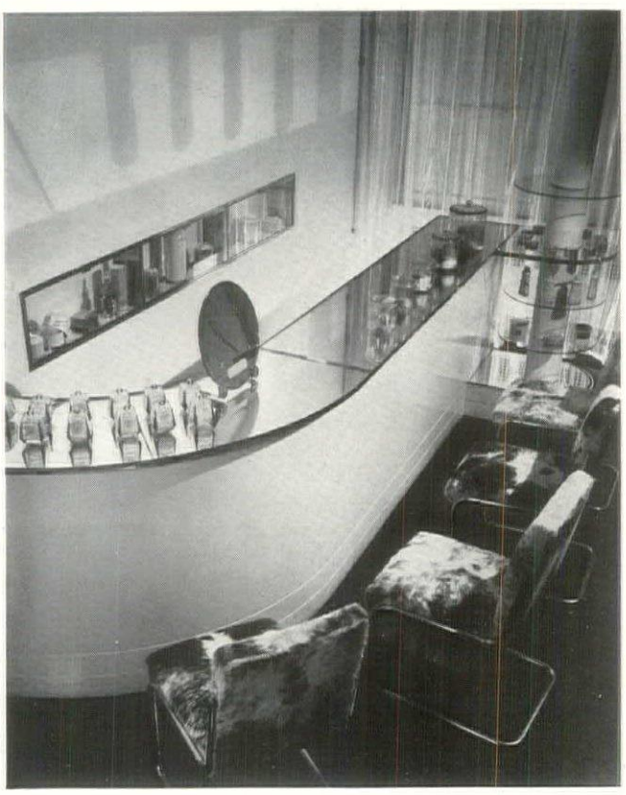
shop of helena rubinstein new york . .

HAROLD STERNER, ARCHITECT SAMUEL OXHANDLER, ASSOCIATE

LADISLAS MEDGYES, MARTINE KANE, DECORATORS



Architecture is becoming as important to the cosmetic industry as glamorously named and packaged products. Leading cosmetic manufacturers use, as an important part of their merchandising promotion, the idea of beauty acquired in sophisticated settings on the Rue de la Paix or Fifth Avenue. This new shop is a remarkable combination of clinical austerity and elaborate Victorianism. The main sales room for packaged merchandise is, architecturally speaking, absolutely to the point. Walls, counters and cabinets are white. Flooring is blue rubber which is used throughout the main floor. Display cases are of glass trimmed with copper. Copper is also used for furniture and hardware. Chairs are upholstered in cowskin. Mirror is used as the counter top and on one wall. Lighting is indirect.



shop of helena rubinstein new york

PHOTOS: GOTTSCHO

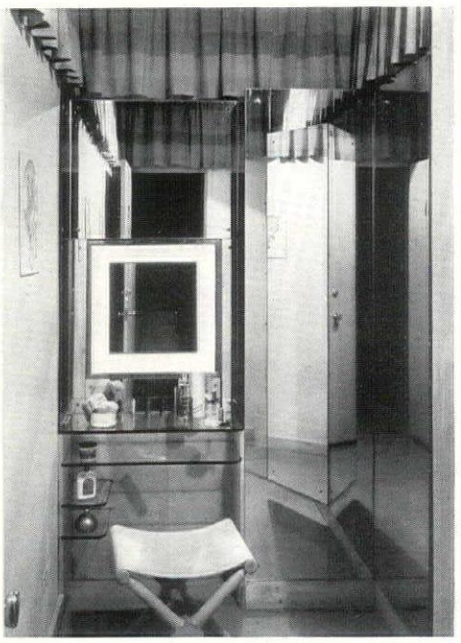
Blue papered walls of the round salon serve as a simple background for sculptured figures representing the four seasons, by Eli Nadelman, and elaborate Victorian and plaster furniture. Flooring is of blue rubber and the draperies are royal blue satin. Some of the furniture is upholstered in blue satin and the remainder in white. The large central sofa is terminated by a white plaster vase which is a source of light. The large console tables have marble tops and plaster bases. (Above) A view toward the health bar. (Right) Two elaborately draped recessed mirrors face each other across the salon.

HAROLD STERNER, SAMUEL OXHANDLER - - - ARCHITECTS

LADISLAS MEDGYES, MARTINE KANE - - - - DECORATORS

shop of helena rubinstein new york

HAROLD STERNER, ARCHITECT - SAMUEL OXHANDLER, ASSOCIATE
LADISLAS MEDGYES, MARTINE KANE, DECORATORS



Mirrors are used on one wall of the gymnasium (below) in the same manner in which they are used in dancing schools so that the exercisers may check their form. Flooring is of cork. The small treatment rooms (right) have mirrors along two walls. The make-up mirror has indirect lighting.

THREE PRIZE WINNING DESIGNS

HOUSE BEAUTIFUL COMPETITION

The results of the annual House Beautiful Competition are of increasing importance to the profession and to the public at large. The houses submitted are indicative of the trend of our national architecture and present a series of thoughtful solutions to many and varied problems. The basis upon which the prizes were awarded was (1) excellence of design, (2) economy of space and convenience of plan, (3) adaptation to lot, and orientation of house, (4) skill in selection and handling of materials

JURY OF AWARDS

ETHEL B. POWER
Conductor of the Competition

HAL F. HENTZ, A.I.A.
Hentz, Adler and Shutze, Atlanta, Ga.

J. ANDRE FOUILHOUX, A.I.A.
Harrison and Fouilhoux, New York City

W. POPE BARNEY, A.I.A.
Philadelphia

KENNETH K. STOWELL, A.I.A.
Editor of House Beautiful
Editor of American Architect and Architecture

CLASS I

Houses of six to nine rooms, inclusive, built east of the Mississippi.

First Prize: Perry M. Duncan, architect, New York City, House of Graham Edgar, Bronxville, N. Y.

Second Prize: Hunter McDonnell, architect, New York City. House of Norman Kadison, White Plains, N. Y.

Honorable Mention: Edwin M. Loye, architect, Bronxville, N. Y. House of Raymond A. MacDonald, Scarsdale, N. Y.

Honorable Mention: Royal Barry Wills, architect, Boston. House in Revere, Mass.

CLASS II

Houses of six to nine rooms, inclusive, built west of the Mississippi.

First Prize: William Wilson Wurster, architect, San Francisco. House of Edwin S. Berry, Santa Cruz, Cal.

Second Prize: Frederick L. R. Confer, architect, Berkeley, Cal. House of Mr. and Mrs. W. H. Hall, Sausalito, Cal.

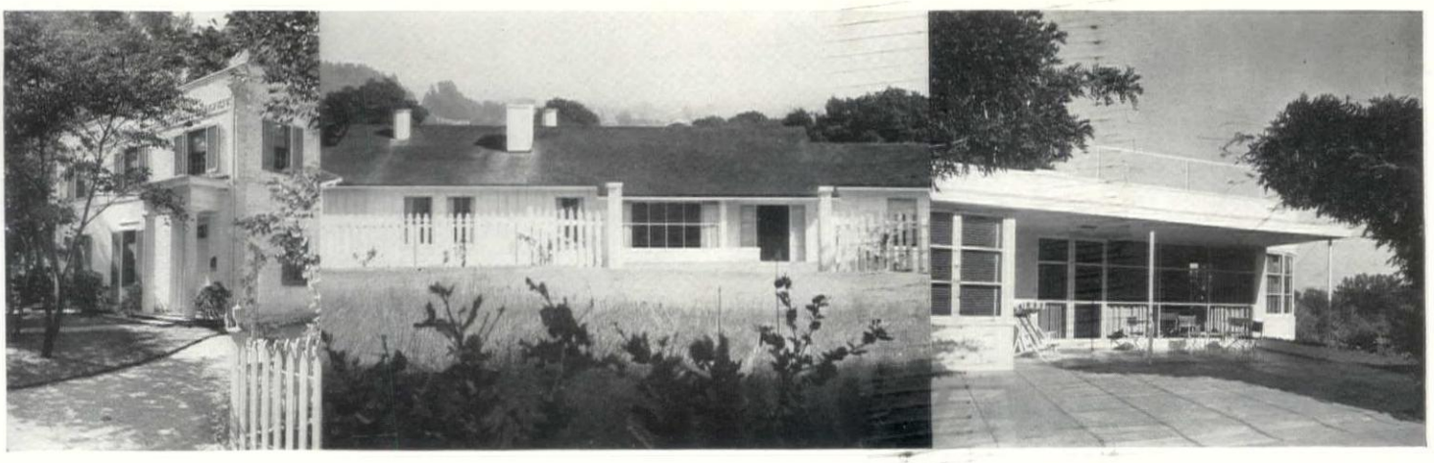
Honorable Mentions: Wallace Neff, architect, Hollywood, Cal. House of Robert F. Garner, Jr., San Marino, Cal. William Wilson Wurster, architect, San Francisco. House of Mr. and Mrs. Forest Naylor, Oakland, Cal. Winchton L. Risley, architect, Los Angeles, Cal. House of Nelson Wheeler, Pasadena, Cal.

CLASS III

Houses of five rooms, or less, built in any part of the country, but intended especially for week-end use.

Special Prize: Gardner A. Dailey, architect, San Francisco. House of William Lowe, Jr., Woodside, Cal.

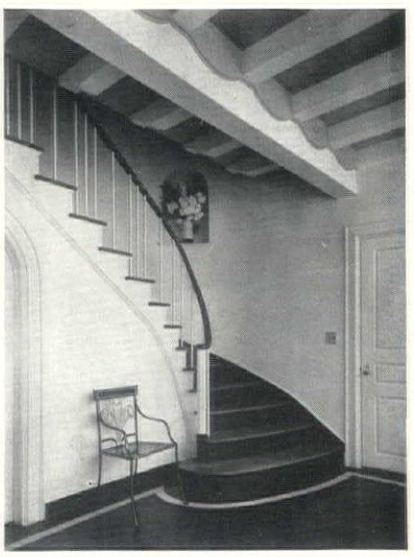
Honorable Mentions: Harwell Hamilton Harris, architect, Los Angeles, Cal. House in Fellowship Park, Los Angeles, Cal. Donald Beach Kirby, architect, Balboa Island, Cal. House of Mr. and Mrs. Fred Pease, Balboa Island, Cal. William Wilson Wurster, architect, San Francisco. House of Miss Diantha Miller, Carmel, Cal. William Wilson Wurster, architect, San Francisco. House of Frank McIntosh, Los Altos, Cal.



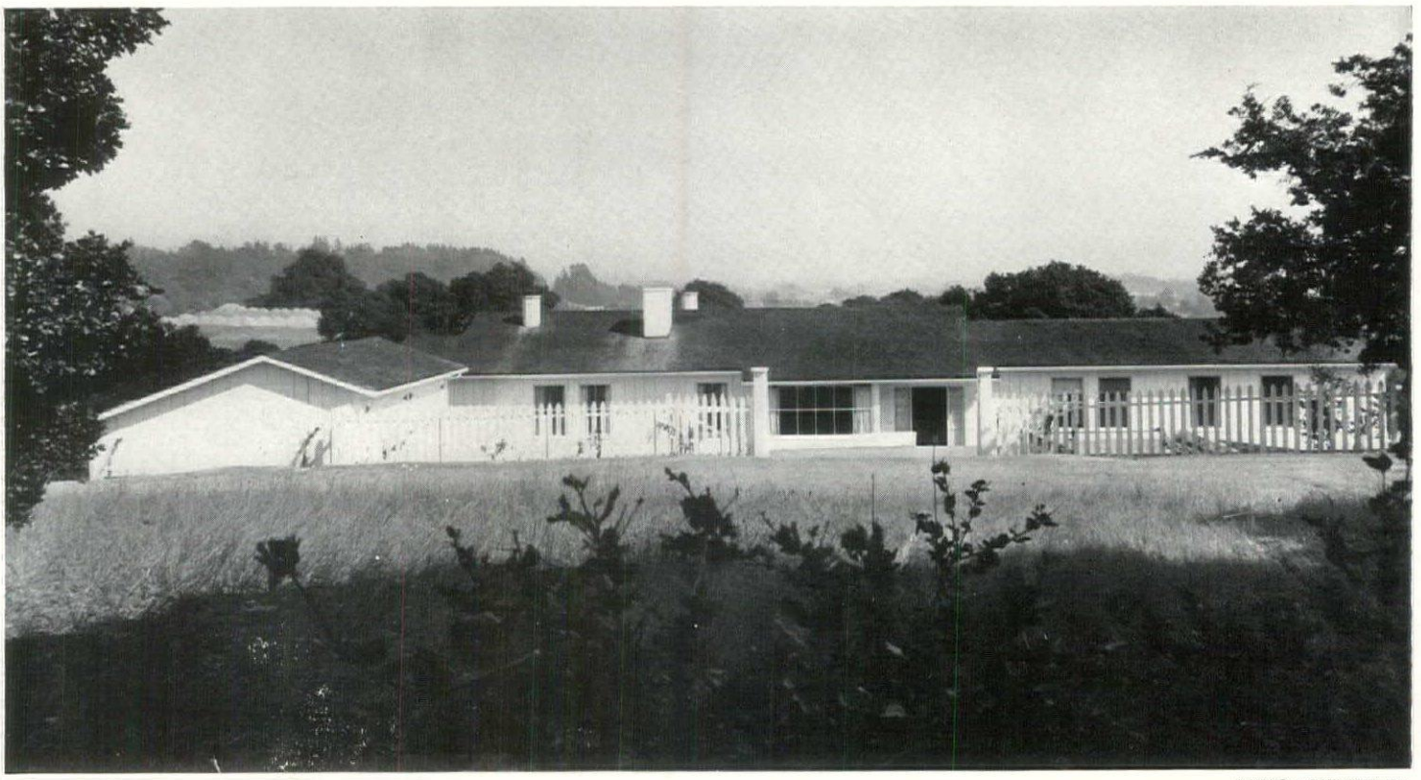
PHOTOS: JOHN GASS

FIRST PRIZE AWARD, CLASS I.
HOME OF MR. GRAHAM EDGAR, BRONXVILLE, N. Y.
PERRY M. DUNCAN, ARCHITECT

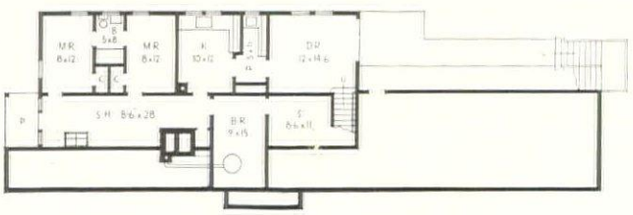
Designed to accommodate a couple, one child, and two servants, the house is the simplest type of enclosure. The rooms relate well one to another and to the service areas. The cubical central mass is enriched by the introduction of a living terrace and loggia, and the garage and servants' wing. The skillful handling of the brick veneer and the restraint exercised in the adaptation of the Greek Revival tradition received the commendations of the jury



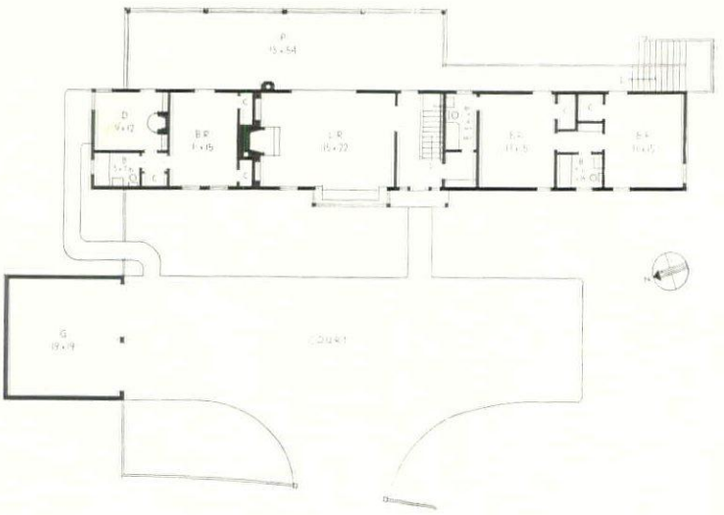
Access to the living terrace is from the dining room. The loggia at the far end of the terrace is furnished with brightly colored garden chairs and is sheltered from the service yard by a high wall. The living room walls and ceiling are finished in gray, the trim and mantel are in white. A basement game room is finished with plain Celotex walls and an asphalt floor, and includes a fireplace. The house is equipped with a Gar-Wood oil-burning air conditioning system



PHOTOS: STURTEVANT



FIRST FLOOR PLAN



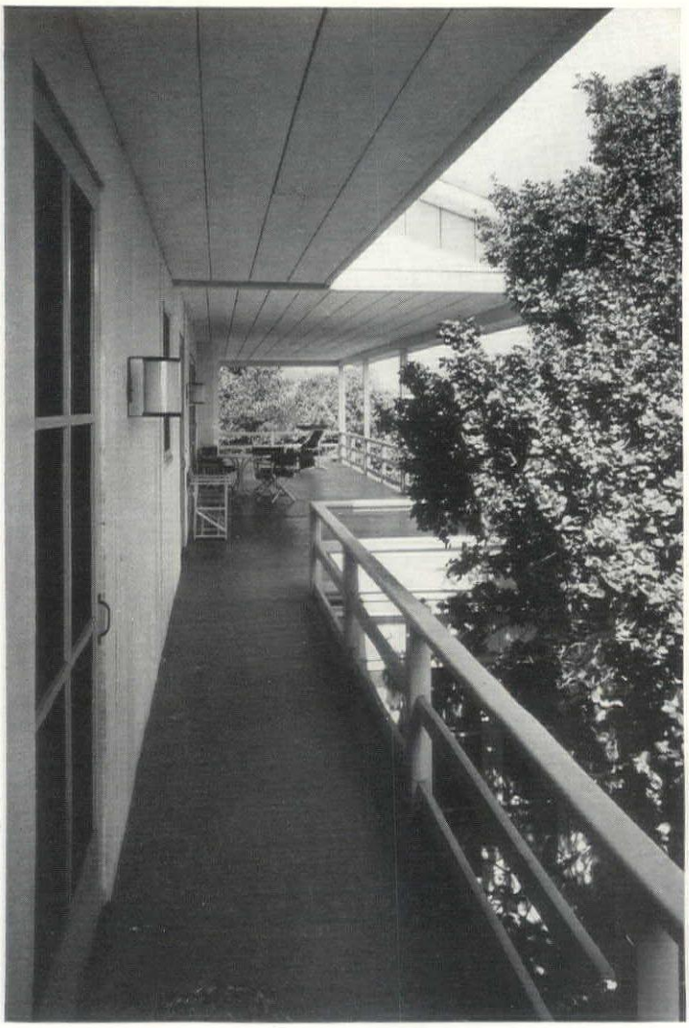
SECOND FLOOR PLAN

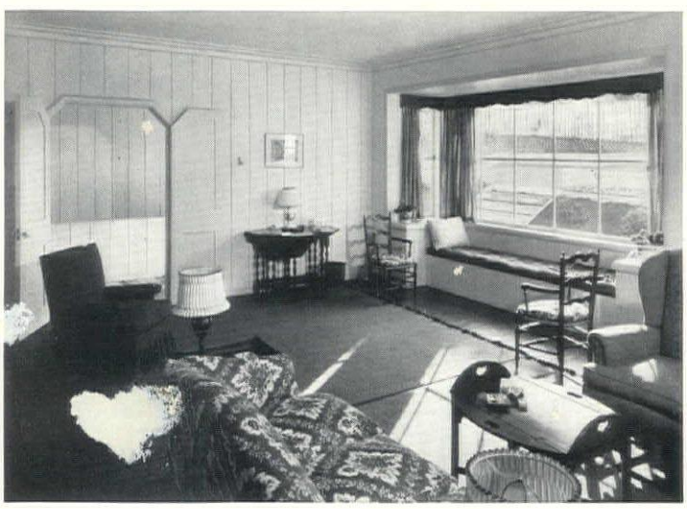
FIRST PRIZE AWARD, CLASS II.

HOME OF MR. E. S. BERRY, SANTA CRUZ, CAL.

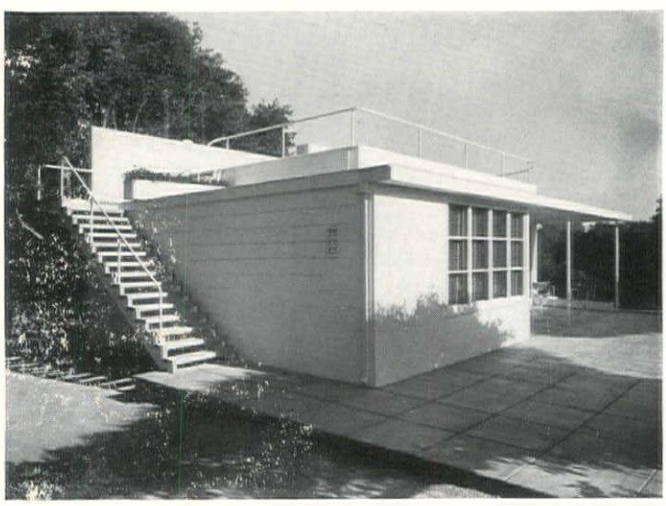
WILLIAM WILSON WURSTER, ARCHITECT

Restricted by the sloping site from providing the traditional California patio, the design of the house was cited by the jury for its adaption to a difficult plot and the specific implications of California climate. The forecourt on the upper level and the placing of the principal rooms at this level make a particularly good division between the living and service quarters. All the rooms on this floor are available from the covered porch. Construction is wood frame with vertical siding left rough, and whitewashed



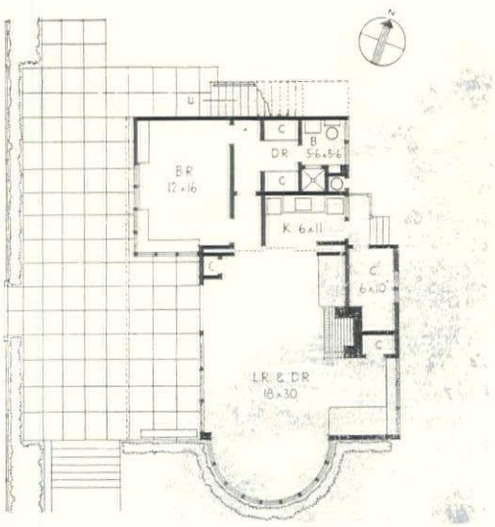


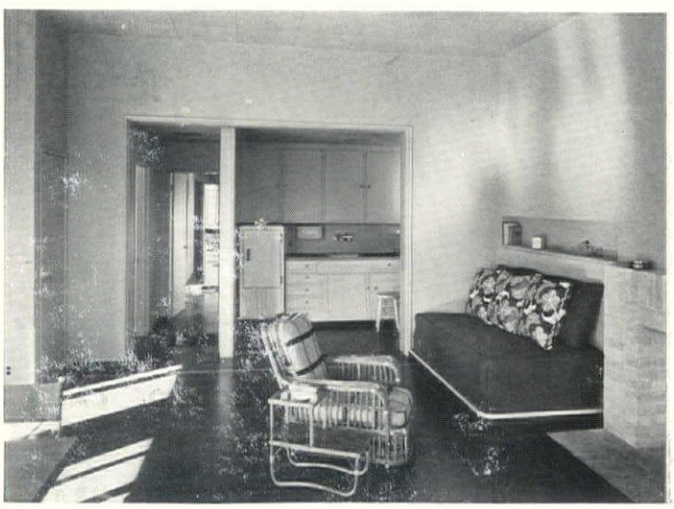
The simplicity of design and the especially fine use of appropriate materials are most apparent from the porch side of the house, which faces the view. The dining room on the lower level opens on a terrace, shaded by a huge oak tree, and partly sheltered by the overhanging gallery above. The living room is finished with vertical V-edge paneling, white behind yellow accents. The plywood ceiling is also yellow. The house is heated by an Aladdin gas-fired warm air heater with blower



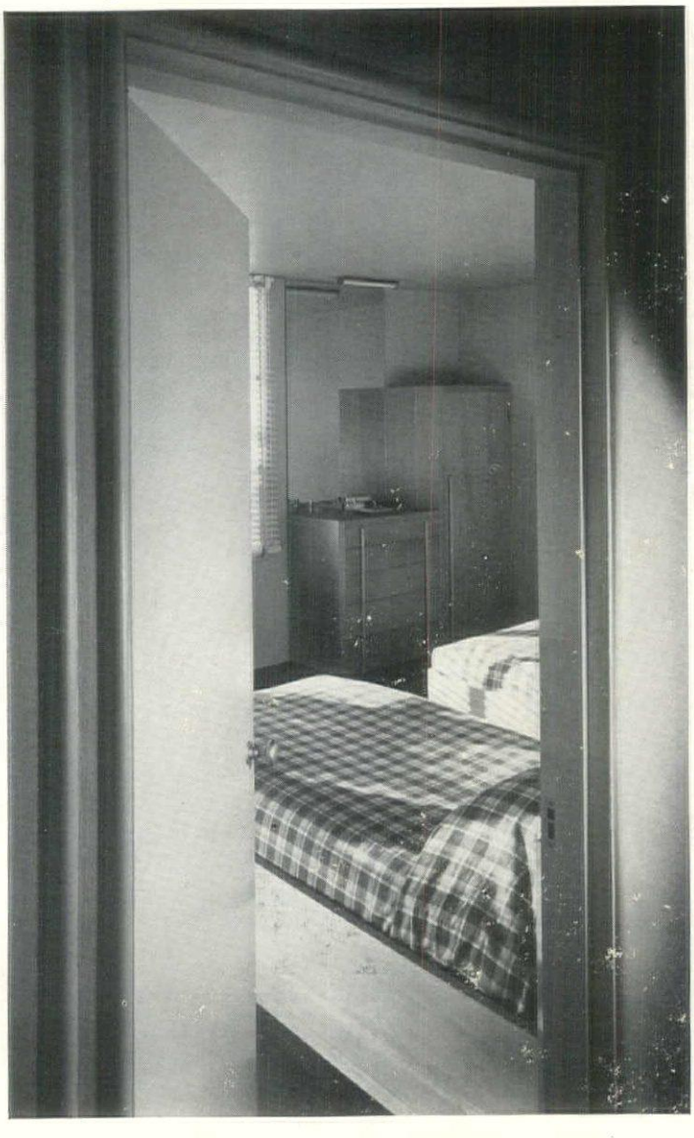
SPECIAL PRIZE, CLASS III.
HOUSE FOR W. LOWE, JR., WOODSIDE, CAL.
GARDNER A. DAILEY, ARCHITECT
ARMSTRONG, CARTER & KENYON, DECORATORS

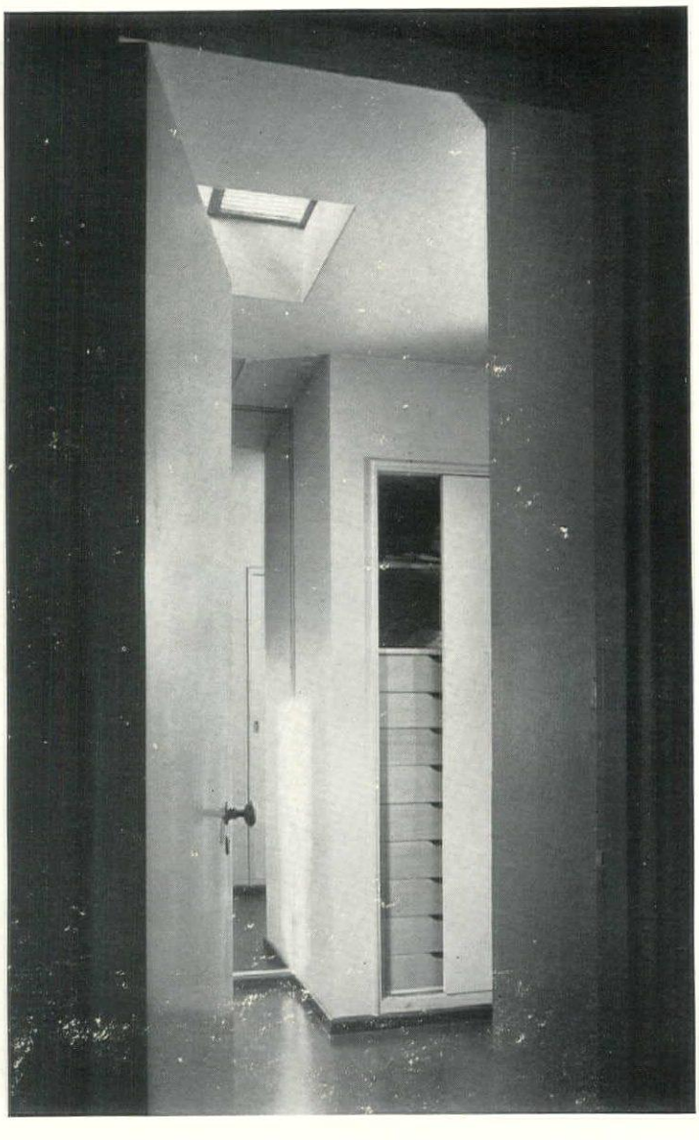
Designed as a combination guest house and recreation center, the house has accommodations for four persons. Outside stairs communicate with a sun deck which overlooks an adjoining tennis court. The construction is frame with exterior walls of flush resawn redwood siding, painted with white cement paint. The roof is a black slate mineral surfaced roofing painted with aluminum. Heating is by separate unit gas floor furnaces. All interior lighting is concealed or indirect





The interior walls and ceilings are of Insulite, painted a buff color. To eliminate the usual cracks and unevenness which occur when battens are not used to cover the joints, the studs and joists were spaced 2′-0″ on centers to accommodate the 4′-0″ widths of the material. To these were nailed 4″ strips of tempered hard board, which were then coated with linoleum cement. The wall board was carefully joined with butt joints and temporarily held in place. The resulting surface was perfectly smooth





SPECIAL PRIZE, CLASS III.

HOUSE FOR W. LOWE, JR., WOODSIDE, CAL.

GARDNER A. DAILEY, ARCHITECT

ARMSTRONG, CARTER & KENYON, DECORATORS

All the interior doors are of the flush type made of ¼" tempered hard board glued to both sides of a spruce frame. The floors are linoleum laid over quarter board which is cemented to wood subfloor. The furniture is left in natural wood color and protected by a clear finish. The skylight in the dressing room is made of glass bricks set flush with the roof in a galvanized "T" iron frame, and sealed with a mastic compound

PHOTOS: ROBERT C. WEINBERG

ARCHITECTURAL OVERTONES . . . MEXICO

Street scenes in the strong light and shadows of a tropical sun are usually remarkably handsome. This is especially true of Mexico where picturesquely costumed crowds assemble in unconsciously beautiful and ever-changing patterns against a rich architectural background.

Most of the pictures shown herewith were made in Taxco and its environs, a section of Mexico that was once the silver ore source of great Spanish wealth. Taxco, thanks to a fine highway from Mexico City is now a tourist center. Built upon a hillside dominated by a splendid blue-green domed Cathedral, it is reminiscent of many Italian hill towns. (Above) Facing the Cathedral is a small square. (Opposite page) A mule, two men, a beautifully proportioned window and giant organ cacti make a perfect setting. (Left) This and the other small wax figurines are the work of Luis Hidalgo, and are shown through the courtesy of the Arden Studios.

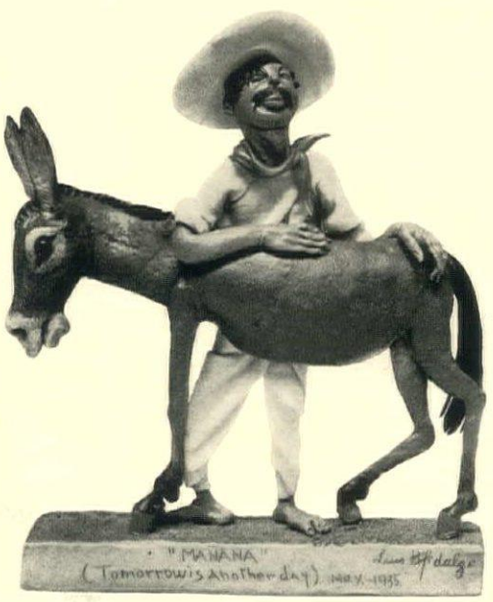

30

Since the magnificent Church built in 1717 by Le Borde, a Frenchman who discovered the pure silver deposits in the neighborhood, dominates Taxco, it is an excellent place from which to view the town.

A clearer idea of the richly colorful contrast of the orange-red tiled roofs, white-washed walls and deep purple shadows of Taxco may be had by comparing this with Ernest Born's cover for this issue.

Sunday is market day in Taxco. Gaily dressed crowds vie with colorful and exotic foodstuff displays, brought from the terraced gardens of the surrounding hills, in presenting a festive scene.

On the road leading into Cuernavaca the finely proportioned portal of an old Convent garden is a paradoxical note against the temporary, primitive stands of vendors of jewelry and clothing.



Returning from market these Taxco housewives pass down a narrow street at the base of the Cathedral.

MORNINGS AT THE ROUND TABLE

WE are all selfish individualists in the last analysis, wanting to get something for ourselves, even when we attend an architectural convention. We always hope that the convention will give us something to bring home more tangible than memories of a good-time-that-was-had-by-all. Some day there will be a convention so planned that each architect will return to his work with these three things—1. a new inspiration to better work, 2. a host of ideas as to how this can be done, (because of the vicarious experience gained from discussions with others), and 3. a conviction that the profession is moving forward as a body (because of the positive action and policy agreed upon and made public).

Of course serious attempts to do just this have been made at many conventions in recent years and with varying success. The idea of the questionnaire used recently might be developed and used as the basis of convention thinking. But this would be only the means to an end and the end would be an agenda for the convention which would be geared to the current needs both of the profession and of the individual architect.

Being such self-centered individualists we usually have special interests, some architectural topic or problem that we're all-hot-and-bothered about. There are probably other convention delegates in the same condition about the same problems. Why should we not be gathered together purposefully, to exchange ideas, experiences, data, theories and solutions?

To be specific, and perhaps presumptuous,—a plan of discussion groups or a "seminar" system would be worth trying. The mornings of the convention might be devoted to the work of these smaller groups of kindred spirits discussing the problem they feel most vital and reporting back to the convention as a whole, or publishing a digest of their findings in the Octagon, or both. The afternoons could be devoted to those problems of national import on which it is necessary for the assembled delegates to take action. The evenings could be devoted to addresses, committee work, relaxation, conviviality, or to attending concurrent exhibitions, (about which more anon).

Before the convention the delegates would inform the program committee of the particular groups in which they would like to participate, either from personal preference or at the behest of their chapters. One might prefer to discuss "Meeting competition, fair and unfair"; another's interest might be in "Experience with new building materials, their uses and defects," another "Office methods that save time," or "Architectural techniques in low cost housing," and so on. Of course the topics for groups would be decided upon in advance by the preferential vote of the chapters, and a discussion leader would be appointed for each group, as well as a reporter or secretary. The topics might be limited to those that bear directly on the personal and immediate problems of the individual architect. The list of group topics would be boiled down to a dozen, or less. Delegates would feel then that they were getting real practical help from the convention. So much for the discussion groups or "sections," as the medical profession calls them.

The "topics of national import" will come up whether or no. We will not even attempt to enumerate them or indicate relative importance here, but in convention we would like to see them attacked and not tabled or sidestepped.

And about the concurrent exhibitions at the convention; these might well be of two kinds 1. a photographic exhibit of the selected work of each chapter, and 2. an exhibit of the year's new materials and exhibition. The new products exhibit would however be limited to architectural audiences during the convention. It would be manned by engineers of the exhibiting companies whose function would be to answer all questions from a full knowledge of the product, even to questions of costs, first installation, operation and maintenance. The Producers' Council would be of inestimable value in arranging such a worth while exhibit, and the exhibit thus conducted would produce mutual confidence that is much desired. And, as a parting shot, I'd urge the chapters to send at least one delegate under thirty-five years of age—if not as a delegate, then just as a member to participate in the discussion. Let them add their enthusiasm to the inspiration, ideas and conviction gained at this unconventional convention.

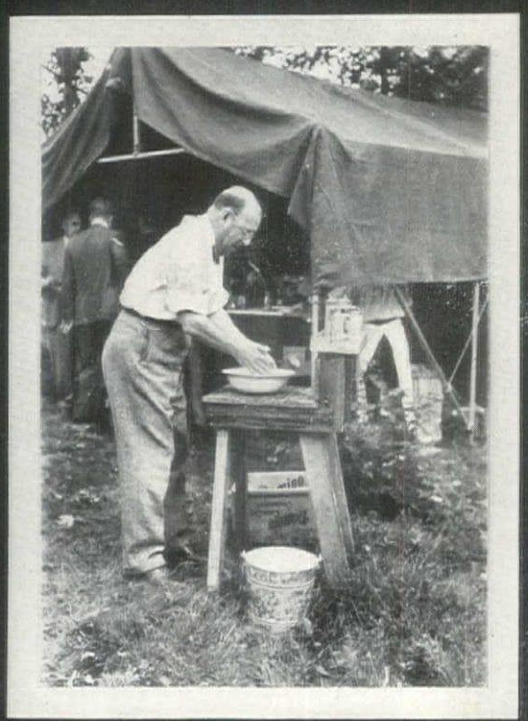
Kenneth K. Stowell

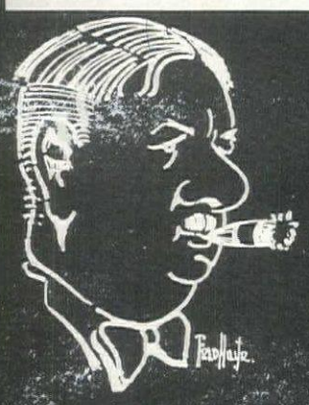
EDITOR

Architects and Avocations

W. Duncan Lee, of Richmond, when not building houses, makes models of them – as for instance, Carter's Grove carved from one of the poplar roof timbers

J. Lakin Baldridge, of Ithaca, fights swordfish off Bimini in the Bahamas. This blue marlin argued for 1¼ hours





Franklin O. Adams, known at all A.I.A. conventions for his white clothes, pits rod and reel against tarpon in the Gulf of Mexico

Roger Allen, architect and humorist of Grand Rapids, as portrayed by one whom he still calls a friend

Charles A. Dewey, past president of the Westchester County Society of Architects, in which body originated the youngest chapter of the A.I.A.

BELLEVUE:

A SUBURBAN DEVELOPMENT NEAR COPENHAGEN

BY HARMON HENDRICK GOLDSTONE

NEITHER private chaos, public project, nor philanthropic endowment is the community of Bellevue, situated just outside of Copenhagen on the Sound that separates Denmark from Sweden. It is an example of what can be done by one architect working, with vision and imagination, for private clients. That the whole development has taken on a personal and highly distinctive character is perhaps due to this very fact. The possibility of creative site planning by an individual for individuals is too often ignored.

Thus seven miles from the heart of a city of 800,000 is a popular beach resort. A theatre, a restaurant, an apartment house have sprung up around the entrance to a large public park. There is also an hotel, a railway station, a trolley terminal and a pier for excursion steamers.

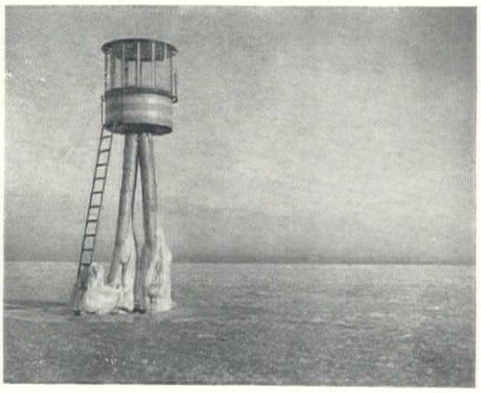
The picture that comes to mind of a similar condition in America is all too familiar. On a drive along Route 1 from Atlantic City to Boston, it will be repeated twenty or thirty times. Or, for that matter, follow the shore line through any densely urban section of the country. The same tawdry hotchpotch of competitive building will be found, almost without exception:—a free-for-all for which, in the end, all pay. And the exceptions are either where holders of large estates have been able to withstand the pressure of the growing cities, or else great State or municipal undertakings such as Jones' Beach, Playland in Rye, N. Y., or the Charles River Development in the Boston suburbs.

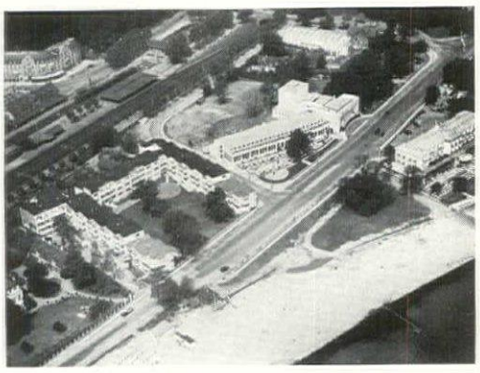
The very existence of these large sport and recreation centers in the environs of our big cities is a reliable index of the drastic need for them. They mark the beginning of a new aspect of urban life, and the pressure for their creation must indeed have been great ever to have won any material answer at all. Our cities are more crowded, more airless and treeless than those of Denmark—the pressure to escape them is greater—the ultimate answer will no doubt have to be on a larger, municipal, state and federal scale. But there will always be a need for private coöperation to supplement any public program with these projects, and individual initiative to develop such communities as Bellevue.

While the conditions that made possible such a development in Denmark may no doubt be different from our own, the problem of the sprawling city destroying the surrounding countryside is one we share. The more attractive the natural surroundings—the beaches, forests, riverbanks—the more quickly they attract "development" and disaster. Some stirring of our public conscience can be seen in the various government activities for conservation, national parks, public recreation centers and green-belt towns. An individual feeling of responsibility for the creation of a community has yet to be developed. Architects can do much to advance it. Bellevue may well serve for inspiration, if not for imitation.

The "Danish Riviera" runs north from Copenhagen some twenty-five miles to Hamlet's Elsinore. The highway follows the shore. Glimpses of the Sound, of sailboats and the Swedish coast in the distance suggest that other Sound between Long Island and Connecticut. Formerly this was a region of large private estates, royal parks and hunting preserves, but in recent years most of the estates have been taxed out of existence, and the land is broken up into small holdings. Villas, large and small, line the road.

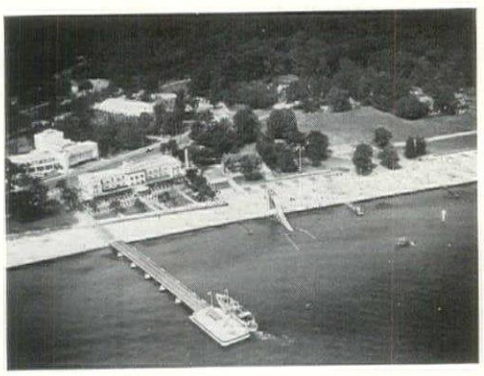
The few estates to survive is at Bellevue. There, a royal forest of beech trees comes almost to the edge of the sea. It has now been made into a public park and is stocked with a herd of tame deer. A few minutes by train from the city, by boat, by trolley, bicycle or automobile, it has





PHOTOS: AERO EXPRESS

Most striking in an air-view is the U-shaped, saw-tooth plan of the "Bellavista" Flats—designed for maximum privacy, sunlight and outlook. At the extreme left, an unfinished wall suggests a possible future addition. From the railroad station, just back of the apartments, it is fifteen minutes to the center of Copenhagen. Bellevue Restaurant has been bent back from the highway for a full view of the sea; the resulting wedge of land is cleverly utilized for dining terraces. The triangle of grass in the foreground is the site of the former trolley turn-around, since removed. Bellevue Summer Theatre connects with the restaurant. Beyond it are an indoor riding-ring and livery stables. Garage and parking spaces are planned for the remainder of this block. The entrance to the Beech Forest is over the railroad bridge at the extreme top center of the picture.



The steamer from Copenhagen is at the pier where it docks every hour. Beyond it is the old Beach Hotel with its cafe terraces. The women's unit of common dressing room and individual cubicles is next—the men's unit runs off to the right. A life-guard's lookout, perched on two piles, commands a good view of the bathers. Behind the beach is the small park and play field created when the highway was moved to its present position in 1932. Its old location is seen in the path that runs back of the bath houses. The winning design of a recent site planning competition would provide a pedestrian bridge over the highway and railroad tracks to connect the ancient Beech Forest, of which the dense foliage fills the top of the picture, with an extended shore promenade.

become a favorite spot for forest excursions on foot or on horseback; (no motors are allowed). At the main entrance to this park an hotel has stood for many years. The surrounding property was in various hands and might easily have been developed in the usual haphazard fashion. In 1932, however, the local committee of selectmen decided to move the thoroughfare back from its position near the beach to one closer to the parallel railroad track. The awkward triangle of land left by this change was turned into a small park, and three architects were invited to compete for the design of some public bath houses. The competition was won by Arne Jacobsen.

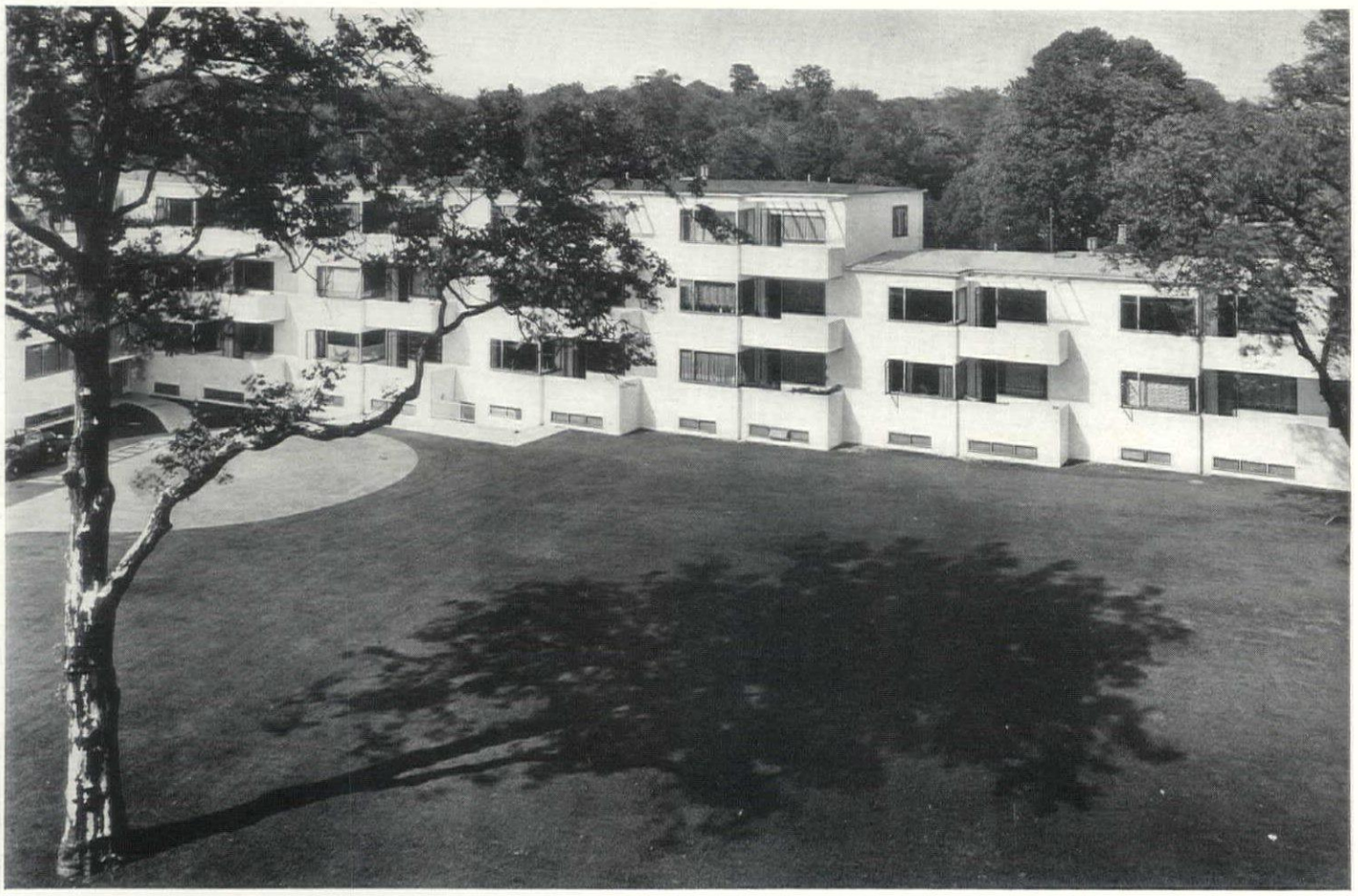
The winning scheme appealed to the committee because it did not detract from the view, and the plans were carried out in coöperation with the local landscape officials and the town engineer.

The first move had been made by civic action. The next came from private owners, when, two years later, Jacobsen was given a site of nearly two acres, almost directly across the road, on which to develop a block of sixty-eight small apartments. His solution of the problem sets an extraordinarily high standard of living values for suburban housing. The building is so related to the plot, and the apartments so planned that a very low lot coverage was economically possible. A maximum of sunlight, air, view and privacy has been obtained. The provision of a balcony for each apartment not only answers the demand for more outdoor living but fulfills the legal requirement of a second means of egress.

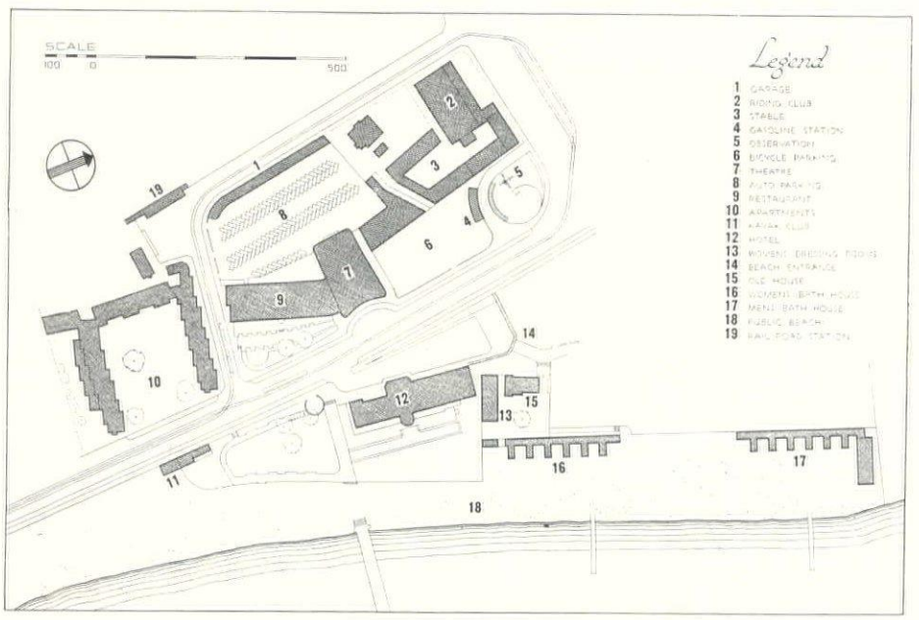
Many refinements of design will be revealed by a careful study of the plans of these apartments. It will be noticed, for example, that the frequent objection that balconies are an obstruction to light below them has been met, in this case, by supplying to almost every room so blocked an extra window on an unshadowed wall. Again, along the south wing, it will be seen that the roof terraces built on top of the garages have parapets, part solid, part open mesh. An examination of plan and sight-lines shows that this is not merely capricious ornament, but a nicely calculated scheme in which the view from the street into the living-room is cut off, but not the sea breezes. Similar examples of thoroughly considered detail will be found, as well, throughout Jacobsen's other designs. Their apparent simplicity is often deceptive.

The "Bellavista Flats" were opened in 1935, and in the same year were followed by another private venture: the Bellevue Summer Theatre and its connecting Restaurant. Jacobsen has further plans for a garage and parking space, service station and so forth to take care of the increasing crowd that comes out on week-ends to swim and sail, to ride or walk in the forest, to dine and dance, or to spend the evening at the theatre. It is significant to note that, except for the original impetus—a highway improvement and a municipal competition for some public bath houses—the whole scheme has been carried out by private property owners, just as anxious, in Denmark, to get income from their land as in America. They have realized, however, that, even from a purely personal point of view, co-operation pays better than competition. From the public's point of view the success of the development may be measured by a prominent newspaper's recent offer of a prize for a scheme to extend it further along the coast. Interestingly enough the competition was limited to designers under thirty years of age. The winning solution by Erik Moller proposes a pedestrian bridge over highway and railroad to connect the Beech Forest with a shore promenade extending along the coast to a new popular restaurant. Additional parking spaces, sport-fields, a swimming stadium, amphibian harbor, etc., are also provided.

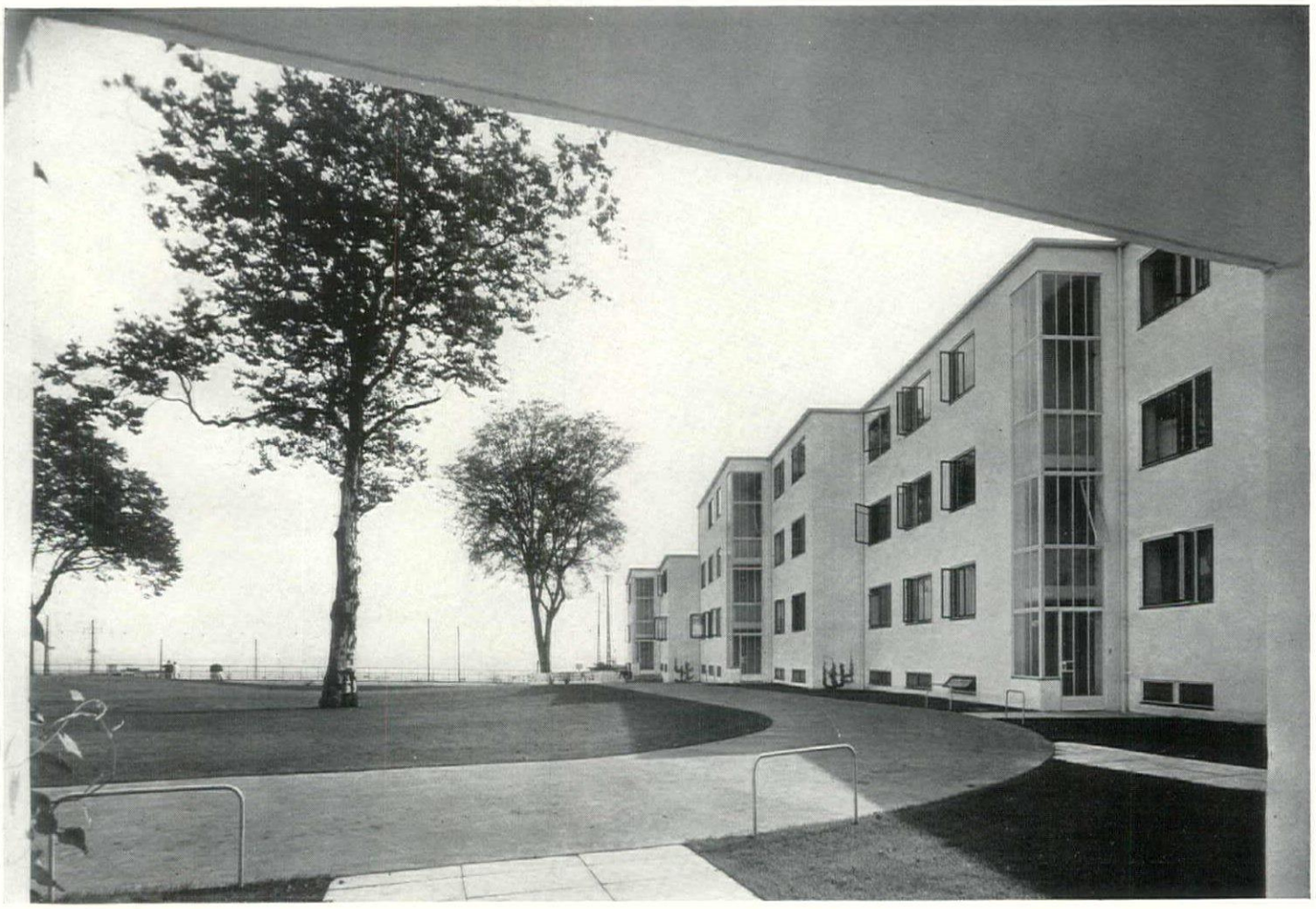
Not in Bellevue itself, but in nearby Hellerup, is Arne Jacobsen's Tennis Club, built also in 1935. It rounds out the picture of him as one of the leading contemporary Scandinavian architects. He has sought a clean, rational solution, neither doctrinaire nor styled, for the new problems of the day. Not the least among these is the housing and handling of modern urban crowds. Bellevue illustrates how this can be done with full respect for both nature and the individual. Refinement, good taste, lightness of touch have taken the place of "style"; common sense the place of theory.

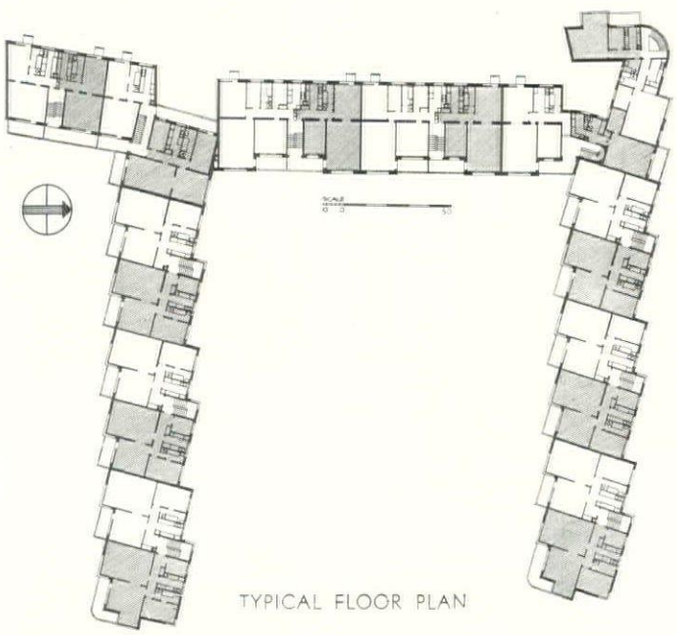


A community development, no matter how well laid out as a whole, will be judged most frequently by the units that compose it. Particularly true is this of a plan as subtle and informal as Bellevue. The free and expressive shapes on the site plan invite closer inspection. Basically a center for summer recreation and sport, it has a wide appeal to the growing number of professional and business people who will commute a few minutes longer to a home in the open. A block of 68 apartments was built in 1934-35 to meet this need. The view across the wide, open court shows the north wing; living-rooms, bedrooms, and balconies flooded with sunlight. A smooth green lawn, unbroken by fussy planting, meets, in a clean line, the white building, unencumbered by unnecessary detail.



COMMUNITY DEVELOPMENT
BELLEVUE, COPENHAGEN
ARNE JACOBSEN, ARCHITECT



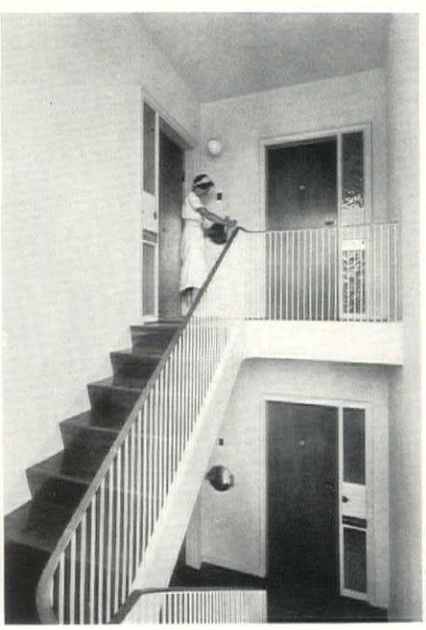


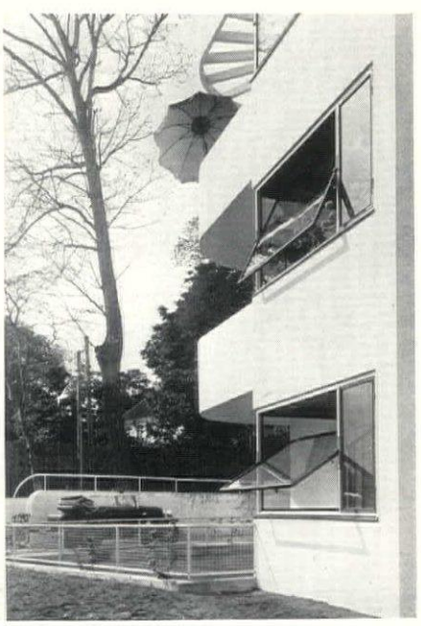
TYPICAL FLOOR PLAN

Covering slightly over 36% of the lot, this apartment house (3 stories for the most part) is designed for living values; light, air, sun, quiet, privacy, and a view of sea and sky. With the open echelon plan, the carefully studied orientation, and the cross-ventilation of every apartment, these are assured. The use of rooms is less specifically defined in Denmark than with us. Typically, an apartment (30′ of frontage — 40′ deep) consists of a living room (15′ x 21′), a dining or bedroom (14′ x 15′), and private, sheltered balcony — all facing South or East, a bedroom (9½′ x 15½′), and standardized outside bath, W.C. and kitchen to the North or West. In addition, one or two small chambers (7′ x 10′) may be used for children, maids, or as dressing rooms or studies. One closet is supplied in the hall. A few smaller suites fill the rear extensions; four shops, on the northern streetfront, and a number of garages are also provided.

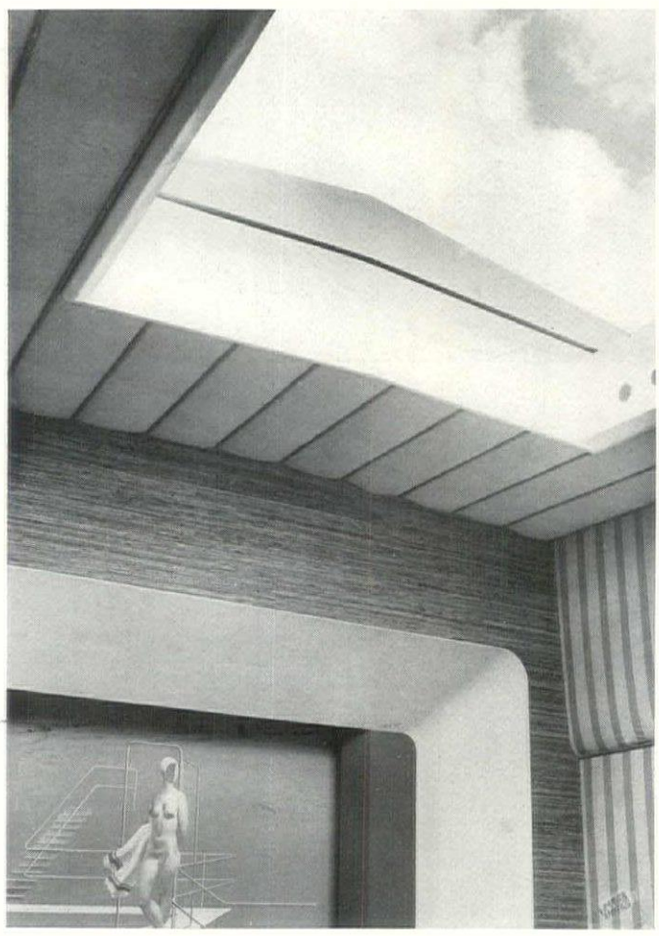
APARTMENTS, BELLEVUE, COPENHAGEN ARNE JACOBSEN, ARCHITECT

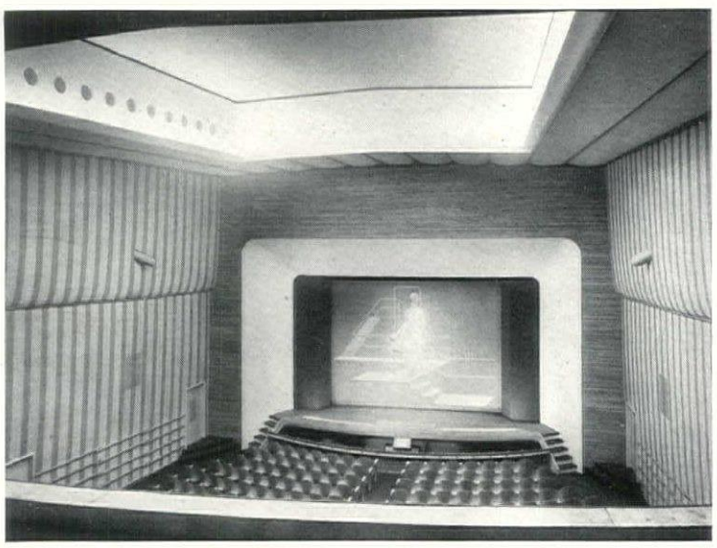
Taken from one of the rear entries, the view opposite shows the more closed character of the north or "service" wall. This relatively solid surface gives all the more privacy to the open, "living" wall across the court. The vertical accent of the stair windows is the only interruption to the predominatingly horizontal character of the design. Corner windows are used here, not for the view, as in the living rooms, but to mark the entries. Garages have been placed below the south wing where the land falls away; their roofs, planted with grass, form terraces for ground story apartments. One story has been cut off the two end bays of each wing in order to open out the view, as is seen through the open window. The reinforced concrete structure is clearly revealed by the profile of the stair risers and the cantilevered balconies. Parquet flooring is used in the apartments; baths and lavatories are tiled. Kitchens have tile walls, electric ranges and refrigerators and stainless steel sinks. A garbage shoot, with a door at each landing, restricts garbage collection to the basement. Front doors are equipped with a peep-hole, a letter slot, and a cupboard for tradesmen's deliveries. Large plate glass windows are either horizontally pivoted or side hung in teak sash. The deal frames are almost flush with the exterior; a metal drip forms the sill.





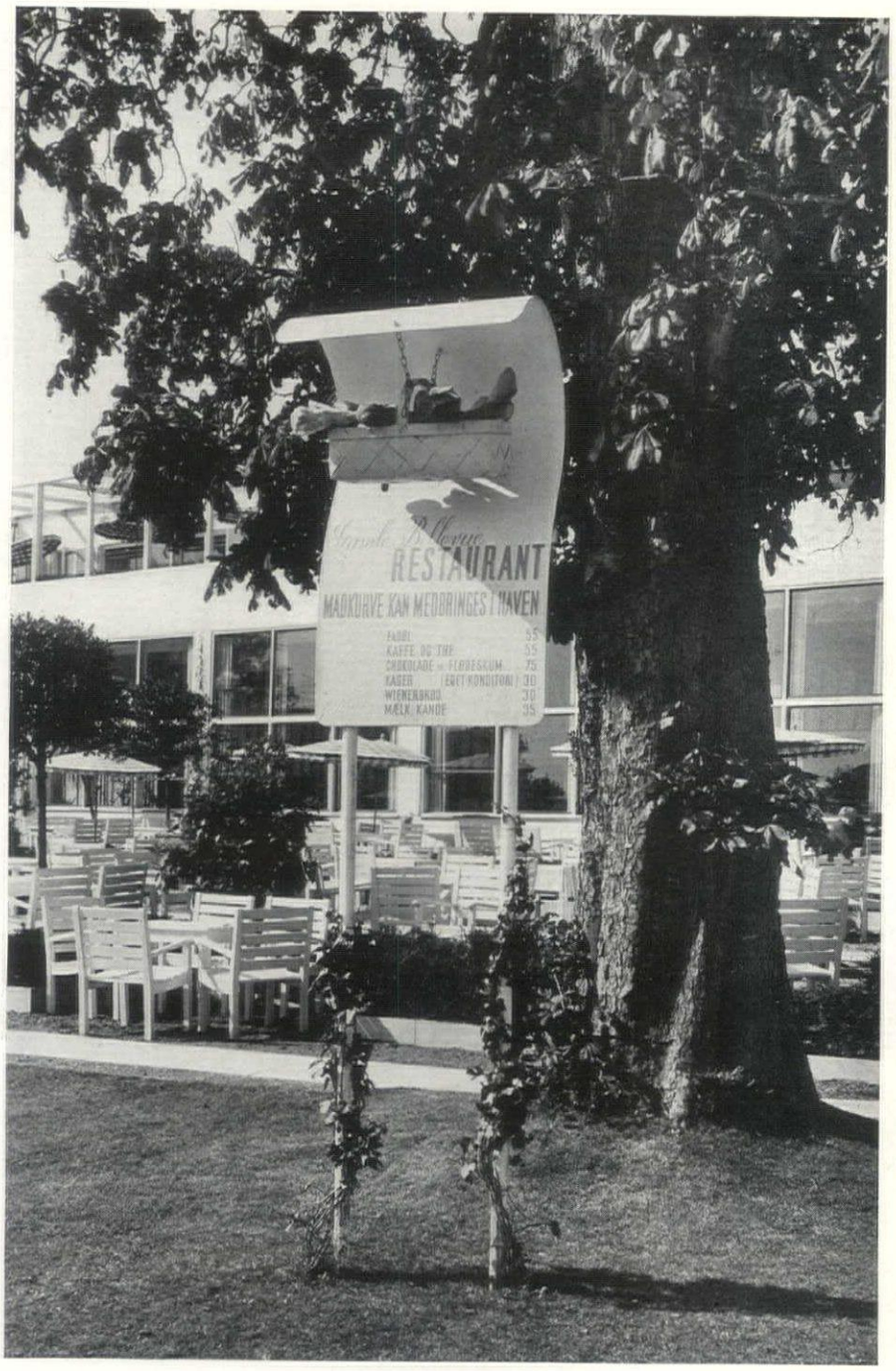
PHOTOS: RADING



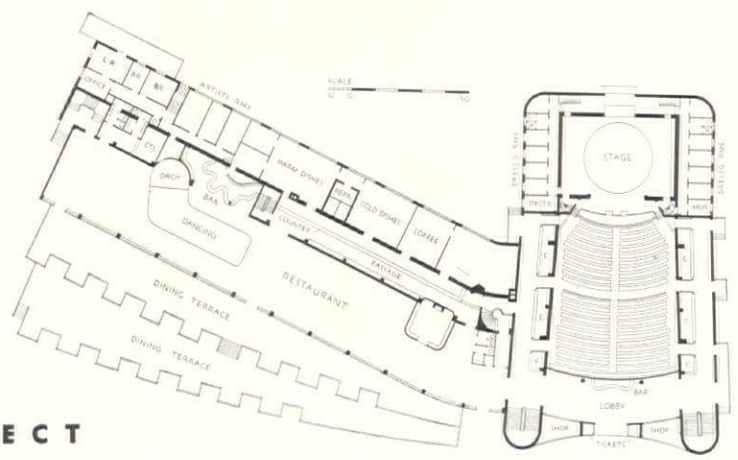


The theatre facade, lighted at night from above the marquee, makes an advertisement of the whole building. The lobby doors, and flanking news and cigarette stalls, arrest the attention of the passerby through contrast with the surrounding darkness. Flanking towers, enlivened with a raised, wood lattice contain stairs to balcony and basement. The connecting band above—effective in sunlight also—contains a projection room. The roof, in two sections, is made to slide back in fine weather. Bamboo reeds, covering the front wall and balcony soffit, combine with gaily striped linen to carry out the festive, summer atmosphere. The same note runs through the adjoining restaurant, from its amusing signboard outside to the green vines and bamboo poles along the inner wall

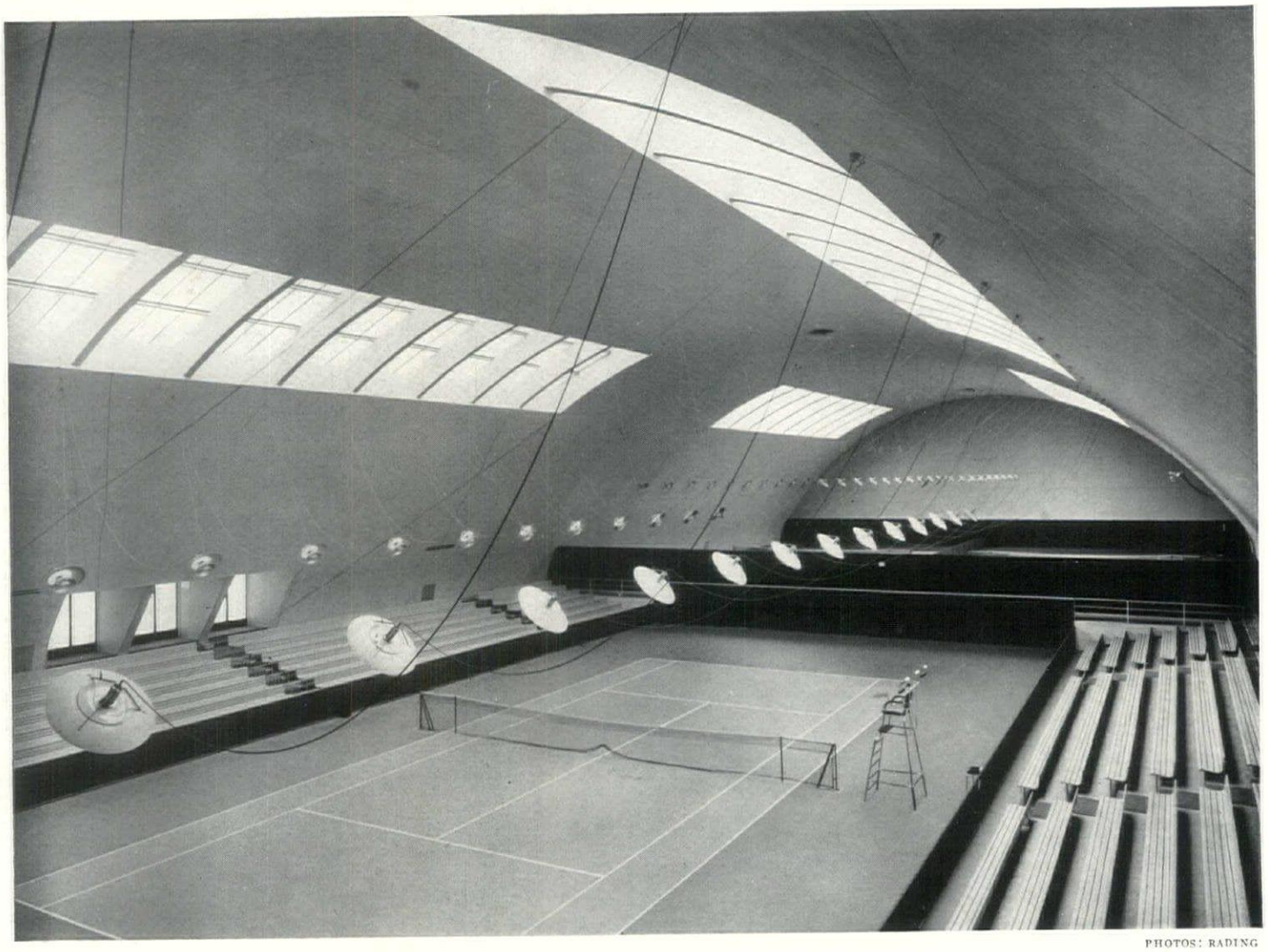
THEATRE AND RESTAURANT, BELLEVUE, COPENHAGEN



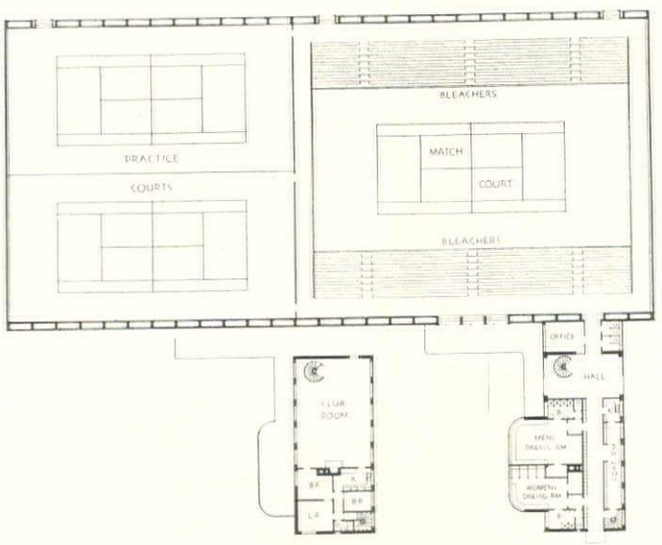
Dining, theatre-going, dancing are leisurely arts in Denmark. Above the restaurant are eight party rooms opening onto a terrace pergola. (Noteworthy in the service strip is the manager's apartment; servants' quarters are on two half-stories above.) The restaurant itself connects directly with the theatre lobby which has its own bar. The use of side entrances into the auditorium (capacity 572) routes the audience along wide promenades, past generous checking facilities. Toilets are downstairs. Above, the balcony for 372 has a separate coat room and foyer. Rows are widely spaced—each seat has its shelf and ash-tray. . . . Altogether an ingratiating setting for a comedy, vaudeville, or a revue.



ARNE JACOBSEN, ARCHITECT



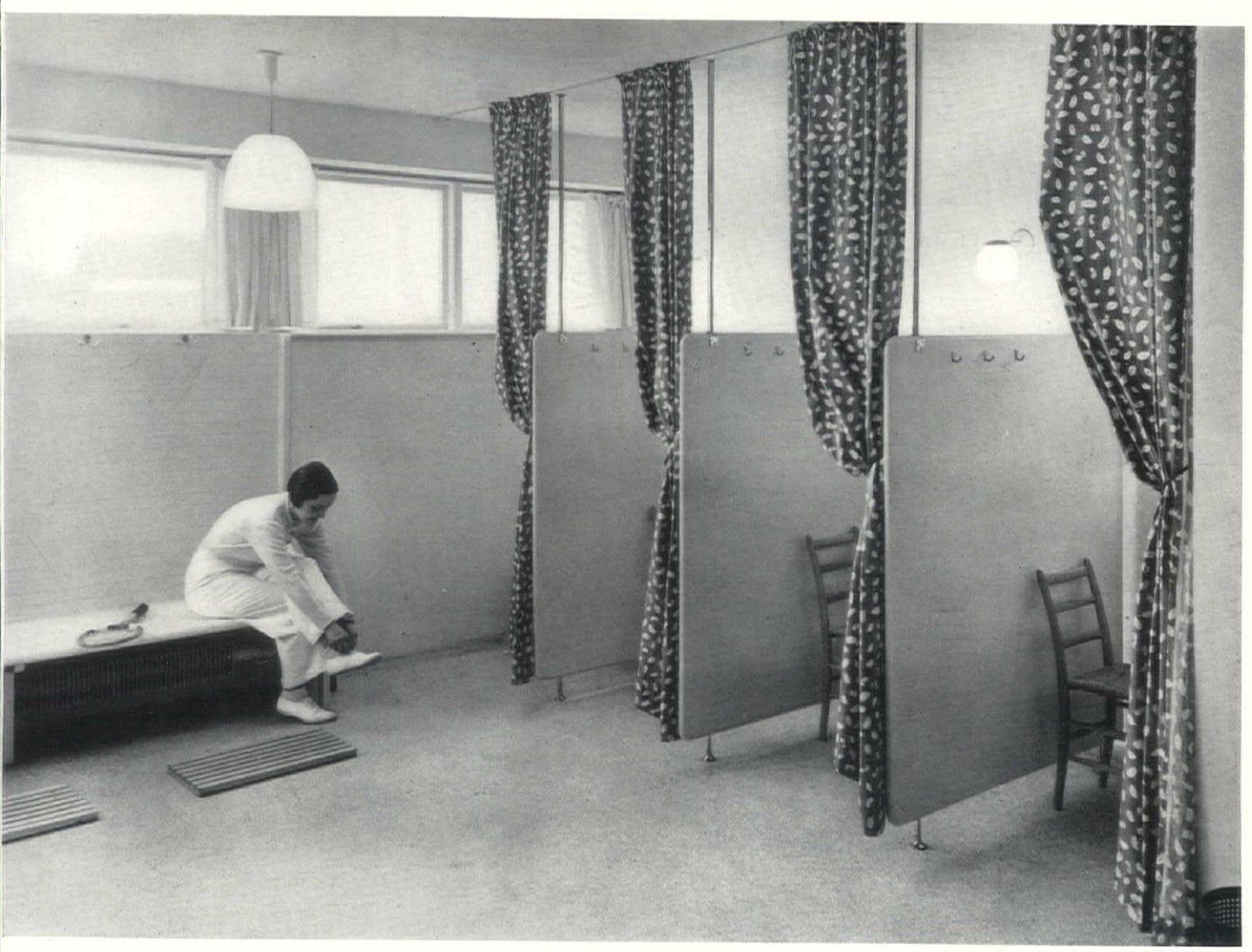
PHOTOS: RADING



SECOND FLOOR

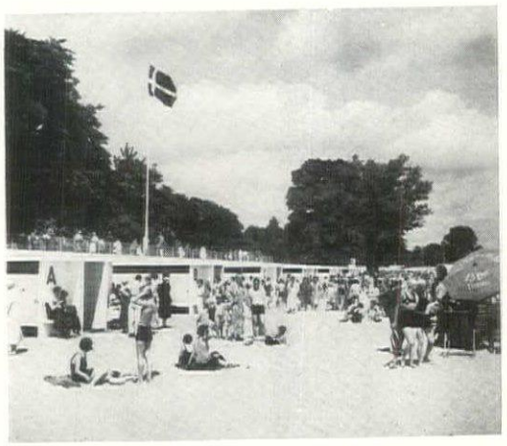
A few minutes' walk from Bellevue is the Hellerup Tennis Club containing two indoor practice courts and a sunken exhibition court with benches for 1000 spectators. The clear span of 119′ is arched by segmental reinforced concrete ribs 9′-10″ on centers, springing from the ground from skewed foundations, and stiffened by eight structural purlins. The outside is covered with wood and a patent building board supported on light intermediate purlins; a wood fiber covering is used inside. The club house includes a caretaker's apartment and, in the basement, heating and cooling equipment for the indoor courts. Five changes of air an hour are supplied through six grilles. Lighting from the sides, which tends to diminish confusing shadow effects, has been preferred to a central source. The combination direct-indirect fixtures are held by wires from three points

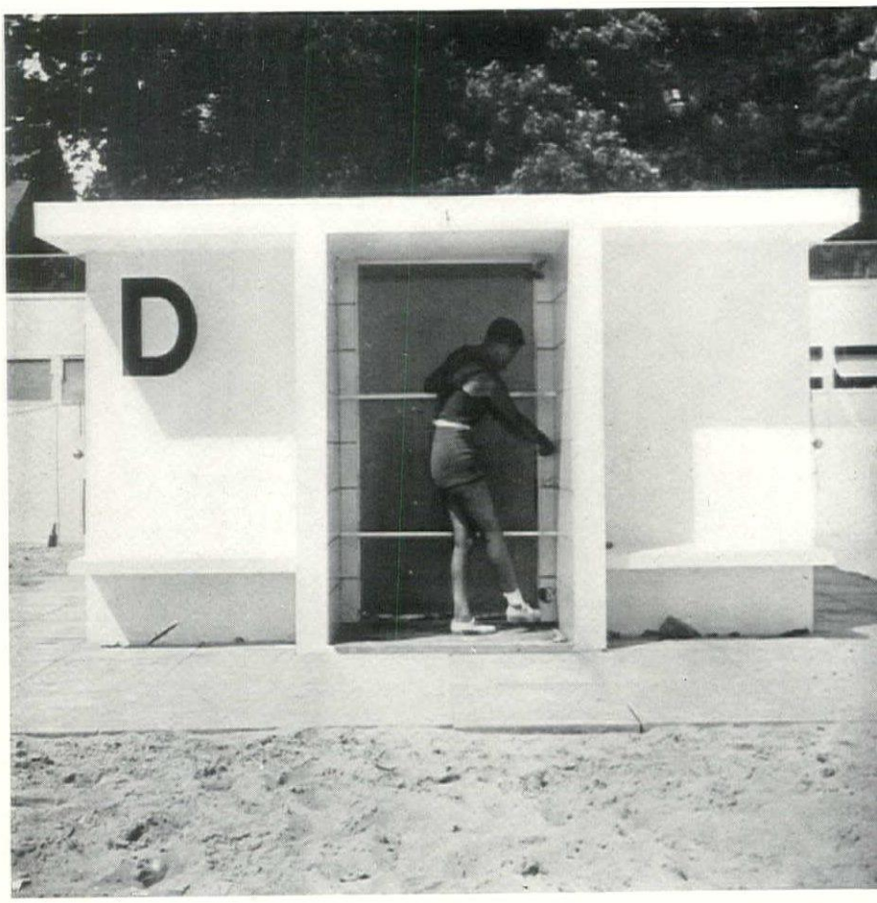
HELLERUP TENNIS CLUB, HELLERUP, COPENHAGEN

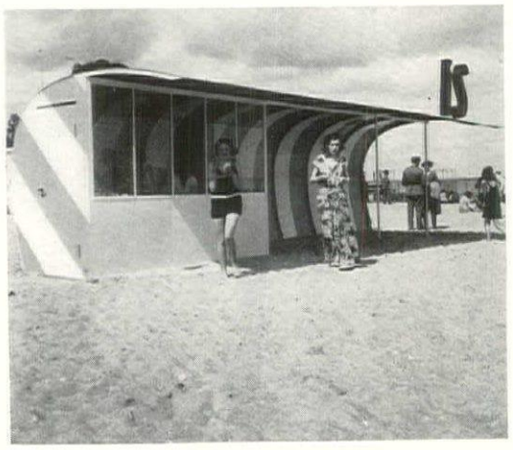


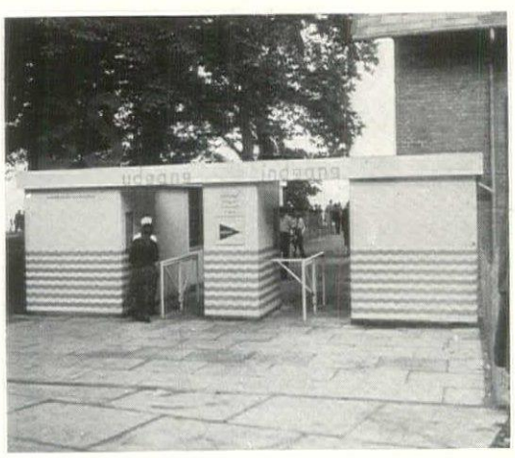
The rational design, economically planned and constructed is refined by color and detail. Two shades of green are used for the courts themselves; the ceiling, also, to reduce glare, is painted light green. The women's dressing room—fresh and clean with its terrazzo floor, wood sash and white walls—is prevented from appearing clinical by the use of rush-bottom chairs and flowered chintz curtains. From the brown and white stone floor of the entrance hall, a monolithic reinforced concrete spiral stair rises to the club room above. The treads are light blue—the inner hand-rail a hemp rope. Through the glass entrance door is seen the main entrance to the indoor courts. In front of them is a parking space for automobiles, and, more important in Scandinavia, a rack for bicycles

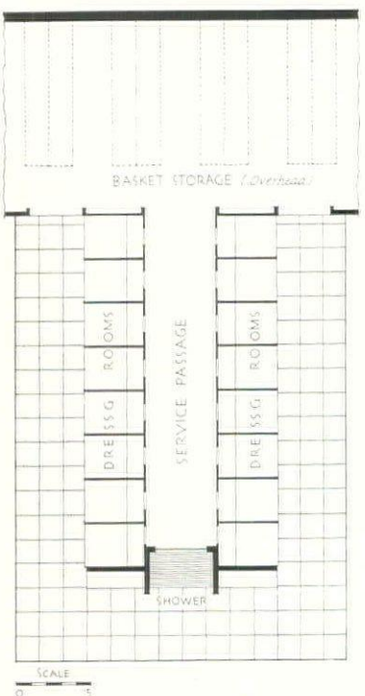
ARNE JACOBSEN, ARCHITECT











Tucked under the bank of the public park above the two groups of bath houses — for men and women — consist of six projecting wings (some 36 feet on centers) sticking out from the continuous basket-storage space like teeth from the back of a comb. Each wing contains sixteen dressing rooms 2'-11" x 3'-11" connected outside by an open cement walk, and having a small window inside through which clothing, in a basket may be passed to an attendant in the service passage. In this way, a total of 192 individual cubicles, supplemented by two larger common dressing rooms for overflow, can be made to care for from 12,000 to 15,000 people a day. Construction is of reinforced concrete, painted white. The shower alcove at the end of each wing is tiled. From the inviting blue and white entrance gate to the imaginative refreshment booths on the beach itself, no detail has been forgotten that could enhance the gay scene

BEACH DEVELOPMENT, BELLEVU
ARNE JACOBSEN, ARCHITEC

HOUSING and PLANNING—III

BY SIR RAYMOND UNWIN

WHAT IS WRONG WITH MODERN TOWNS AND CITIES? ON WHAT MUST BETTER PLANS FOR THEM BE BASED?

WE are trying to allow what is a very highly organized piece of mechanism—a city—to work itself out on the basis of the details within it; and we are failing to conceive or provide any coherent whole into which to fit these details. We do not put adequate emphasis on the co-ordination of the details to form any whole. A town must, if it is to form a fitting home for a community, from the beginning be thought of as a whole, and not as a mere mass of details.

The worst difficulties occur in the large towns, where the inhabitants become merely crowds with no co-ordinated organization or plan to weld the crowd into an efficiently functioning community.

I think it is true that the smaller the ownerships and the more rapid the growth of a town the greater the confusion. If you will think of a town growing rapidly with each person owning land on the fringe of the town eager to get as much as he can for his land at the time, without thought as to the future of the town or the future value of the land, it is quite evident that it is not in the power of the individual owners to control the future of the town.

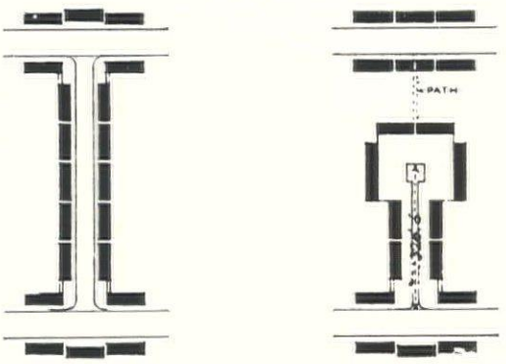
The very first thing to come under the control of the town should be the planning of streets. New York is a very good example of this; but unfortunately New York was laid out mainly for the convenience of dividing land into plots; it was based on one detail consideration and of course the plan of the streets bears no relation to the flow of traffic in the whole of the town.

If we are to right the faults in a town we must conceive plans for that town from a community point of view; we must think of a town as a good place for the whole of a community of people to live in. The individual must be educated to realize that he will find his individual good best served by securing the community good; rather than that the community good will best result from individuals seeking each his own advantage.

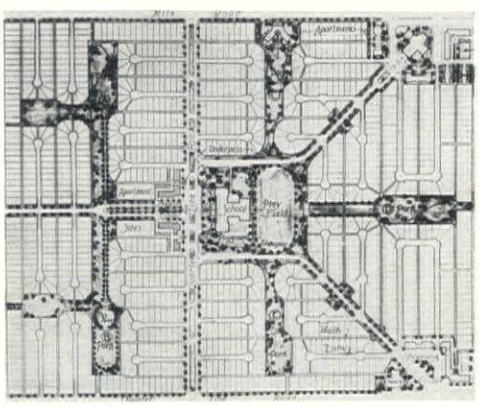
There seems to have been an amount of consideration given to the planning of streets as if they were separate entities from the rest of the town. The idea that a town consists of streets is an idea to be very much avoided. Streets are not a virtue in themselves. To be obsessed with the idea of planning for traffic is a mistake.

When someone who has a big estate decides that it is to the best of his advantage to sell it off in small portions, he only adds to the general confusion. On the whole, large ownership of land is better than small ownership.

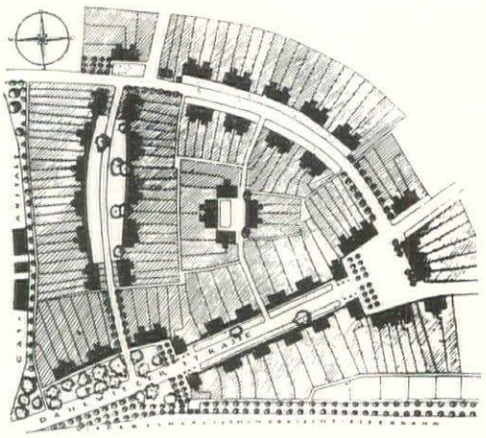
The kind of haphazard development found in so many of our towns is making them more and more confused. The waste of natural resources or opportunities that is taking place all the time is enormous. Without intelligent planning, there is constant needless change of use of many areas. This results in the destruction of many houses or more costly buildings that normally would have a life span of many more years. A factory is built in the midst of a residential area and the residences deteriorate; their value drops and finally they become slums, are torn down to be replaced with more factories; while in some other area, other buildings are being torn down to be replaced



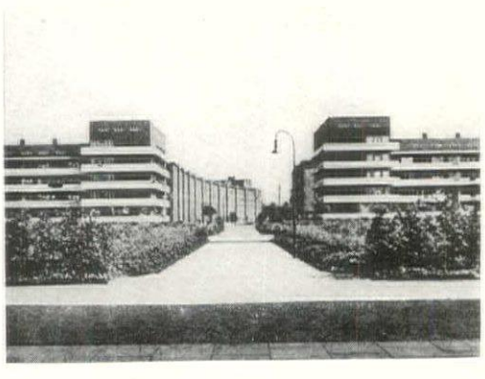
. . . With roads providing sites for the same number of houses in each case, the saving made by the use of cul-de-sac roads is considerable . .



. . . This plan of using cul-de-sac roads can be adapted to some blocks in an American town plan. It is very important in planning to weigh things properly in their right proportion and value, and to consider real economy by judicious use of lands and funds . . .



. . . A very nice scheme was planned at Kopenic, a suburb of Berlin. This was designed along formal lines; two houses balance at the entrance to the street with colonnades and then a group of flats at the far end terminates the street vista . . .



. . . In some flats the balcony access has been carried to an extreme—the balconies running all along the building. When that is the case, the passing to and fro in front of bedrooms and other rooms is considerable, and the shadows cast by the continuous balcony very heavy . . .

with new residences. There is no necessity for this extent of waste and confusion. Of course, a town is never in a completely static condition; some change is always taking place, but much of this can be foreseen and planned for.

Some interesting studies have been made as to the cost of different sized communities both here and abroad. It has been generally conceded that the cost of administration rises with the size of the town. There may be adequate benefits to offset this. I don't know. At least we know that many of the evils of congestion and confusion become worse as a town grows larger.

The kind of recent development which may be found in the suburbs of New York where each owner thinks of nothing except selling off plots or houses with the least possible trouble to himself and with no concern for the provision of playing grounds, cultural centers, etc. is about as undesirable as could be.

SINGLE FAMILY DWELLINGS . . . THEIR DESIGN AND APPROPRIATE SITE PLANNING

We must consider points that are important in site planning. One is to realize that every time you plan a road joining another road you may be spending a great deal of money not only without getting any additional road frontage for building purposes, but actually losing some frontage on the first road. For this reason cul-de-sac roads are very economical. For example, with roads providing sites for 32 houses in each case and costing $30.00 per lineal yard to make complete, the saving by using a cul-de-sac would be $2,420 or $75.62 per house. If the cul-de-sac were made in a less expensive way because of the absence of through traffic, the saving would be greater.

Little points such as that make a great difference. This saving is a big one, and would provide the third bedroom in many houses or many amenities, or you could enlarge the house sufficiently to put the bathroom upstairs instead of down. You must always consider whether you are using the available funds in the most serviceable way.

The importance of considering slopes and contours of ground both in relation to the grades of the streets and to placing and planning of the houses cannot be overstressed. The question of building on both sides of a road when the slope involves that some houses will be above the road and some below it, will often arise. We have found that it is more economical when you get to a certain degree of slope to have 2 half roads instead of one complete road and to have all the houses above the road. This enables shallow sewers to be laid, saves expensive underbuilding and much cut and fill for the road.

Each house looks out over the roofs of the next row below and the view is not blocked. We have used this plan for very low cost housing and found it most successful, where the slope is one in eight or steeper. The main road may zigzag to get over the hill, and is joined on each side at the apex of the bend by the half roads. The width of a half roadway varies, but as a rule, as we have very little traffic using these roads, we should make it wide enough for two carriages to pass slowly or about 14 to 16 feet at the most. One of the greatest expenses in road building comes from channels, curbs, and sidewalks; in this case they are needed on one side only of each half road.

A large housing scheme was carried out in the Borough of Swansea in South Wales on this plan on land which sloped in some places to the extent of one foot in four.

I cannot emphasize too much the importance of picturing the kind of life that must be lived in a community before planning a given site. You must think of play and work, convenience, cultural opportunities, amenities, etc. Attractive views should be taken into consideration. The real talent you need is to be able to visualize life within that community and a suitable setting for it; then to set that down on paper and see that it can be carried out actually.

MULTIPLE FAMILY DWELLINGS AND THEIR SITES

There are many different types of flat dwellings; one type is known as the Balcony service plan, where access to each flat is from the balcony which runs

along the building at each floor level. The objection to this plan is that people must pass close to some bedroom windows which open out on the balcony, so passers-by can look in, and there can be little privacy or quiet. In fact, flats that are built on this system are much like the old dwelling houses which were built right on the streets with no forecourts. The effect is the same here, except that instead of having one footway up against the ground floor windows and doors, one has a balcony along each floor level shielding light and sun from the windows below.

A few flats have only one bedroom; but it is well to remember that the most expensive items must occur in every flat, however small. It is generally true, consequently, that the smaller the flat the more expensive its accommodation must be. It is, therefore, a very doubtful economy to cut down the size or number of bedrooms in flats or in cottages.

We have an expedient in England for flat building which has proved valuable in reducing the height of the walk-up. The top flat is made two stories high. This is really putting a row of 2-story cottages on top of a block of flats. Sometimes we do that twice over, so that a 2-story cottage is placed on top of a flat and then another two-story cottage on top of that. In this case, however, private and public stairways are duplicated. These do not need to have any balconies passing bedrooms even with balcony access. They do pass the kitchens, etc., which is not so important. In this scheme, a ground floor plan has its bedrooms above it and ordinary floors suffice; sound-proof floors can be constructed between the two flats. There are a good many advantages to this type of planning. However, it multiplies the stairways and may complicate your plumbing.

The question of site planning for flats is often complicated by conditions which arise in the clearing of slums. The condemned area is seldom the best for general replanning. Looked at from the point of view of a town plan as a whole, a clearance and rehousing scheme is apt to be a bit of patchwork. Some of the conditions and amenities without a doubt are very much improved; but a far better job could be made if the slum sites could be considered as part only of a replanned whole.

We are sometimes misled by taking the percentage of ground covered as a basis for judging density of buildings. If you have 30 per cent of your ground covered with one-story buildings, you have 70 per cent left to plan for other uses of the land; or two and one-third times the area of the flat for the one family. When you cover 30 per cent of the site with ten-story buildings, then the same area which the one family enjoyed must suffice for the 10 families. Each will only have one-tenth of the play space.

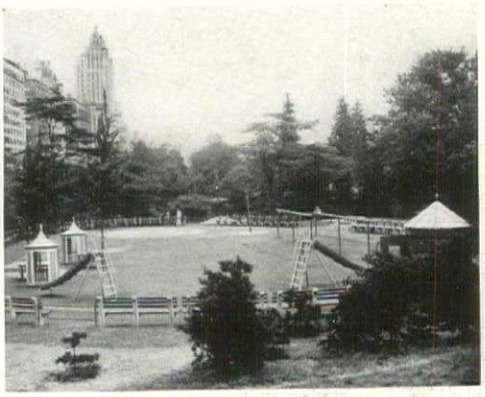
. . . These flats in Berlin are typical examples of the staircase access type. Here privacy is maintained and the windows left unobstructed to allow the greatest amount of sunlight to penetrate. The slight projection of the stairways breaks up what would otherwise be a monotonous facade . . .

THE PROVISION FOR RECREATION

Among the many provisions for recreation of various forms needed in town and site planning, the main ones for us to consider are those for open air recreation of all kinds. They range from small tennis courts or children's playgrounds, to football and cricket fields, golf courses, and, in wider regional planning, the open air spaces given over to camping, hiking, boating, skating, etc. Open air recreation is of great importance at the present time. There is a new tendency in jobs today towards complete concentration on the one process being performed—extreme specialization in other words. This necessitates a growing cultivation of recreational hobbies to balance the restrictions of the day's work; and the fact that the working day is becoming shorter and shorter, also means that more hours than ever before are now given over to leisure time interests. In fact, I think it is safe to say that we can expect recreation to play a larger and larger part in town and site planning. A greater proportion of work now being indoors, is another factor increasing the need for open air recreation.

In thinking of recreation we must think of all kinds of recreations; we must provide the old people who want to sew or knit, or what not, with a seat on the porch; we must think of little children who cannot yet go up and down stairs, much less across roads alone; and we must think of the young men and women who need active games.

. . . On this village green there is no lack of room for young people to play the fashionable game of the moment. You can see here how the different classes can play together, but it is even further true in regional playgrounds . . .



. . . The marginal playgrounds in Central Park with their equipment and supervision are good examples of public improvements which enable people to enjoy open air recreation . . .

. . . Radburn affords good examples of pleasant planning with open spaces for sun and air, and controlled park spaces. The children can go out to play in the latter, and walk along them to school without going into the streets, which is a decided advantage . . .

The intensity of desire for games in Chicago and the neglect to provide space were such that they had to clear built-up areas such as that at Stanton Park to make playgrounds. This, of course, is far more expensive than if playgrounds had been provided in the first place. In that case there were roads and frontage all around the play yard. This is a costly way of planning open spaces. If an open space of five acres were surrounded by building plots of say 66 feet deep the whole plot would equal 7.69 acres. You would have a road frontage of 776 yards; at 12 houses to the acre you could have 92 houses, which would allow 25 feet of road frontage for each house; at 10 to the acre there would be 77 houses giving 30 feet of road frontage per house. Each house could well carry the cost of the road work for 25 or 30 feet of frontage, and so the road would be paid for. If you planned the 5-acre recreation ground with road round it, the amount of road frontage would be 600 lineal yards; at $15.00 per lineal yard for ½ the road that would represent $9,000. The land cost is $1,800 per acre. This means that you would be spending the cost of 5 more acres of open space just to have road round the first 5 acres. It is worth while to consider whether for playing fields or other open spaces any advantages from having roads all round are worth this cost; whether the extra size might not be better value.

Much in regard to planning is not easy to lay down in hard and fast rules and figures; it depends so largely on imagination. The imagination of a child should be given full play; and you don't want to drill them into nothing but severely organized games. Space should be given over to children's imaginative games and not all devoted to formal, regimented forms of recreation. Children need simple things to play with, they will then invent their own games.

In England, planners think in terms of the minimum area requirement for recreation in towns as being about 7 acres per 1000 persons. The method by which that figure was reached is as follows: Each one thousand persons contain about 500 persons between the ages of 10 and 40, the age when people are most apt to want games of one kind or another. Of that 500 persons, it may be assumed that 150 will not want organized games. There would be among that group the disabled, people who don't like to play games, etc. Therefore recreation grounds for 350 out of each 1,000 persons ought to be allowed for. One acre serves about 50 players, on average; hence 350 players would call for 7 acres. This is by no means a generous provision; but it is far better than is available in the towns that have grown up without plans making provision for recreation.

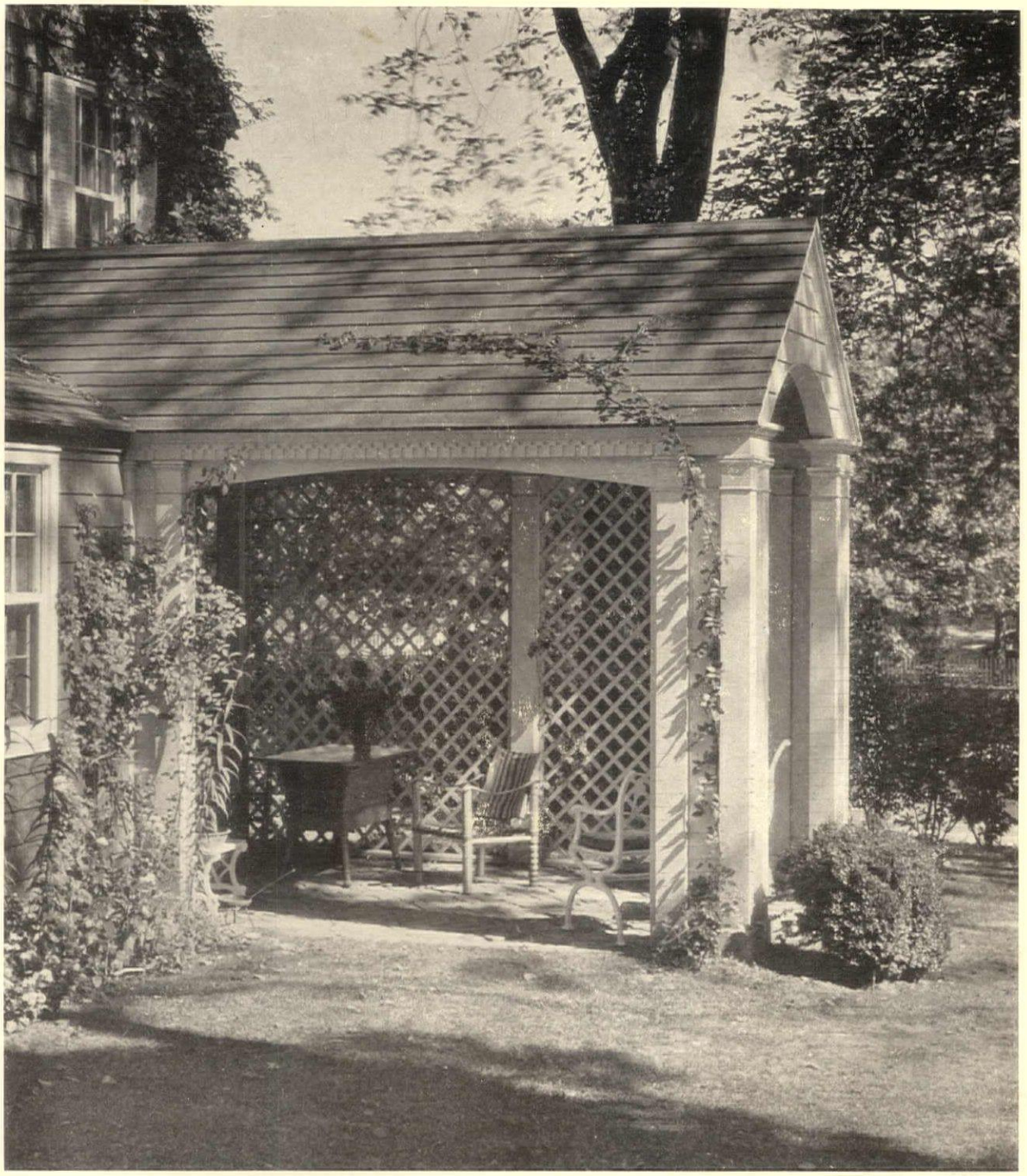
In addition to this recreation space, it is considered that 1/10 of the area is needed for ornamental parks, parkways, etc. This has no relation to population, but it is a proportion of the space; while the area given over to recreation is based purely on population. Even in London with its population of 10 million, the recreation space on this basis could easily have been reserved with little addition to the size of the City.

Here are the figures: 55 square miles would be needed to give 7 acres per thousand. For the population living inside the County of London, the area of which is 117 square miles; this space added would increase the radius by only 1.275 miles.

I wish to emphasize that the size of a town is not seriously affected by the amount of open space if it is sensibly planned. What we planners are aiming at is to revise present ideas in regard to open space. At present we think of the whole site as a background of potential urban building, and we have to plan a meagre pattern of open spaces on this background of potential building land. Actually the amount of building in relation to the amount of open space available is so small that this is foolish. The right way would be to plan a pattern of building areas on a background of open space.

We are moving slowly towards this in England. The new town planning law enables the planning authority to say that no buildings can be erected until a development plan is approved; that the need for new development must be shown; and if it would involve the public authority in excessive expenditure for drainage and services, then development may be prevented.

THE PORTFOLIO
Porch Columns and Posts of Wood

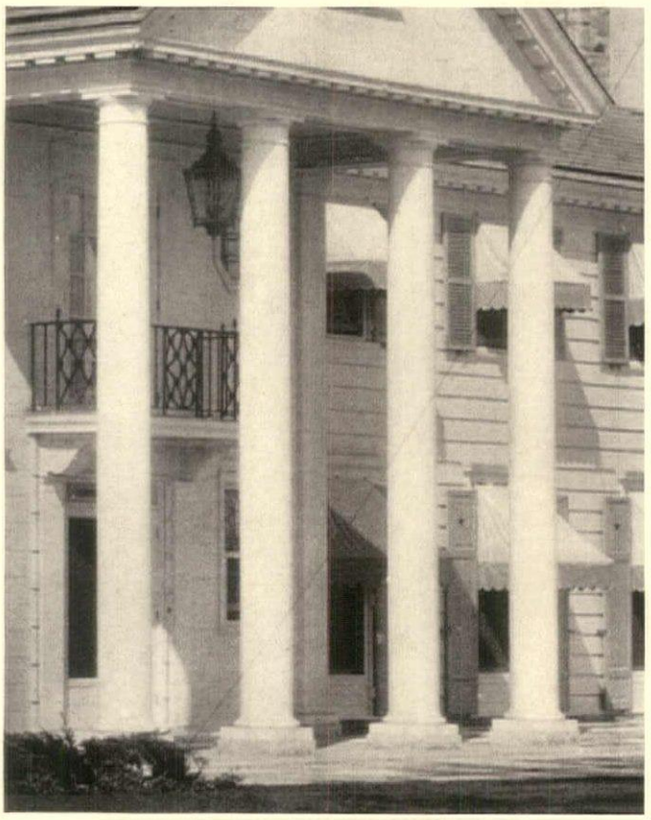


House, East Hampton, N. Y.
Aymar Embury II

PORTFOLIOS IN PREPARATION—School Entrances, April . . . Flêches, June . . . Tombstones, July . . . Vertical Sun Dials, August . . .

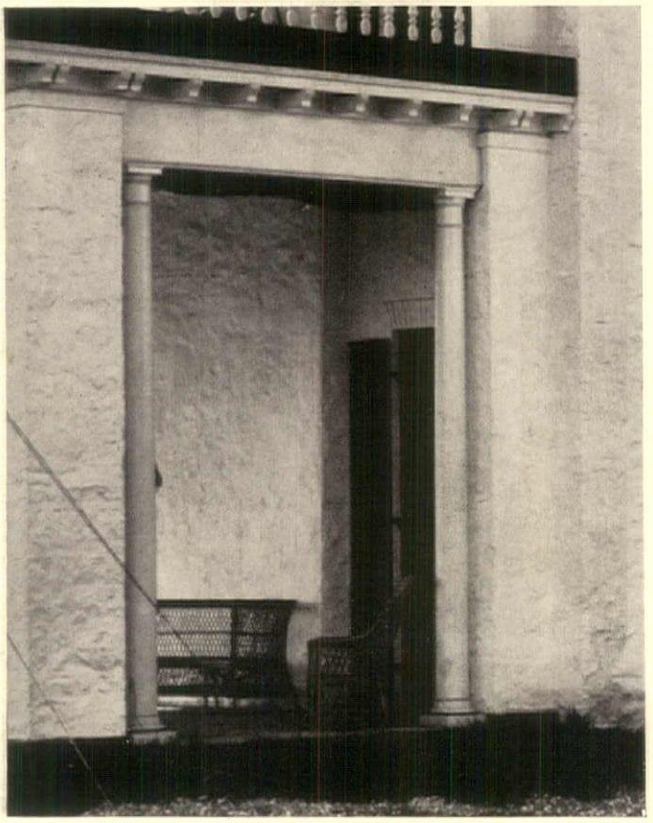
The Editors welcome photographs of these subjects. . . . Forms close eight weeks in advance of publication. A list of the subjects that have appeared will be sent upon request. Certain of these past Portfolios are available to subscribers at 25 cents each; or five subjects for one dollar

NUMBER 125 IN A SERIES OF COLLECTIONS OF PHOTOGRAPHS ILLUSTRATING VARIOUS MINOR ARCHITECTURAL DETAILS

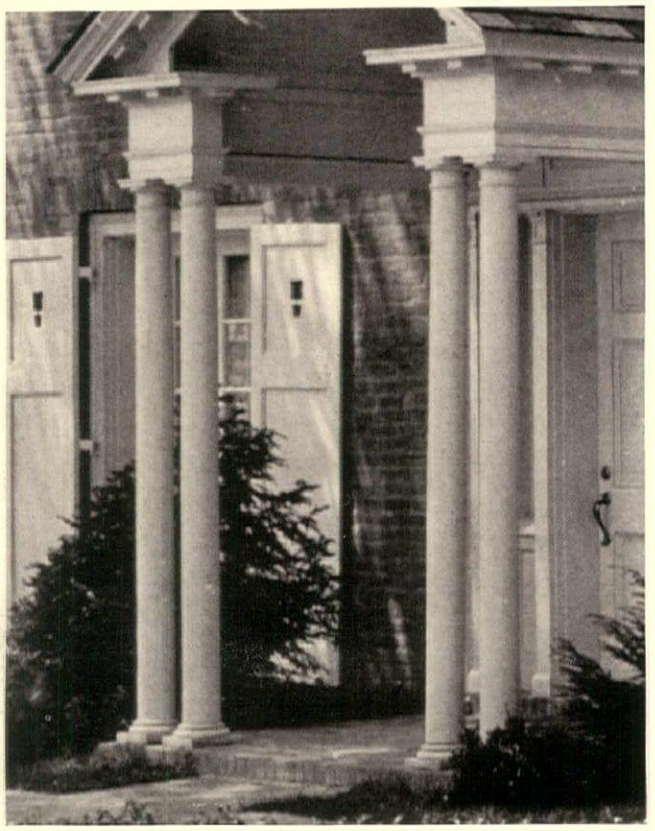


House, Detroit, Mich.
Richard H. Marr

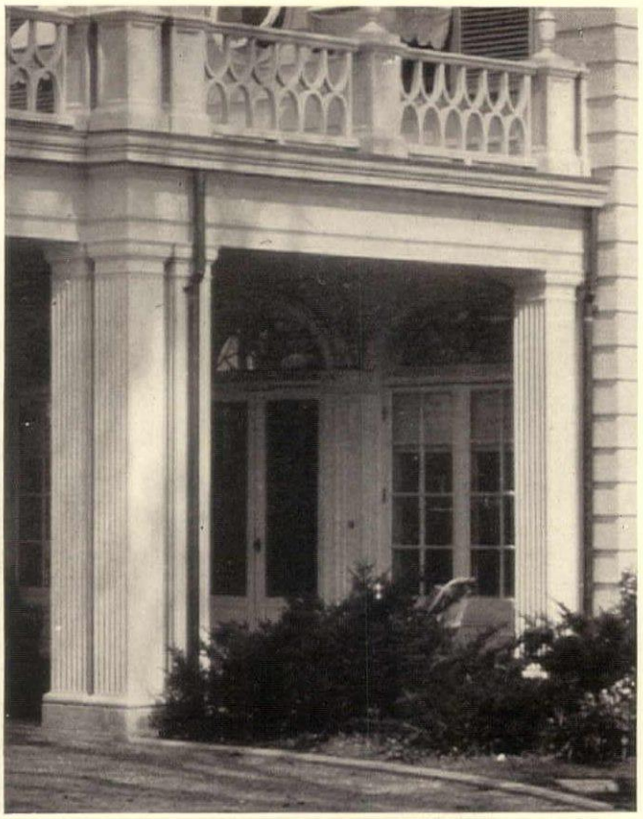
House, Chestnut Hill, Pa.
John Graham, Jr.



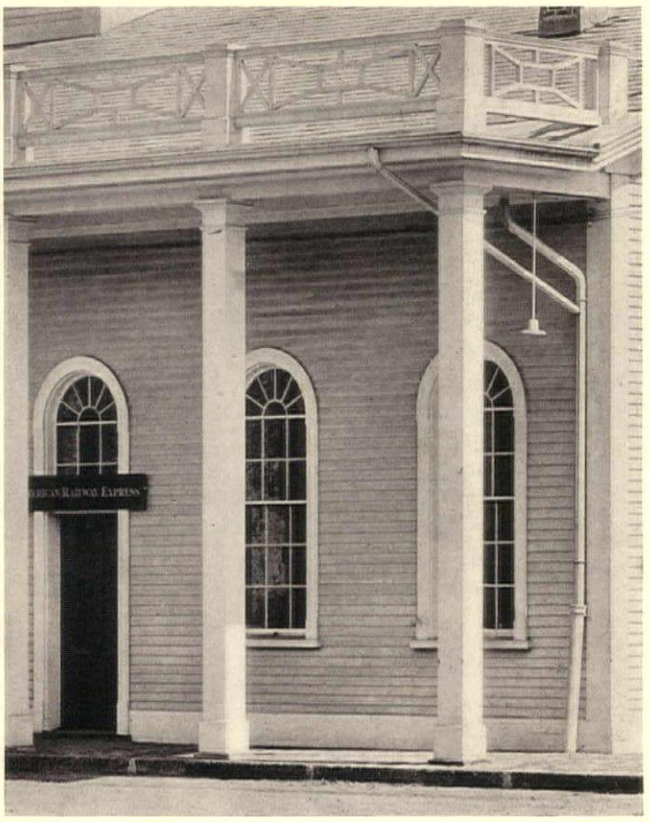
House, Goshen, N. Y.
F. Burrall Hoffman



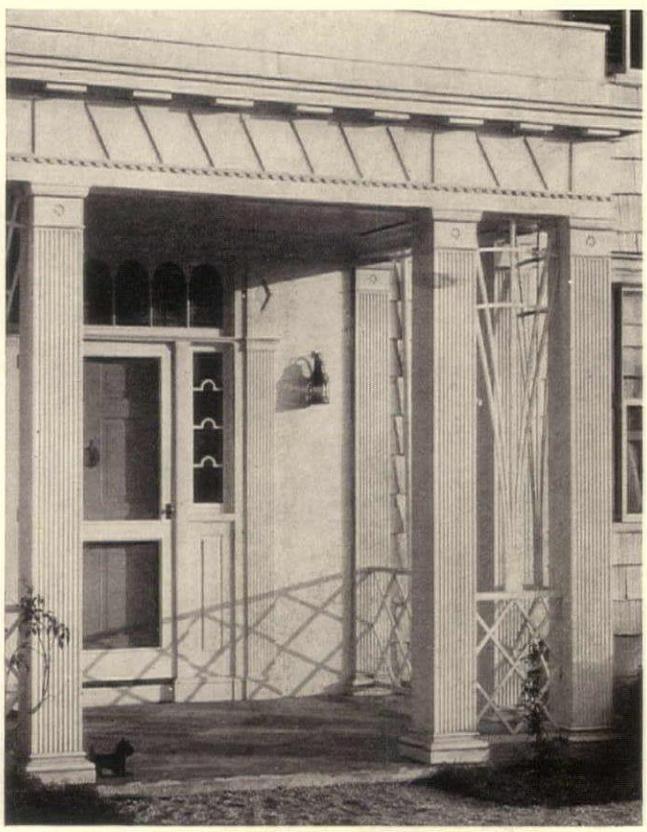
House, Cincinnati, Ohio
Charles F. Cellarius



House, Detroit, Mich.
Richard H. Marr

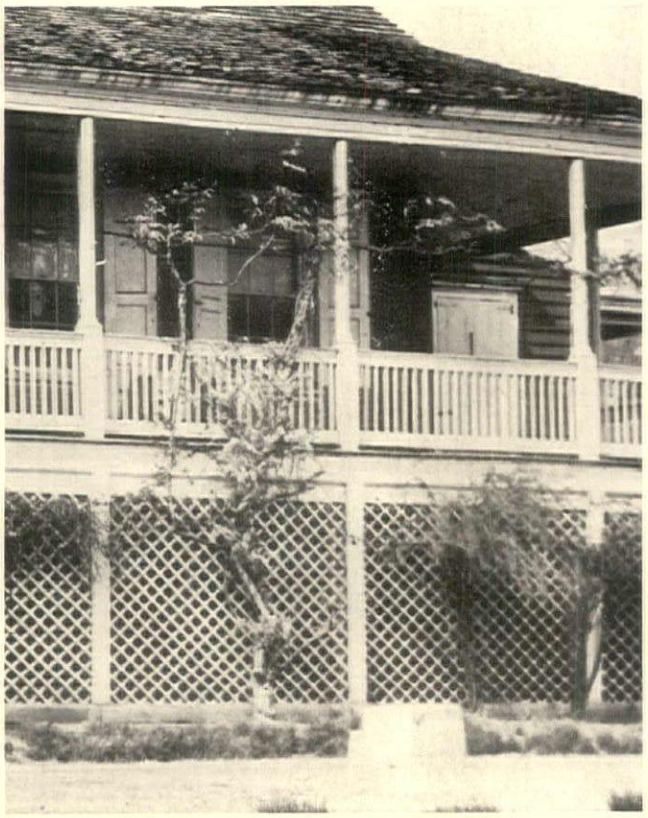


Railroad Station, Lexington, Mass.
Kilham, Hopkins & Greeley



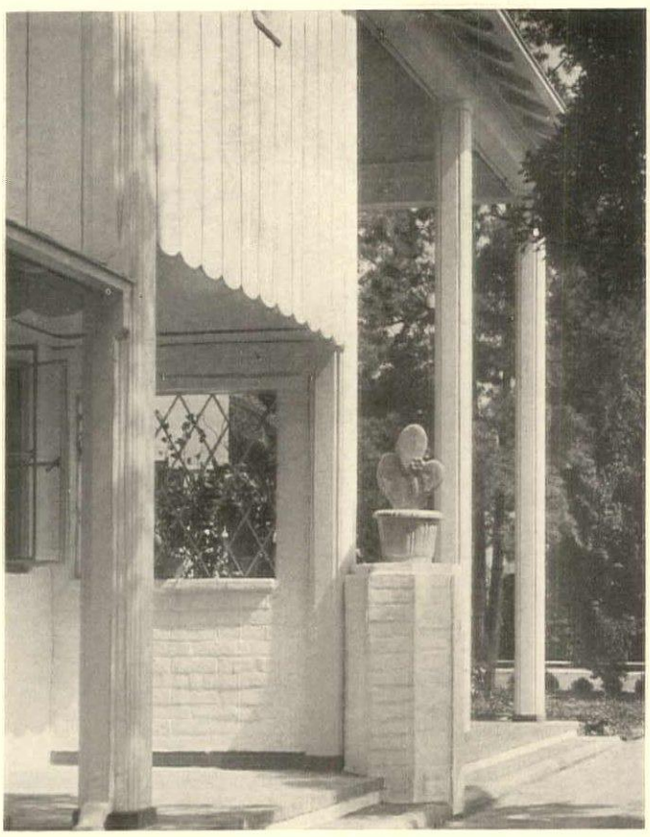
House, East Hampton, N. Y.
Aymar Embury II

House, Ossining, N. Y.
Robert Wiseman



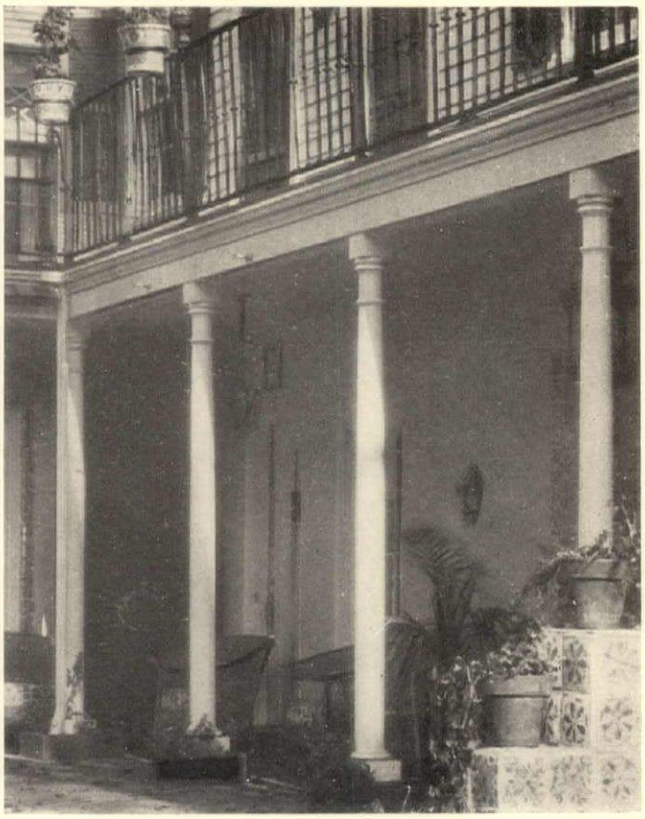
The Van Cortlandt Manor House
Croton-on-Hudson, N. Y.

House, Ardmore, Pa.
Folsom, Stanton & Graham



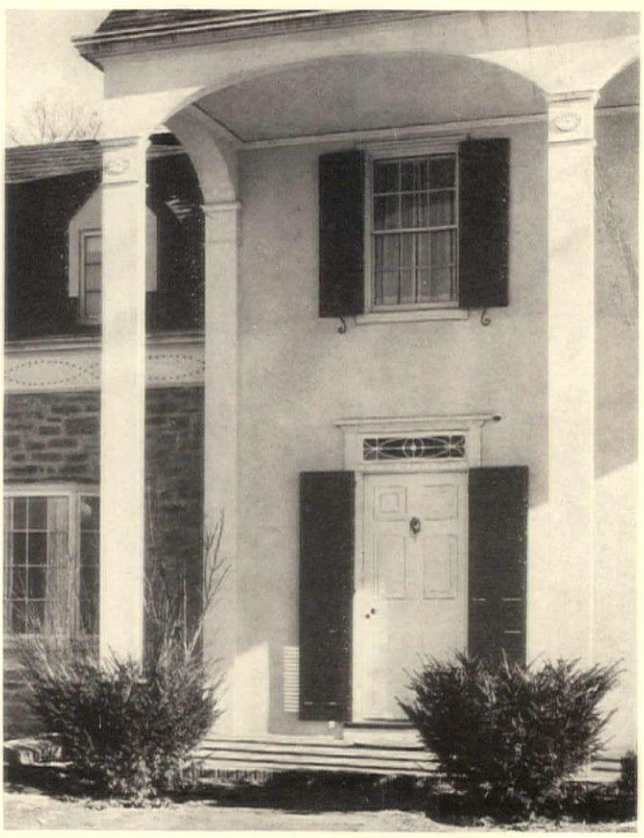
House, Pasadena, Calif.
Roland E. Coate

House, Atlanta, Ga.
Hentz, Reid & Adler

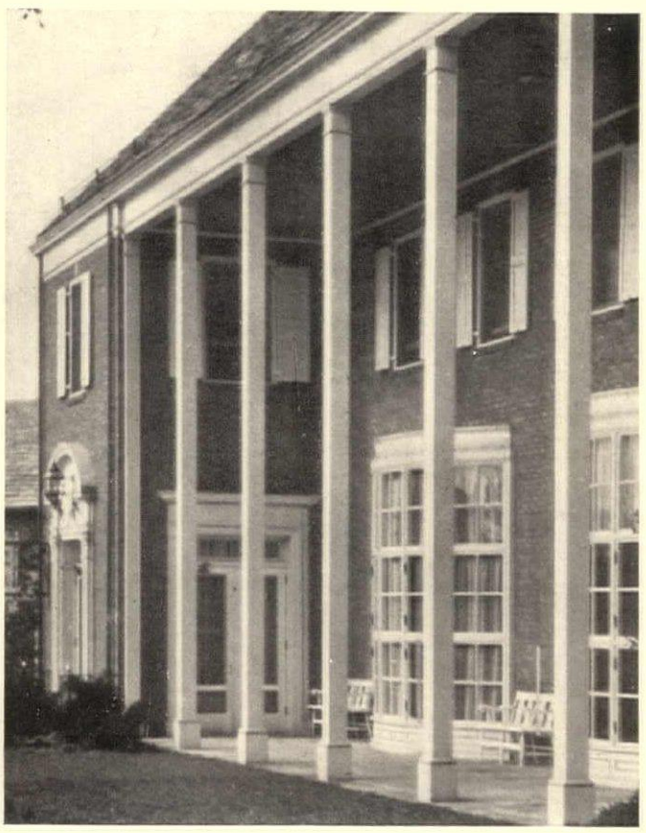


House, Sharon, Conn.
Kilham, Hopkins & Greeley

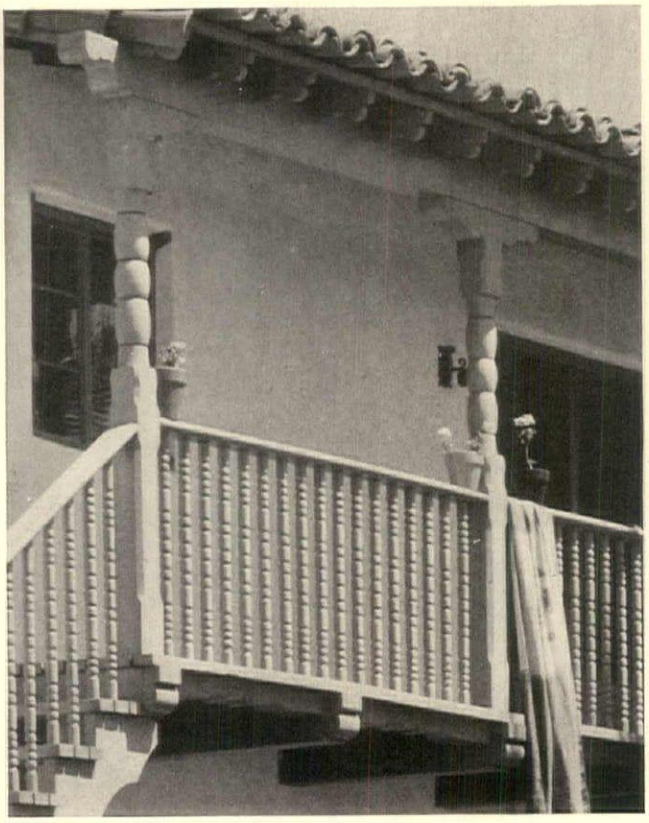
House, Miami Beach, Fla.
Russell T. Pancoast



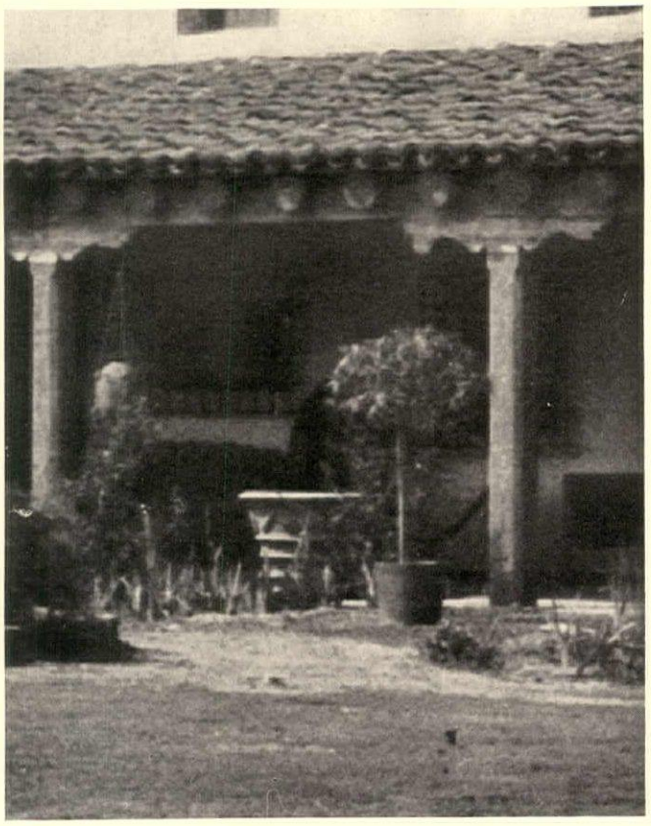
House, Scarsdale, N. Y.
Verna Cook Salomonsky



Community Center, Shaker Square, Cleveland, Ohio
Philip L. Small & Associates



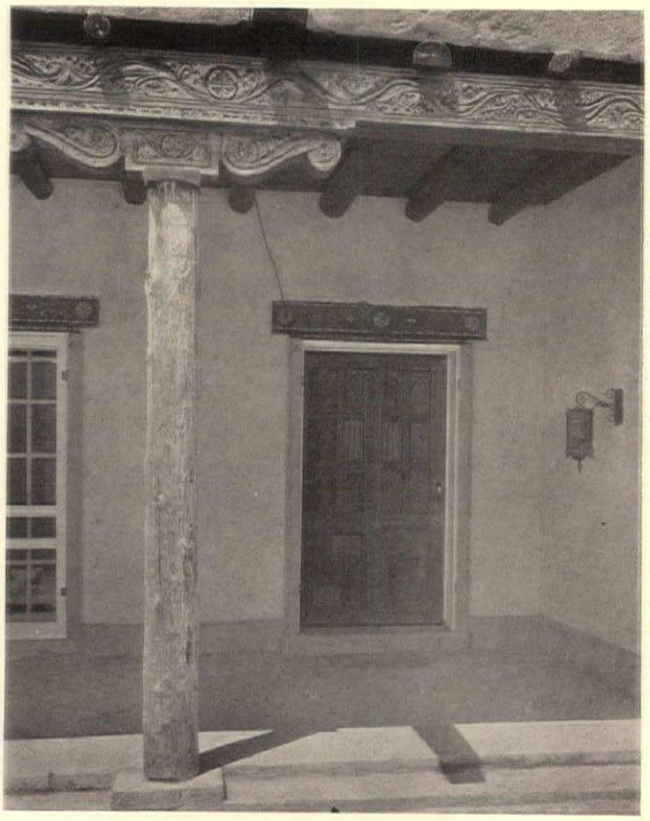
House, Brentwood, Los Angeles, Calif.
Jones & Ward



Hotel, Winslow, Ariz.
E. A. Harrison

House, San Marino, Calif.
H. Roy Kelley

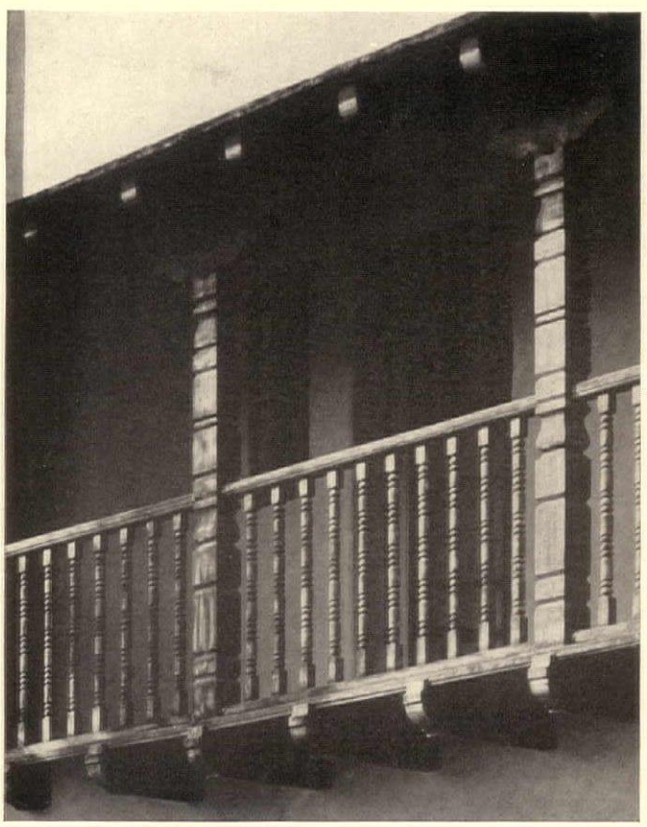
Cafeteria, Santa Barbara, Calif.
Edwards, Plunkett & Howell



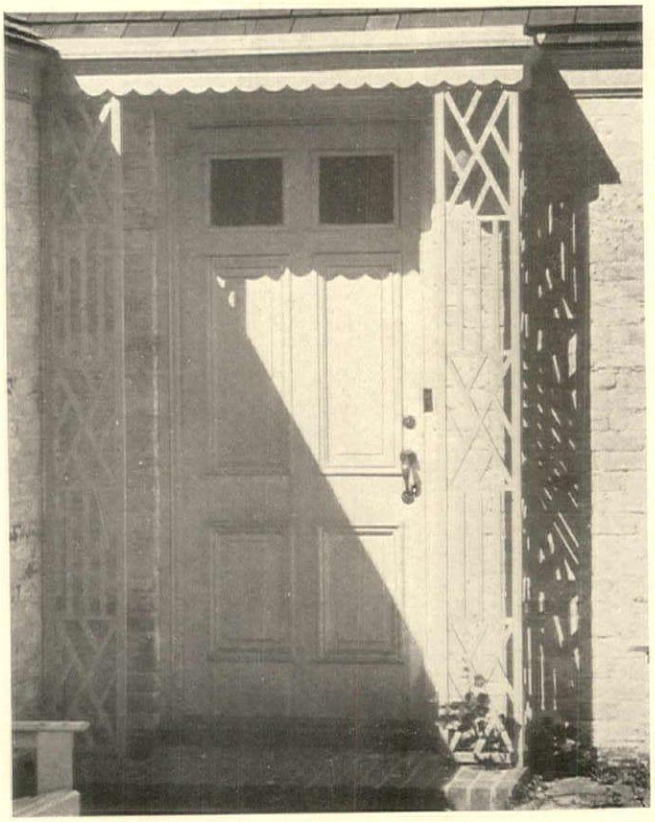
Adaptation of early Spanish work
Santa Fé, N. M.

House, Hillsborough, Calif.
Willis Polk & Company

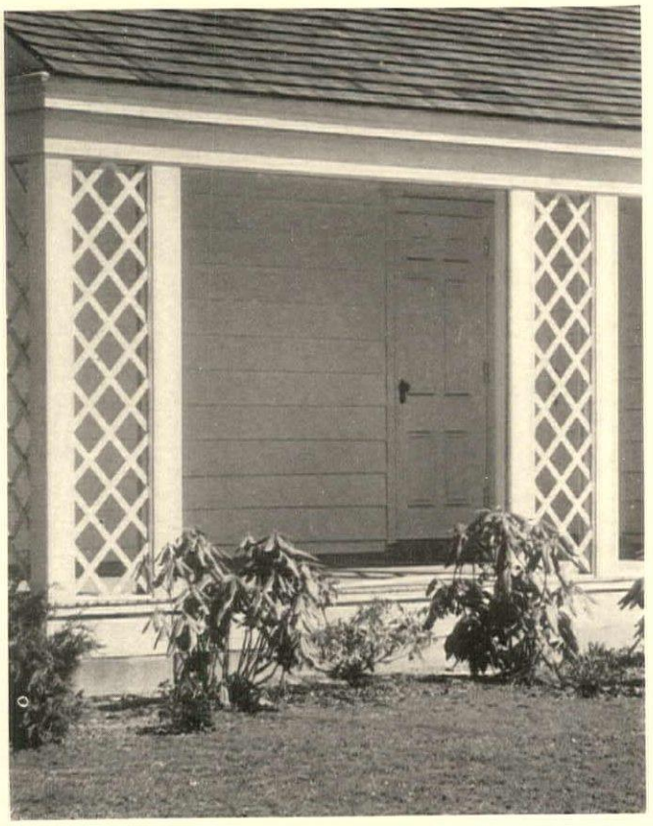
House, Montecito, Calif.
Roland E. Coate



House, Beverly Hills, Calif.



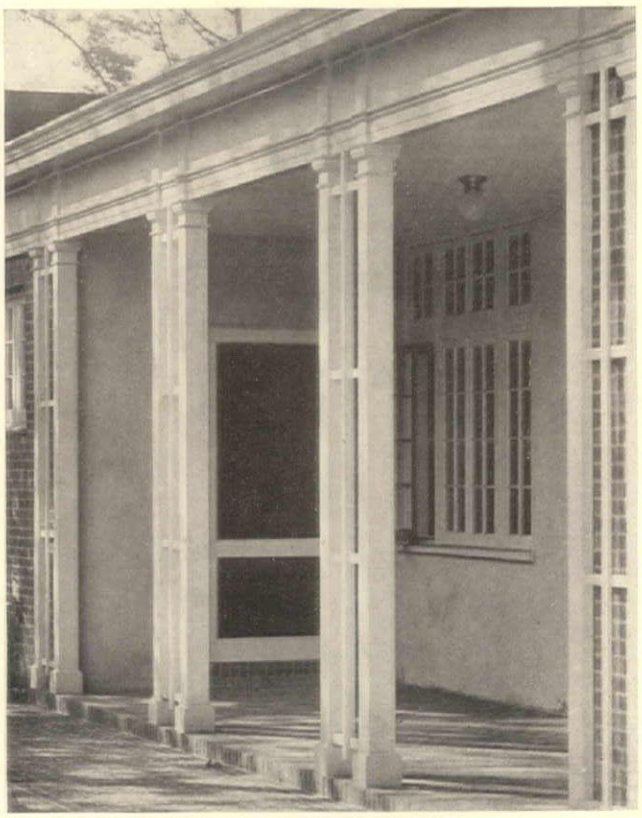
House, Old Greenwich, Conn.
Harrison Gill



House, Harbour Green, N. Y.
Randolph Evans

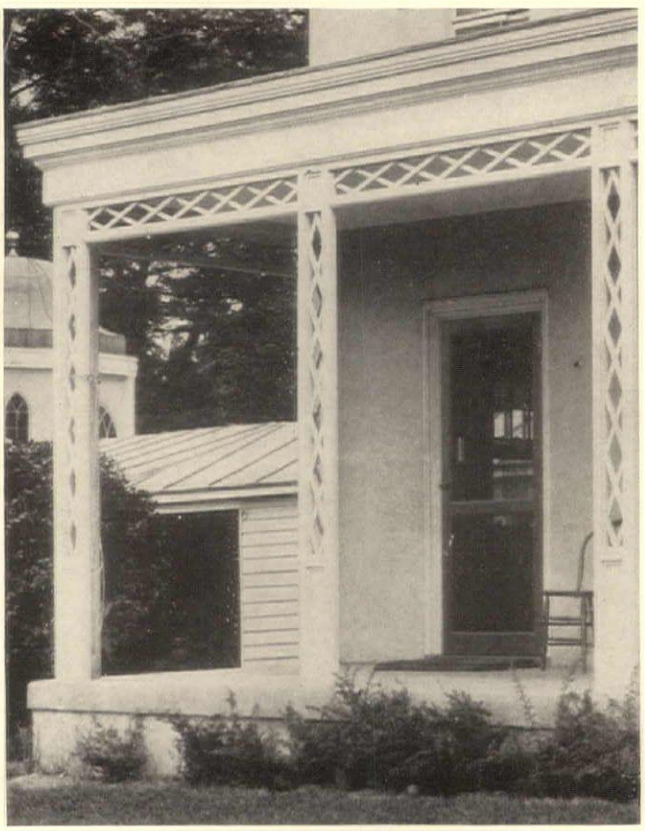
House, Rye, N. Y.
B. F. Chapman; Heathcote M. Woolsey

House, Southampton, N. Y.
Polhemus & Coffin



House, Montclair, N. J.
Wallis & Goodwillie

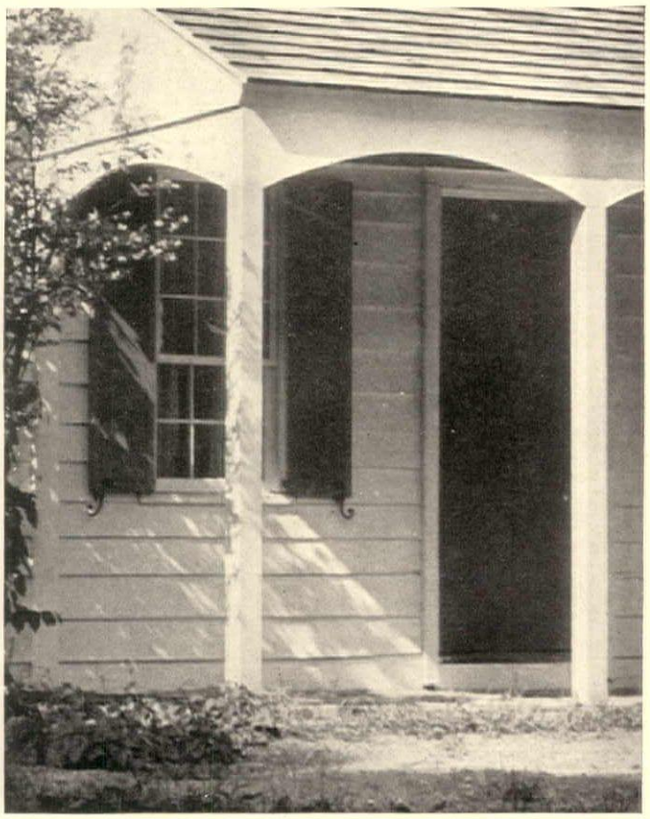
House, Brentwood, Los Angeles, Calif.
E. J. Baume



House, Bethayres, Pa.
Leigh French, Jr.; Harold D. Eberlein

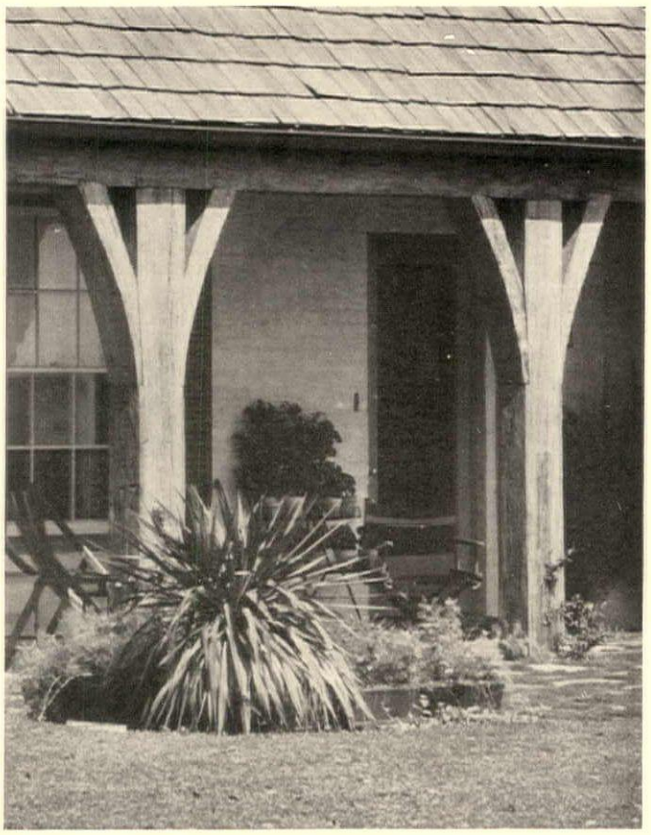
House, Larchmont, N. Y.
William Gehron

House, Atlanta, Ga.
Hentz, Adler & Shutze



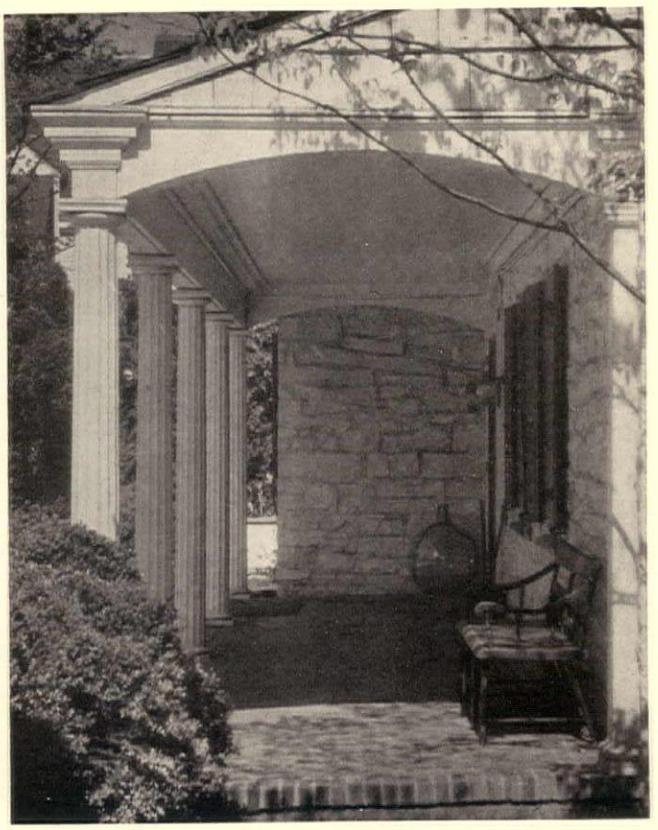
House, Kent, Conn.
Allan McDowell

Tea House, Dutchess County, N. Y.
Roswell F. Barratt

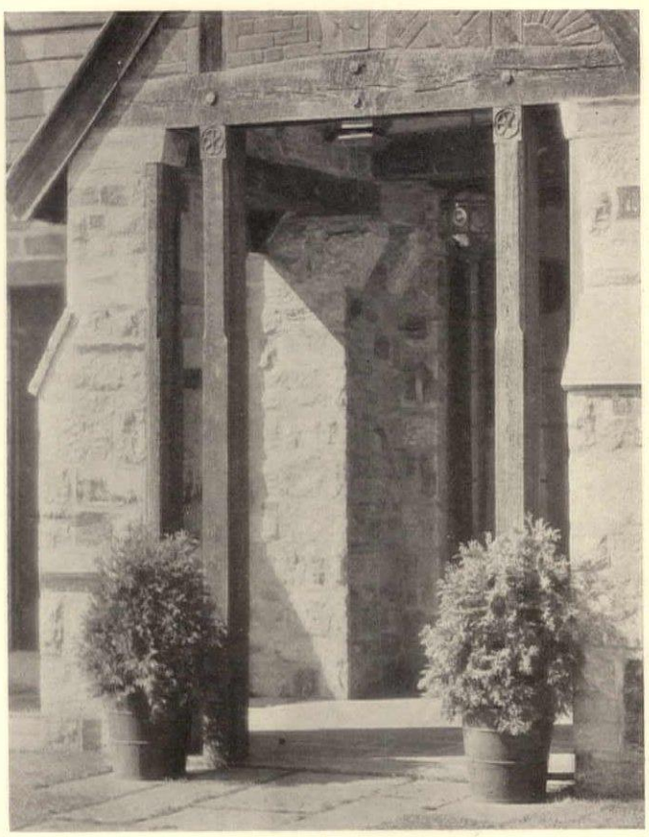


House, Spring Hill, Ala.
George B. Rogers

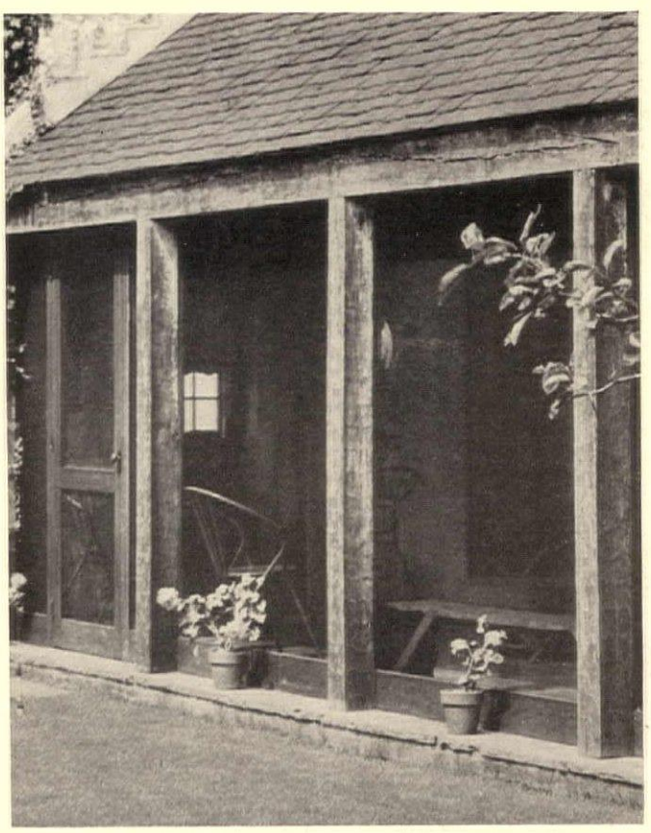
House, Sunapee Lake, N. H.
Prentice Sanger



House, Red Bank, N. J.
Polhemus & Coffin

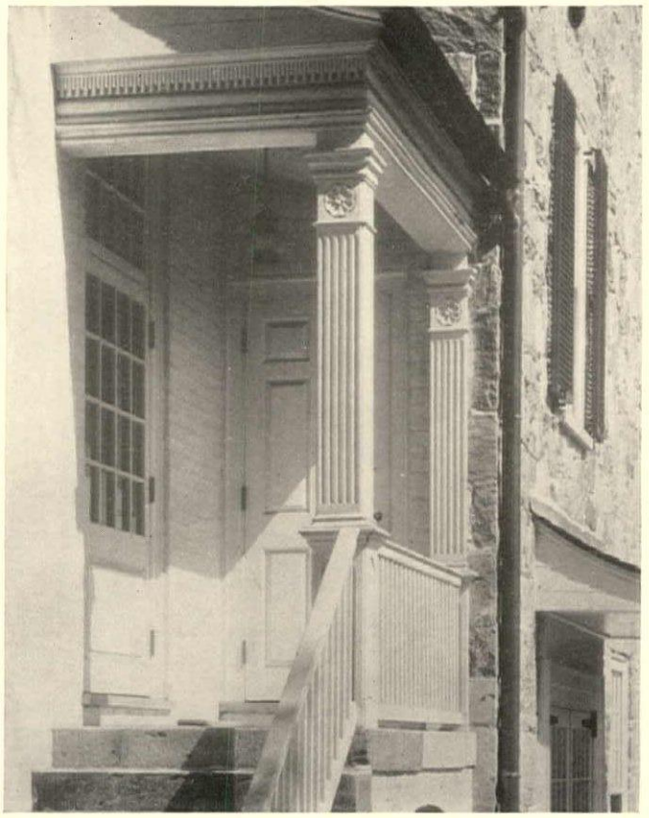


House, Bristol, R. I.
Jackson, Robertson & Adams

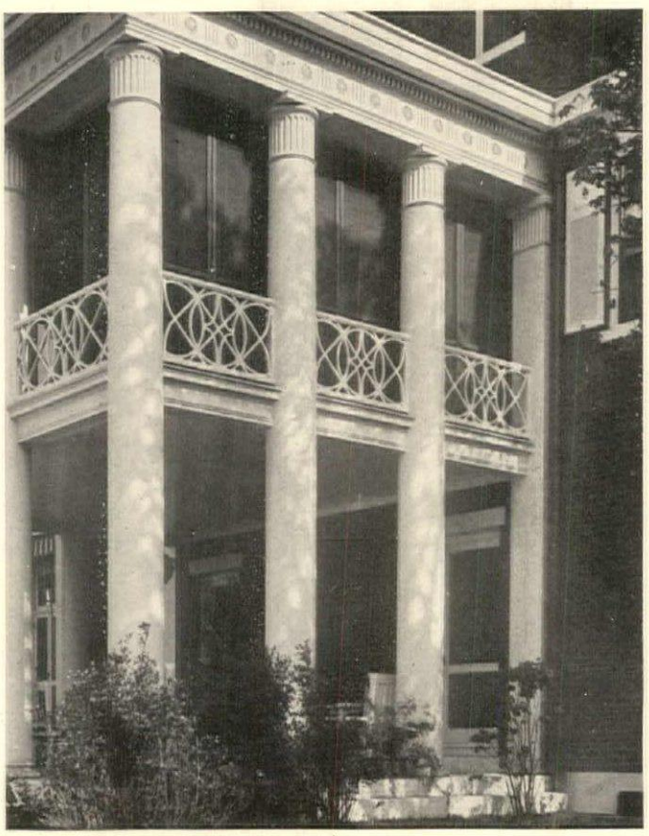


House, Fishers Island, N. Y.
Eric Kebbon

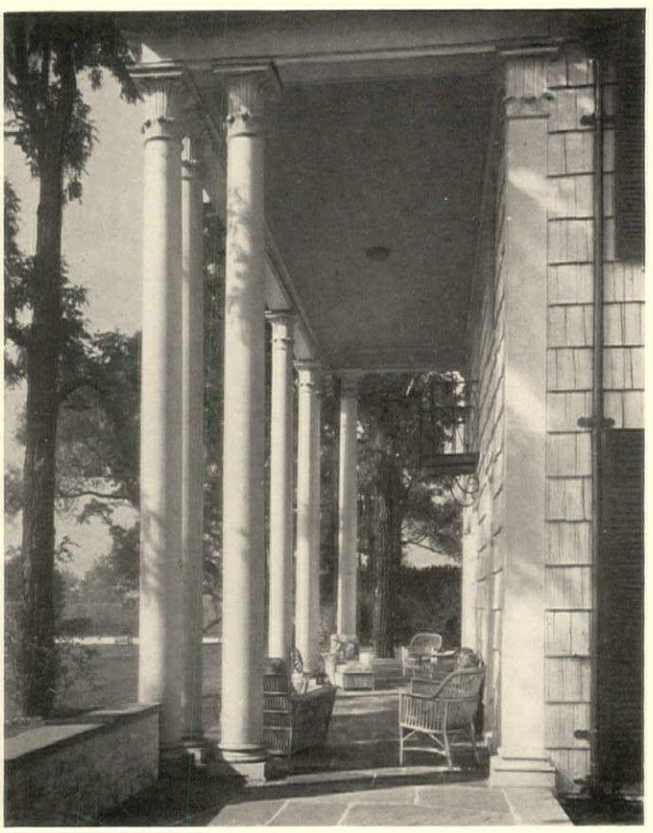
House, Palm Beach, Fla.
Wyeth & King



Library, Amherst, Mass.
Putnam & Cox



House, Great Neck, N. Y.
Aymar Embury II

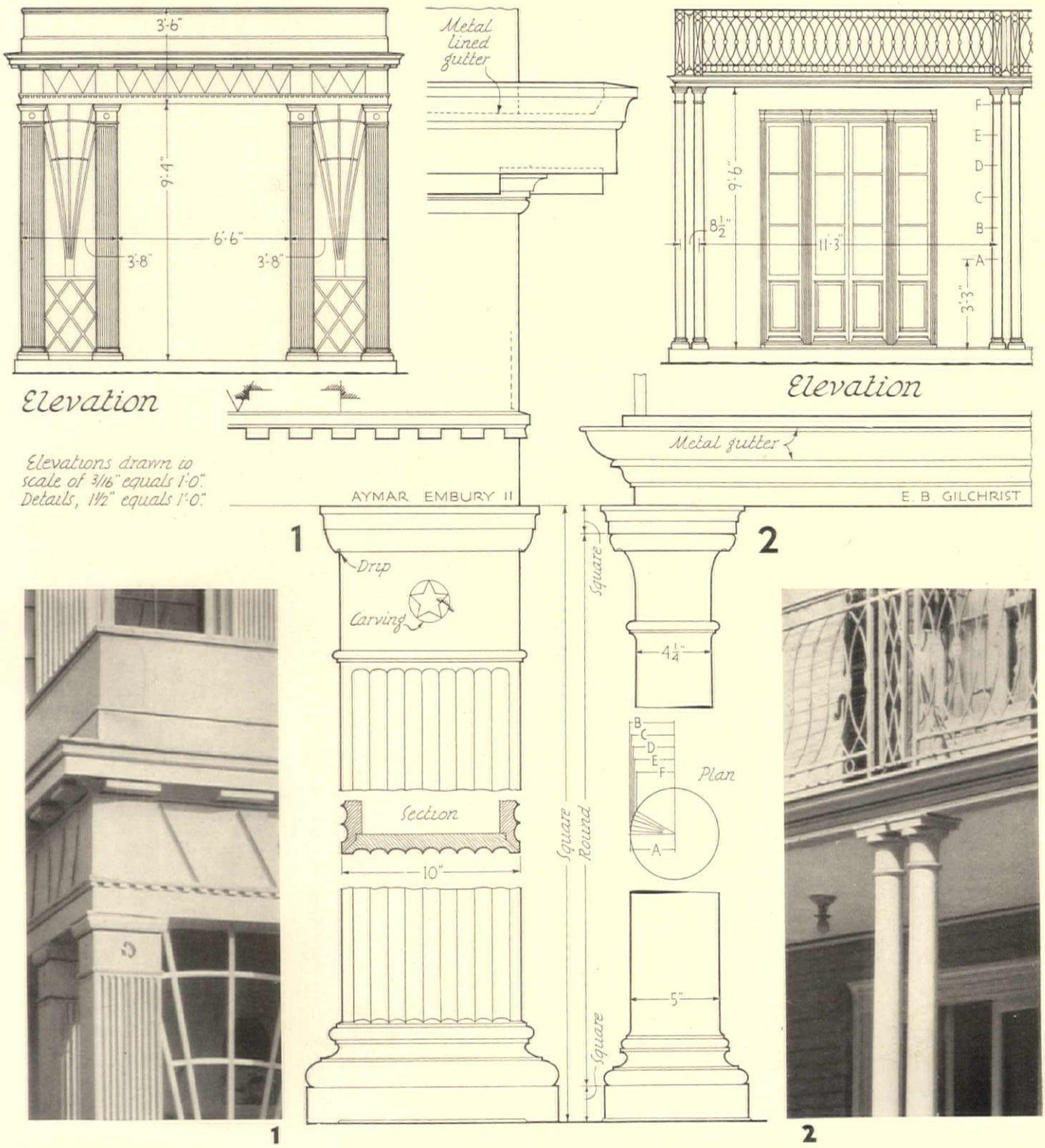


House, Middletown, N. J.
Charles H. Higgins

FAVORITE FEATURES

Common problems of design in everyday practice—how the results look and how the drafting-room detailed them

Porch Columns and Posts of Wood



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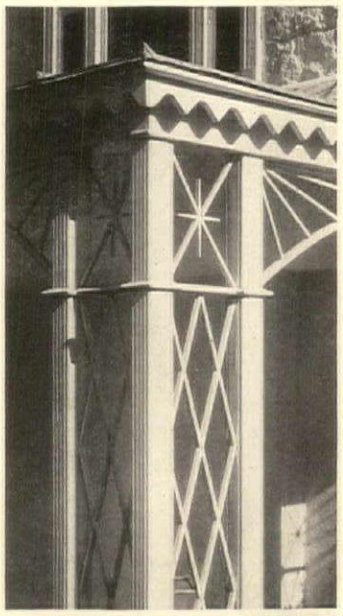

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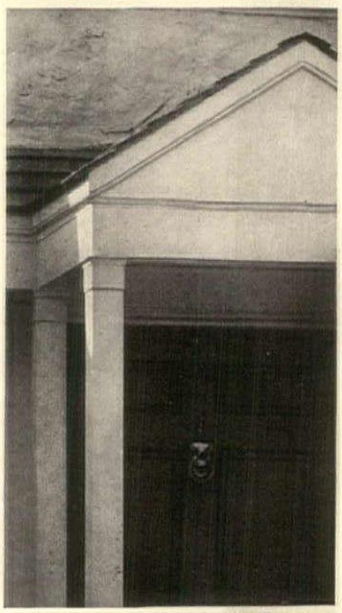

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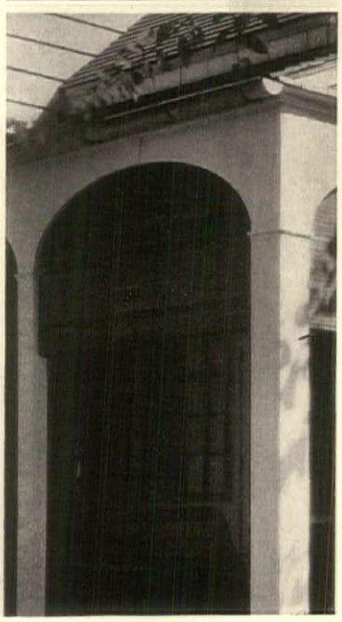

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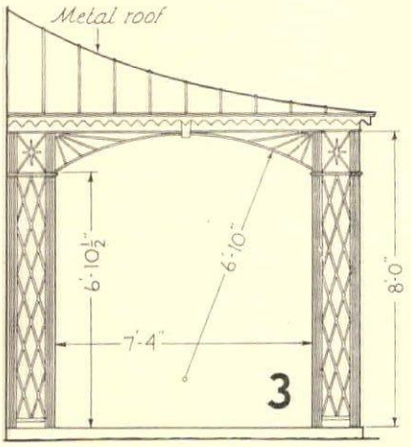
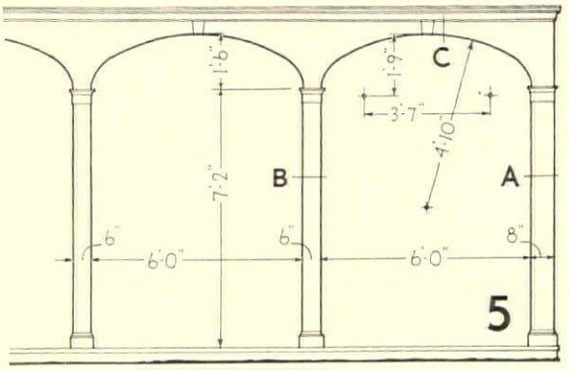
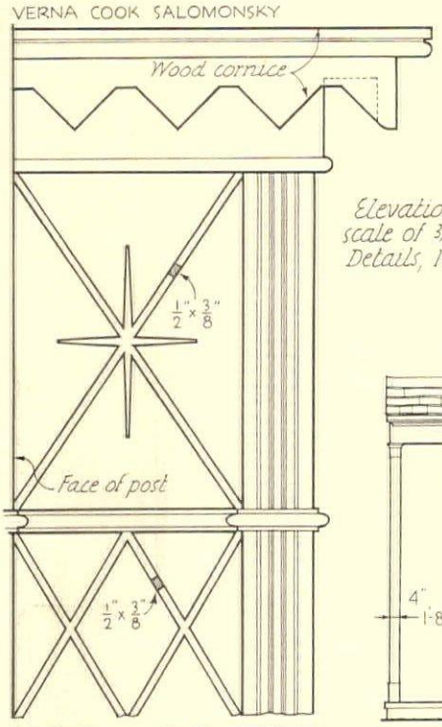


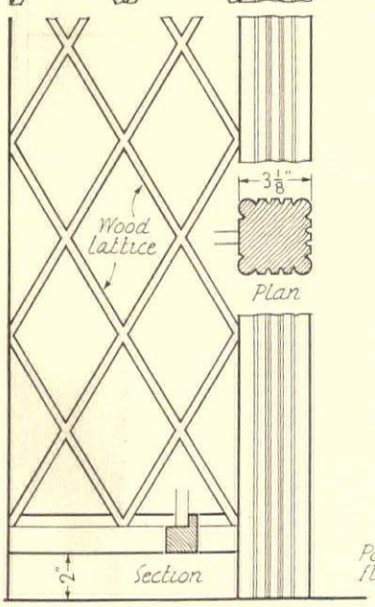
Elevation

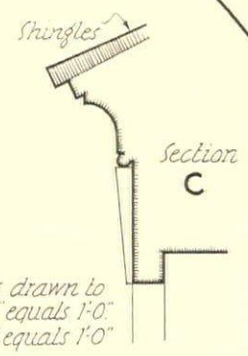


Elevation

VERNA COOK SALOMONSKY

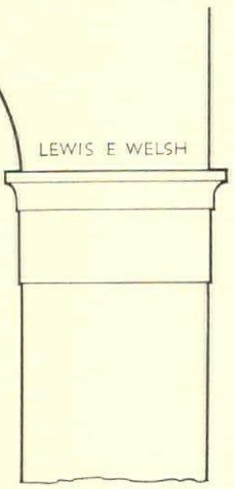


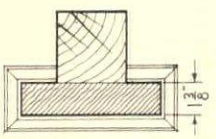




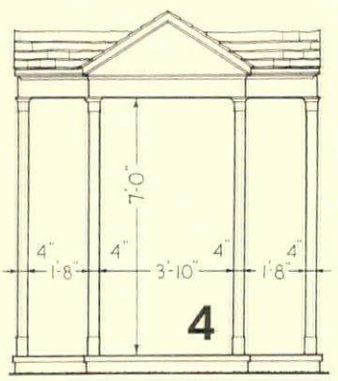
Elevations drawn to scale of 3/16" equals 1'-0" Details, 1½" equals 1'-0"

LEWIS E WELSH



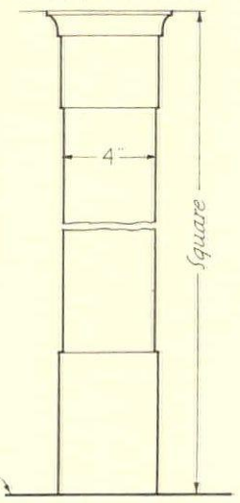


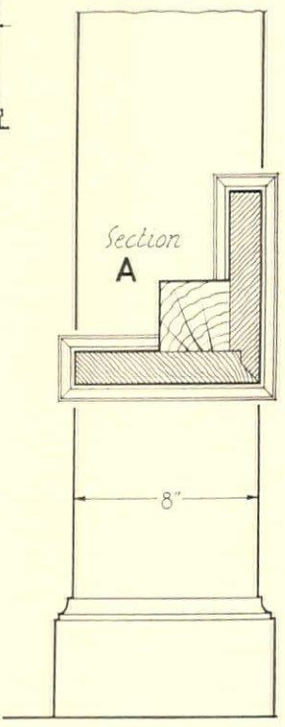
Section B

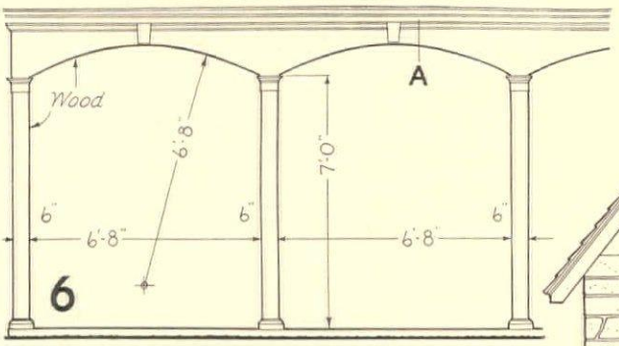


Elevation

CHARLES S. KEEFE



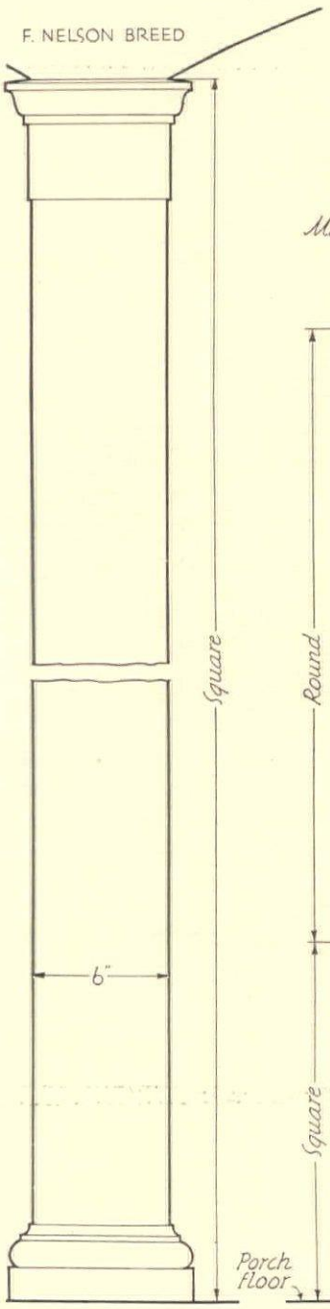


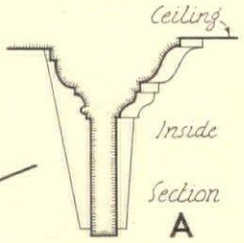


Elevation

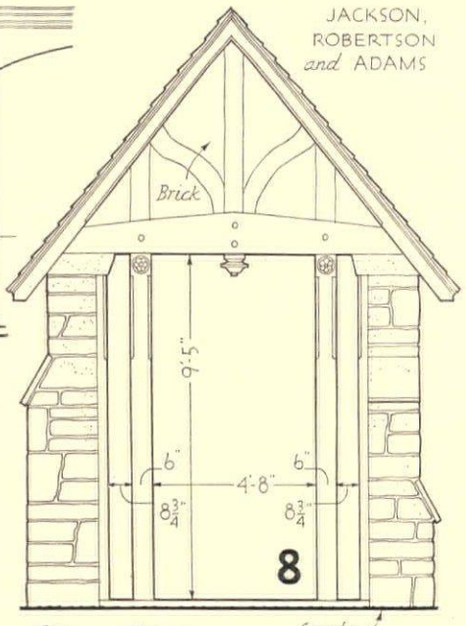
Elevations drawn to scale of 3/16" equals 1'-0". Details, 1½" equals 1'-0".

F. NELSON BREED





JACKSON, ROBERTSON and ADAMS



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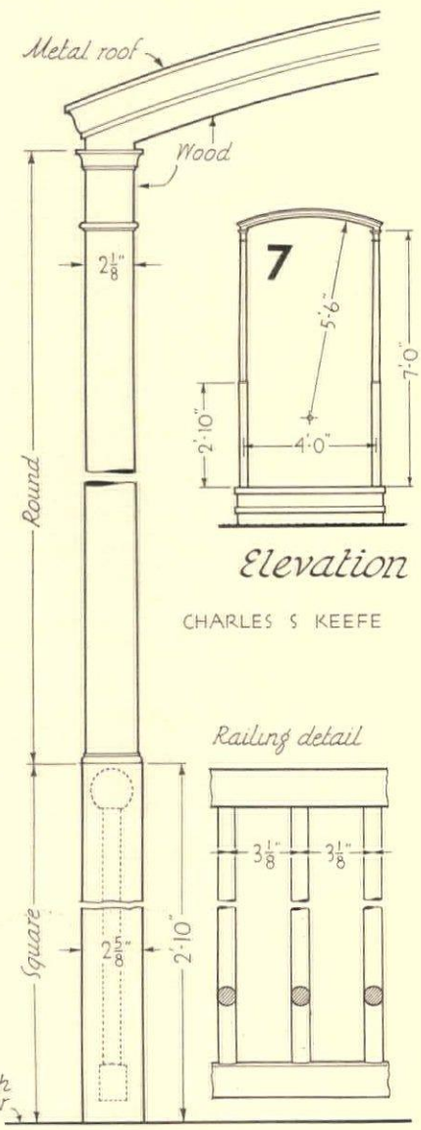
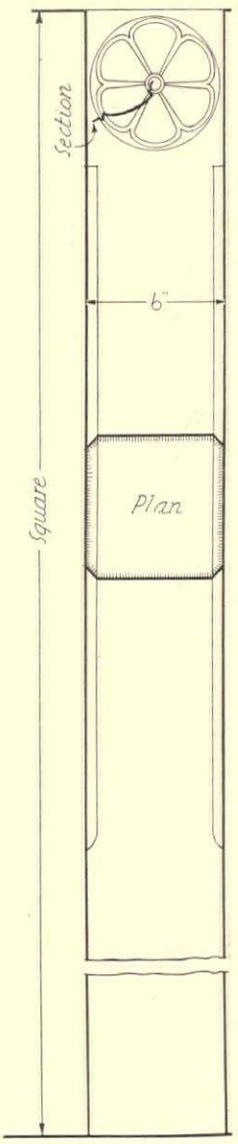
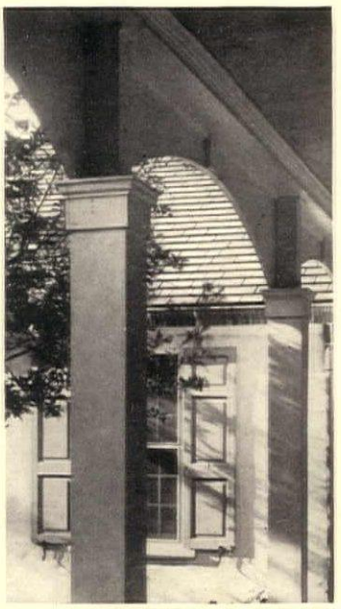


Elevation

CHARLES S KEEFE





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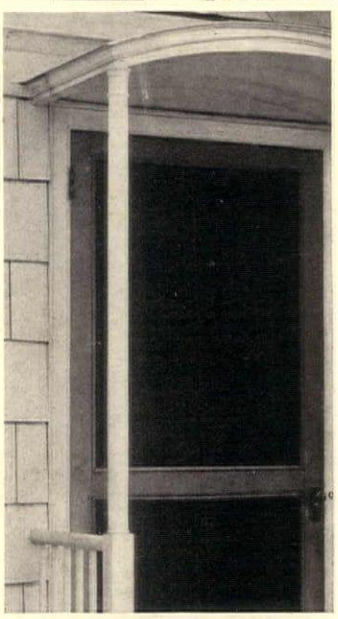

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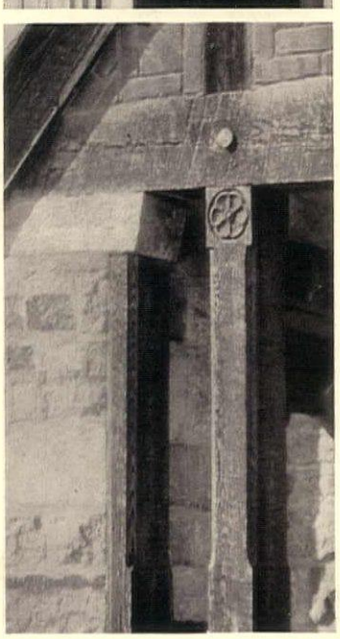

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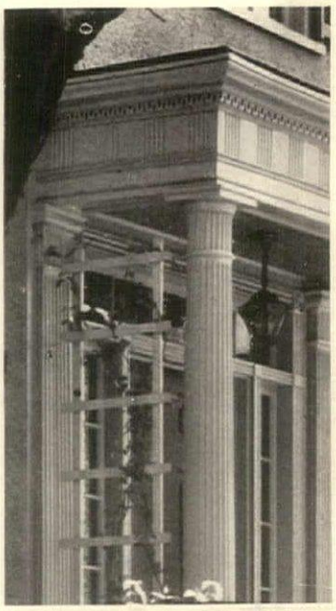

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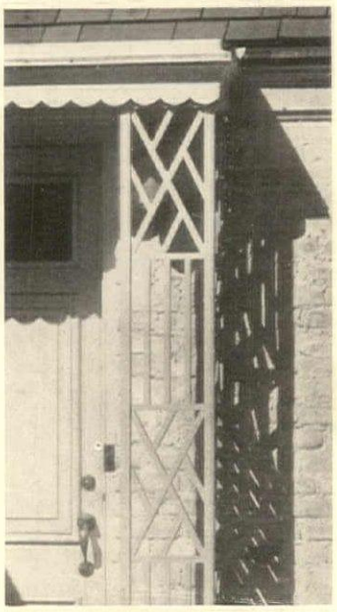

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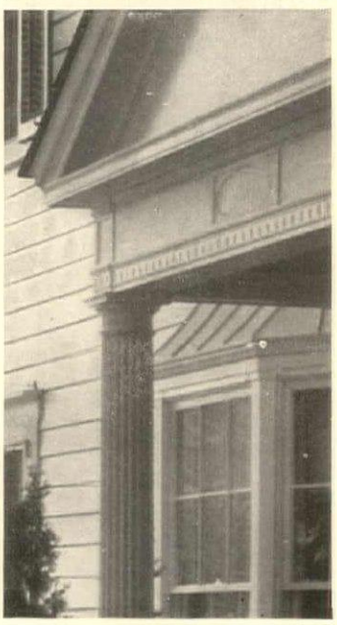

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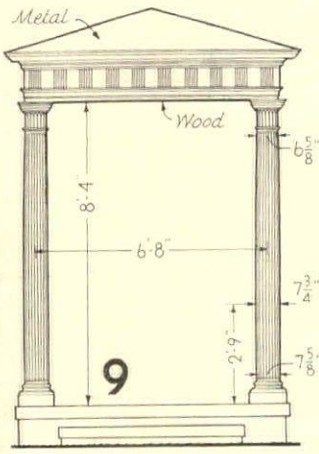

Elevation

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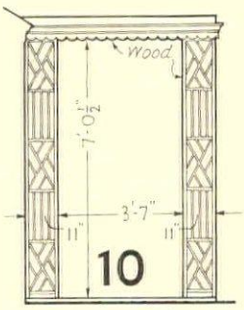

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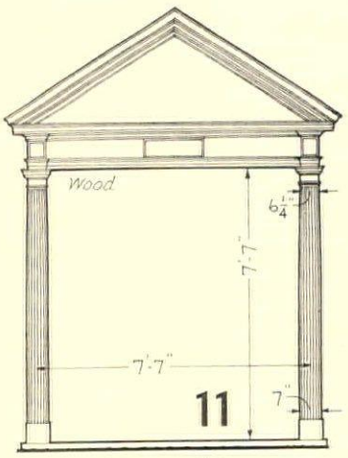
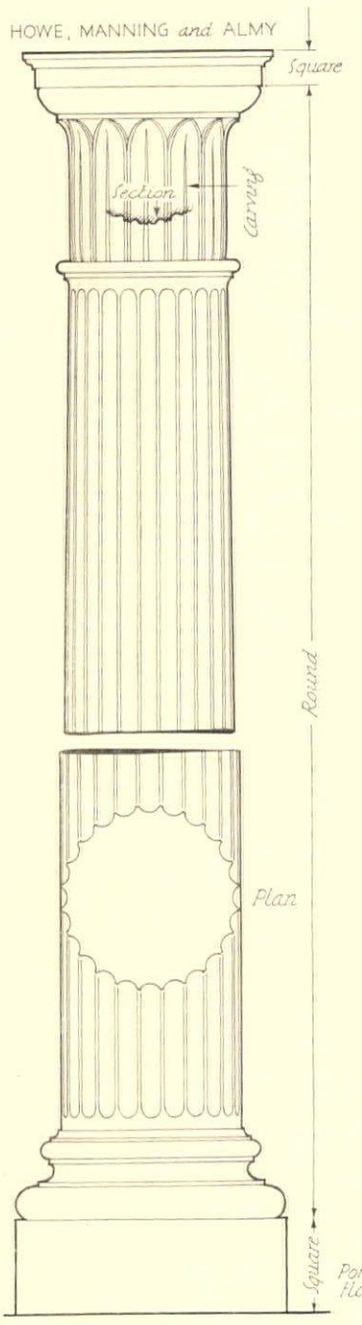
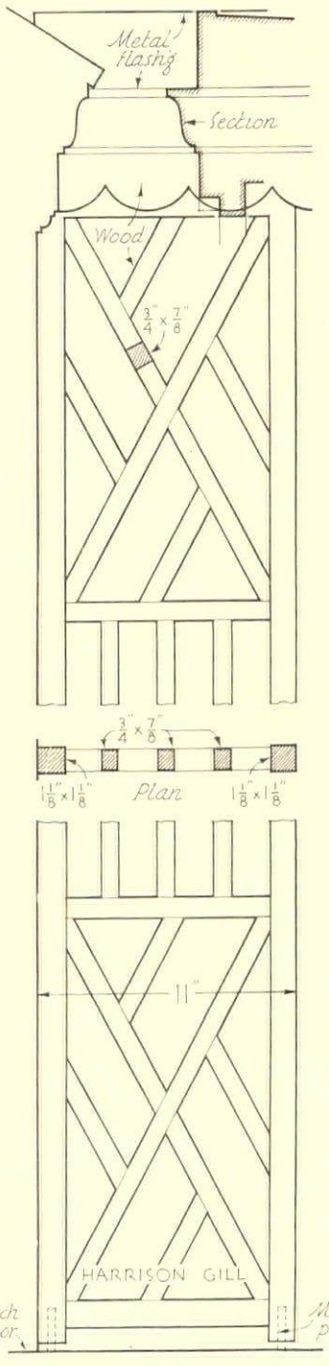


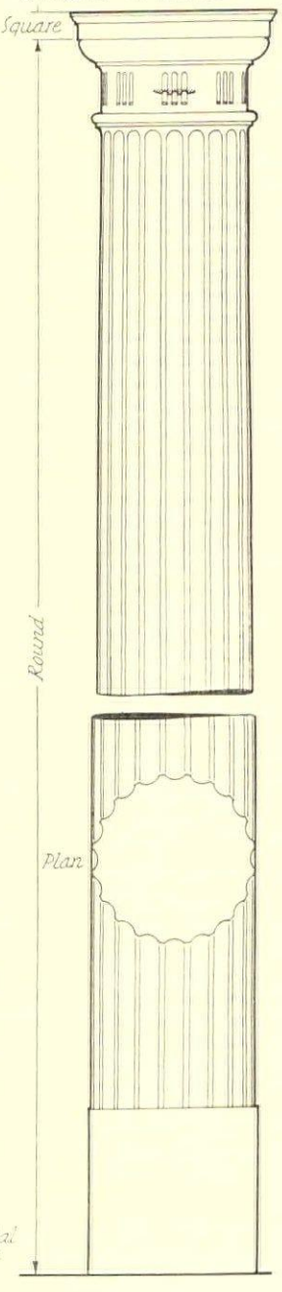
Elevation

HOWE, MANNING and ALMY





CHARLES S. KEEFE



THE DIARY

Henry Saylor

Monday, February 1.—A few days ago Forbes Watson cleared up at luncheon a number of foggy ideas as to what is going on in painting and sculpture in our public buildings. His job comes under the Treasury Department in the Procurement Division, just as does the Supervising Architect's Office. It is a permanent organization, not merely an emergency one. Edward Bruce and his associates started out with the idea that competition would solve the problem of avoiding political and personal influence. It did that, but it also involved the waste of a great deal of time, effort, and paint on the part of those who did not win, but whom the Department was striving to aid. A modification of the idea now in effect provides occasional competitions, but in addition to the winning design, all other entrants showing real promise are commissioned with what jobs may be available. The idea is one that might prove workable in the matter of selecting architects for public works.

Tuesday, February 2.—Lunched with Pope Barney, whose keen interest in architectural education is evidenced by his connection with the architectural schools, both in State College, Pa., and in Princeton. He told me of a new scheme in the making—the graduating students of the Princeton Architectural School are to be invited to remain for three or four days after their graduation, to meet with a group of the architectural alumni and other notable figures in the field of architectural practice and architectural education. The purpose, of course, is to bring about a better understanding on the part of both sides as to what it is all about, and what is being done about it. Quarters will perhaps be available in the Graduate School for all those in attendance, which provides a setting so nearly ideal that great results should be possible of achievement.

Thursday, February 4.—Claude Bragdon says that in order to get it across to one's hearers, a speech should never be written out and memorized. Perhaps we could go beyond that and say that the speaker, having been selected to speak on a subject with which, of course, he really is familiar, should have no warning that he is to speak. At any rate, the scheme worked ideally today when Bassett Jones, having learned only accidentally that he was to speak at The League today, spoke as a man whose lips had been touched with a live coal. The lighting of the New York World's Fair, 1939, was his subject. There are going to be some surprising things about this Fair if he has his way: no flood lights, no street lighting standards, a vast advance in the use of pure color secured by gaseous tube lighting. Much of what he told us was under the rose, since the Fair has its own methods and schedule for the issue of publicity. All I can say is that if Bassett Jones has been as convincing in speaking to the directors of the corporation as he was to his friends at The League today, we are going to see a Fair that is no echo of anything that has gone before.

Saturday, February 6.—Every two or three months William F. Lockhardt and I manage to fill a tablecloth and the backs of menus with cabalistic signs that could mean very little to anyone beyond the sound of our voices. It is always the same problem—what is likely to evolve from the myriad efforts now being made in secret places to devise a new, more economical, more enduring method of building small houses. The one great trouble with most of the schemes that are aborning is that the inventor or promoter is thinking in terms of one material alone, be it steel, wood, concrete. The method which time will have proven the most acceptable will, in all probability, be a combination of many materials. In any event, what is likely to emerge after a generation or so, is a method which has behind it the most active promotion and the most widely spread organization. Looking back at the history of the automobile, we can recall many makes of cars that were as good as, or better than, the few which have endured. Organization, large capital, and well directed promotion will probably bring forward two or three schemes of building which may or may not be the best ones that we are able to devise.

Monday, February 8.—I have just been rereading Benvenuto Cellini's Autobiography. What a man! I nominate for "the neatest trick of the week" his marksmanship as an artillery officer stationed on the turret of the Castle St. Angelo during the sack of Rome, as described with his usual modesty. Down in the square below stood an important officer of the attacking forces, his sword held in both hands horizontally across his middle. Benvenuto took careful aim with a cannon, hit the sword precisely in the center on its back edge, and cut the man in half.

Friday, February 12.—Eddie Morris, the erudite editor of *The Federal Architect,* has apparently been doing some research work—economics, costs, cubes, and the like are in the air—and Morris has discerned in their complex convolutions a pattern. It is as follows: the price per cubic foot of a masonry building is always the same as the price per pound of sirloin steak. When, in the dark ages of the depression, buildings were being built, if at all, for 28 cents per cubic foot, that was also the price of sirloin steak. And now in these days, just before the big boom in building, masonry buildings are being achieved at 51 cents per cubic foot while sirloin steak still parallels the price at 51 cents per pound. As Eddie Morris says, there must be some reason for this. His researches, however, have uncovered merely the facts, not the underlying reasons why.

Saturday, February 13.—At last the United States has grown up, and is to have a national gallery of her own. Not that she would have thought of it and paid for it herself, however, but because Andrew W. Mellon plays the part of a lavishly generous patron of the arts. The gallery, already designed by the Office of John Russell Pope, will stand, if the enabling legislation goes through, on the area bounded by Constitution Avenue, North Mall Drive, Fourth Street, and Seventh Street in Washington. One curious provision of the bequest is that "no works of art shall be exhibited in the National Gallery of Art unless they are of as high a standard of quality as those in the collection acquired from Mr. Mellon"—which puts a neat little problem up to someone.

Monday, February 15.—Fletcher Collins showed up my ignorance today by asking me whether the Code Napoleon is still in force in Canada as relating to certain building matters. When, as gently as possible, I made clear to him the fact that I had never heard of such a thing, he told me that when England took over the country from France, part of the agreement entailed a continuation of this Code Napoleon. Under its provision, the contractor who put up a building was responsible for its enduring in good condition for ten years. Collins said that a notable case in which it was upheld dealt with a

building, the wood floors of which had become so bad as to result in a scrub woman breaking her leg. Thereupon, the original contractor was compelled to take out all the wooden floors and replace them, at a cost of thirty thousand dollars. Wharton Clay, steeped in the code lore of the American Standards Association, not to be outdone, discoursed upon a code provision originating far back in a time before Christ. This code provided that if anyone broke a leg through the failure of a building, the builder thereof suffered the penalty of having his own leg broken. Well, well, if this sort of thing comes back, we'll be having all architects' drawings null and void until countersigned by the contractor.

Wednesday, February 17.—There have been many stones thrown at the building industry in the sweeping accusation that it is wholly unorganized, inefficient, and archaic, and the great trouble is that it is no one person's particular business to right these things. One of its most vulnerable points lies in the high peaks and low valleys of employment. This in its turn brings on the absurdity of altitudinous wage scales combined with a low annual earning power of the workman.

Climbing to still further heights, the bricklayers of New York and Long Island seek an increase of one hundred per cent beginning April 1. The movement towards a more nearly adequate return for the building trades should, if possible, be steered into the path of year-round employment instead of spasmodic employment at a rate that puts home building beyond the reach of the workman himself. He, least of all, can afford to pay fifteen dollars for a six-hour day. Increasing pre-fabrication seems to offer a way out, but the unions look with mistrust upon that way.

Friday, February 19.—New York City has temporarily cured its impending housing shortage brought about by the enforcement of the law against sub-standard housing. A new law, exempting the owners of these buildings from certain penal sections of the old law for a six months' period, provided they make a formal agreement to start repairs and alterations needed, has just been passed.

Saturday, February 20.—Seldom has so much thought and judgment been concentrated upon a program as upon that which Frederick A. Delano has devised "to meet the housing needs of the lower income groups." It contains far too much to permit of a brief summary. *The American City* for January published it, and it has been reprinted for the National Association of Housing Officials.

Incidentally, in view of the slurring appraisal frequently put upon the building industry in comparison with its brighter young brother, the automobile industry, Mr. Delano cites some interesting figures. It is said that if private industry can produce automotive transportation as it has done in recent years, why cannot private industry alone produce housing? Mr. Delano points out that while private enterprise was doing its job with the motor, federal and local governments were building roads and bettering traffic conditions. Thus, in 1928 over half of all expenditures for public works in the United States—something over two billion dollars—were devoted to the construction of roads, streets, and bridges. How much progress would the motor industry have made without this help?

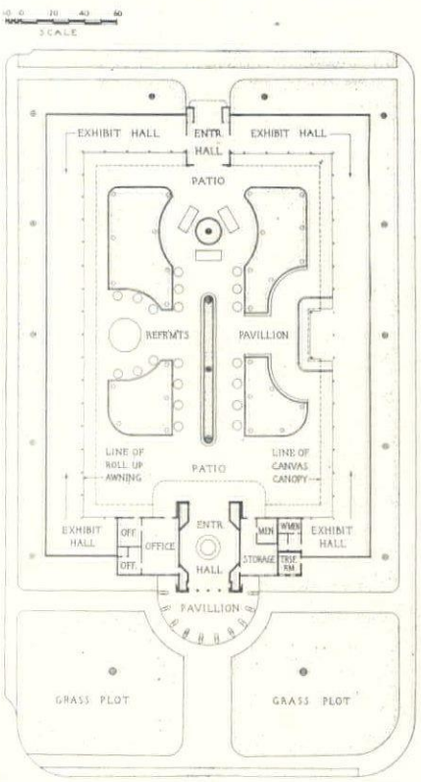
Monday, February 22.—Any architect who has missed Dr. Leicester B. Holland's paper, "Toward a Nudist Architecture" in *The Federal Architect* for January, is out of luck. In fact, I am beginning to think that an architect who fails to hear or see *any* expression from Dr. Holland is out of luck. In this particular paper he develops the theme that man, as compared with the remainder of the animal kingdom, is not so hot—he is not very swift, he is not very strong, his fur is short and ragged, his coloring quite lacking in distinction. To offset these shortcomngs, he adorns his body, and he adorns his dwelling. Other animals lack entirely this sort of self-consciousness. Moreover, there is an interesting parallel between costume and architecture down through the ages—until the present. Man's dress of today fails entirely to agree with modernistic architecture. Holland suggests that possibly the most fitting costume to go with mass production and rigid functionalism of dwellings might be something on the lines of the Ammish men—broad flat hat, straight square box coat, tubular trousers, nothing so unfunctional as a collar, with the buttons abandoned as vain ornament, and the wearer's faith pinned to hook and eye or zipper. Perhaps, however, we should go further, and accept Nudism as a proper concomitant of modernistic architecture. It has its drawbacks. How would one know a policeman from a gangster? The policeman has to wear a badge, even though he has nothing to pin it on.

A friend of Holland's dined with a Nudist family in Germany. The whole household were properly nude, of course, but the butler wore white gloves. It is just these unavoidable little artificialities which would in time break down the whole system.

Wednesday, February 24.—Many powerful figures in our architecture stepped out of the past tonight in a series of dramatic instances presented before the New York Chapter, A.I.A. It was the eightieth anniversary of the founding of the A.I.A. in New York City. The first incident took us back to the first formal meeting of the organizers, in Delmonico's Restaurant, 1857. The elder Upjohn, Richard M. Hunt, Vaux, Babcock, Rich, Eidlitz deliberated on the professional problems of the day. For the second incident, Richard M. Hunt, in the person of Talbot Hamlin, lectured to us, with slides, on the Centennial Exposition of '76. Then on to '91, when Burnham, Hunt, McKim, Sullivan, and Peabody gathered on the site of the proposed World's Columbian Exposition, and faced their mighty problem. Finally, a modernistic office of today in which the architect is perplexed by the conflicting demands of an elderly traditional client and his modernistic young wife. The architects not only essayed the rôles of actors, but also those of scene painters, stage carpenters, scene shifters, and electricians.

Thursday, February 25.—Charles Bullfinch is not the only great architect whose churches are not treasured as they might be. All Hallows, Sir Christopher Wren's famous church in the heart of London's financial district, is to be destroyed. All Hallows has a great past. It stands on a site on which once stood a Roman forum. Wren rebuilt it in 1694, and it was here that John Wesley preached his first sermon. And now the site on which it stands, being worth about a million and a quarter dollars, is to be sold by the Church of England, the proceeds to be used to build other churches on less valuable sites.

Saturday, February 27.—England has gone us one better in the matter of photomurals. So far as I know, we have been satisfied over here in enlarging our photographs on paper, possibly backed with linen, and hanging these on the wall surface. A young English photographer named Mollo and his associates, having learned how to apply a sensitized emulsion to the surface of wall or ceiling, print thereon by projection, developing and fixing by spray. They can put a photographic image on surfaces as varied in material and texture as corrugated aluminum, fibrous insulating board, ribbed glass, and fluted plaster.



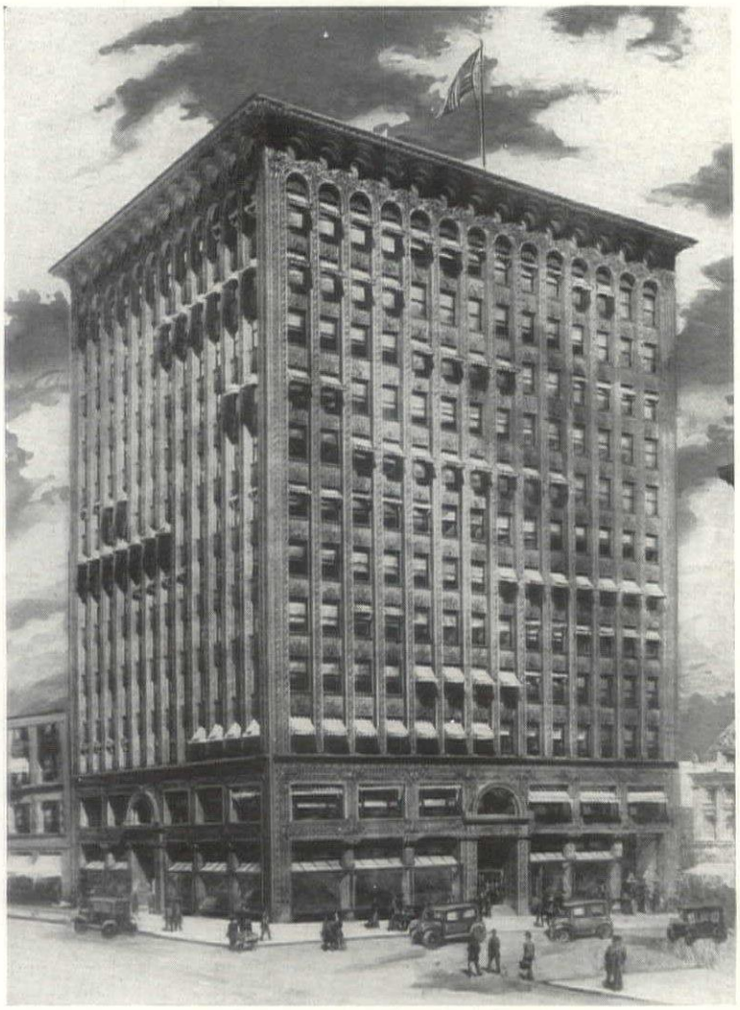
FORD FLORIDA EXHIBITION BUILDING

WALTER DORWIN TEAGUE, DESIGNER

New conditions in connection with temporary exhibitions as a merchandising medium require a special architectural expression. One of the most important problems is that a building for this purpose must house both industrial education displays and also provide entertainment facilities for a large transient audience. The Ford building, for example, has had an average crowd of between 7,000 and 8,000 people per day. Another necessity is that the building while temporary must look permanent and must also express the dignity of industry and at the same time appear festive. This was accomplished here by means of imposing entrances featuring the Ford trade-mark and a brilliant color scheme.

Twice a day a South American orchestra plays in the spacious 160' x 290' patio. Surrounding the garden is the exhibition area covered with colorful army duck lashed to a steel framework. The main entrance pavilion is of stucco on metal lath. Facing the patio (above) is a huge tapestry glass embellished with a vermilion Neon V 8. The dramatic lighting system includes both flood and indirect lighting facilities. The color scheme is mainly red, white and cobalt blue.

FORD FLORIDA EXHIBITION BUILDING, MIAMI. WALTER DORWIN TEAGUE, ARCHITECT



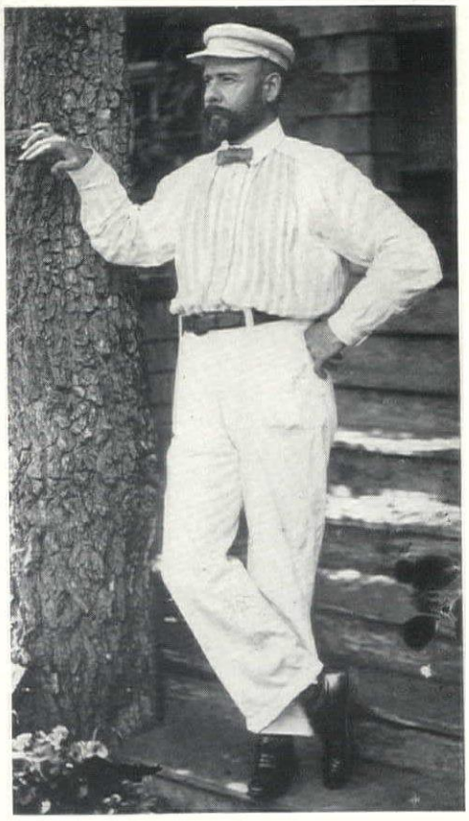
SALVAGED FROM TIME · V

(conclusion)

Extracts from the Autobiography of

CLAUDE BRAGDON

Louis Sullivan's Prudential Building in Buffalo, which Mr. Bragdon regrets having so often passed by with eyes that failed to see it, "fresh in the beauty of its soaring piers and exquisitely wrought red terra-cotta casing." The portrait of Mr. Sullivan, taken at his retreat in Biloxi, Mississippi

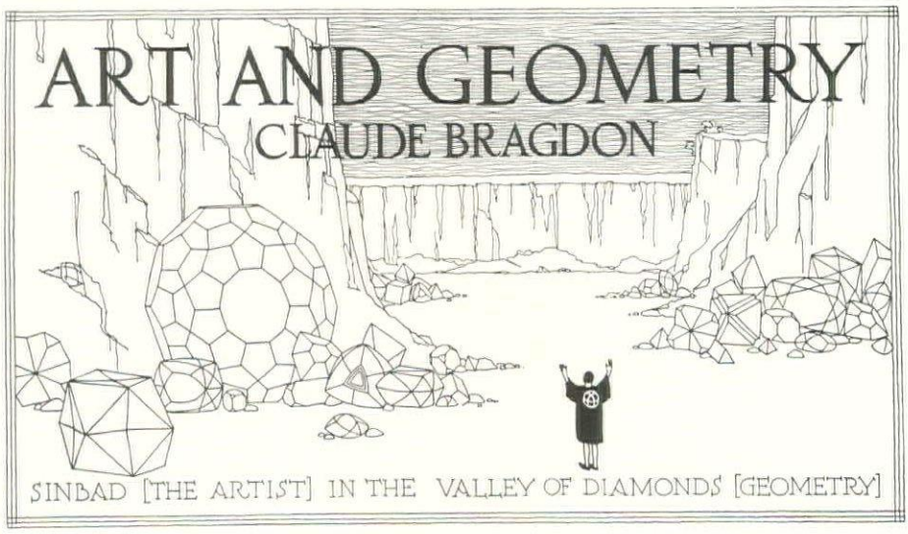


ON THE fourteenth of April, 1924, Louis Sullivan died. I was asked to write his obituary for the *Journal of the American Institute of Architects,* and I did so. I also wrote the Introduction to his "The Autobiography of an Idea," and "Kindergarten Chats." In this way my name has come to be associated with his. Aside from his Cliff-Dweller club-fellows he had few friends in that last lean cycle of his life, and of these few I was one. Sullivan had been both rich and famous, but at the time when I used to see him his only commissions were small-town bank buildings in the Middle West.

Many factors doubtless contributed to this neglect: his habits, his prides, his prejudices, the loss of the prestige of his former partner Dankmar Adler's outstanding practical ability and engineering skill. But the chief factor was undoubtedly the one which Sullivan himself dwells on in the Autobiography, namely, the triumph of that romantic eclecticism in architecture signalized by the Chicago World's Fair, with the result that every civic center had to be made to look as much like the Court of Honor as possible.

But the tide now sets in the opposite direction: the one which Sullivan pointed out and was the first to follow. He conceived of architecture as an *art of organisms,* in which the function creates the form, and the form expresses the function. He is the spiritual father of everything sound and good achieved in architecture since his day.

It is one of the regrets of my life that the perception of Sullivan's *rightness* should have come to me so slowly and so late. This was due to prejudices and preconceptions inherited from that



This and the drawing on the page opposite are alternate headings drawn by Mr. Bragdon for a series of articles published many years ago in The Architectural Review

false kind of architectural education which Sullivan anathematized in "Kindergarten Chats." When I was working for Green & Wickes in Buffalo I used to pass with unseeing eyes Sullivan's Prudential Building, fresh in the beauty of its soaring piers and exquisitely wrought red terra-cotta casing, admiring by preference Burnham's bombastical Ellicott Square Building, because it so abounded in those time-sanctified forms and features which I had been taught to think constituted architecture. In Chicago, at the World's Fair, dazzled by the sumptuous splendors of the Court of Honor, I paid small attention to Sullivan's Transportation Building, though it was the only one on the grounds which *looked like what it was*—an enclosure for exhibits, of no particular permanence, but with an appropriately festal appearance, not reminiscent of any other time or place.

But in the course of time I came to realize that Sullivan had the right idea: that he alone was honest and all the rest of us were telling lies. An article I wrote about him in *House & Garden* in 1903 led to an interchange of letters, and whenever my business or desires took me to Chicago, we met.

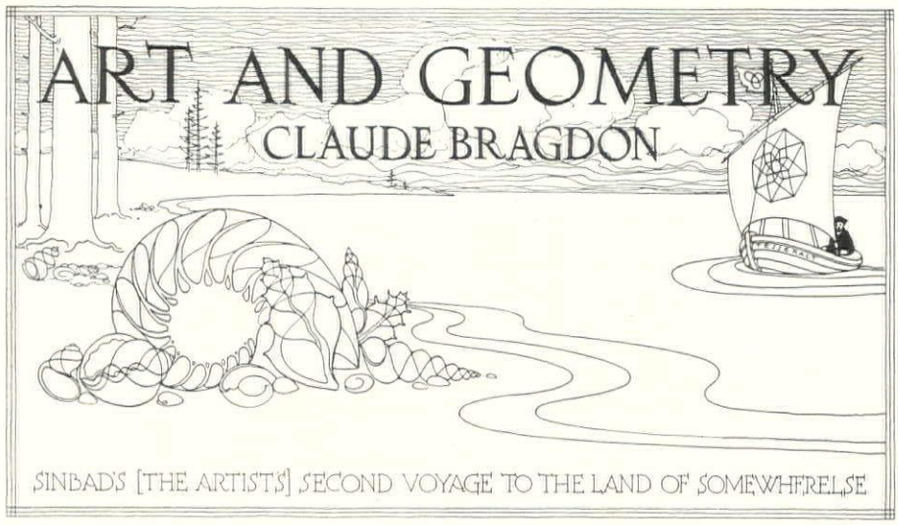
When Andreas Zorn visited Chicago he said: "What is the matter with you Chicago people? There in the Auditorium Tower sits your country's greatest architect, one of the world's leaders in the profession, doing nothing!" It was there that I first saw him. The place was big enough for twenty draftsmen, but there was not work enough for one. He was a trifle under medium height, but erect and dignified in bearing; not stout, but with just the suspicion of a paunch. He wore a close-cut Vandyke beard; his eyes were dark, quiet, and full of thought; their natural expression was kindly, but they could be scornful, arrogant. What in a lesser man might have seemed self-conceit was in him a sureness of himself and of his own genius. He talked extraordinarily well on every subject, but when that subject was architecture it was sometimes as though his lips had been touched by a coal from the altar, because it was his religion: As he wrote me in one of his letters: "With me architecture is not an art but a religion, and that religion but part of a greater religion of Democracy." When in this vein, his talk partook of the nature of music in that it was cryptic, inspiring, evanescent, leaving the listener in an exalted mood but without a communicable idea. On occasion he could be clear, definite, pragmatic, bringing to bear upon the subject under discussion an unanswerable logic. But within that fenced meadow of the mind he was never content to remain for long: like some aviator come to earth, it was only a place where he made, as it were, forced landings. His kinship was with Ariel, and his true sphere was that airy element wherein ideas originate—the intuitive sphere.

We met again in 1915, when I went to Chicago to deliver two of the Scammon Lectures at the Art Institute. Thomas Hastings, representative of Classic eclecticism, and Ralph Adams Cram, ardent advocate of the revival of the spirit of the Gothic, had both had their say before I came, and I was expected to plead for that order of newness which entered American architecture with the advent of Louis Sullivan and Frank Lloyd Wright. On the occasion of my first lecture Fullerton Hall was crowded to the doors. Sullivan was present, and also Wright's son, then a youthful student of architecture. In the course of my talk I took occasion to pay Sullivan a deserved tribute. What I said, and the response of the audience, expressed in a spontaneous burst of applause, touched him deeply: having given up hope of leaving his stamp upon the age, to have it thus publicly declared that he had already done so was balm to his bruised spirit.

Our last meeting must have occurred while I was in Chicago with Walter Hampden on the occasion of the beginning of his career as a Shakespearean actor, for I remember taking Sullivan to a performance of Hamlet, and enjoying his delight in it. He had given up his office, disposed of his library, and was living largely on the bounty of friends, I imagine. We met at the Cliff Dwellers, which served him both as an office and as a home.

I have no right to reproach anyone for failing to appreciate Sullivan's essential greatness, because I was myself so blind to it; and when my perception was at last awakened I saw only a part —and the lesser part—of what was really there. Sullivan realized this, and showed that he realized it in a number of letters received at the time when I was preparing that article about him. Though not flattering to my powers of divination, they were written with evident consideration for my feelings as an author. He realized that, like the man at the piano, I was doing my best.

My experiences as a lecturer began in 1901, in Philadelphia, when I addressed the third annual convention of the Architectural League of America. The subject was "Mysticism and Architecture," and the subject-matter my as yet unpublished book, "The Beautiful Necessity." I was so inspired by my theme and so forgetful of myself and of the audience that I did well, and this speech was the hit of the Convention. On the strength of it I was assigned the principal address at the fifth annual meeting of the League, held in St. Louis in 1903. Anxious to excel my former effort I committed my entire speech to memory and delivered it word for word as it was written. Needless to say, it fell perfectly flat. Though humiliated by this experience, it taught me that it is not so much the perfection of phrase or of delivery which moves an audience, as intensity of thought and feeling. For this sets up some sort of a reciprocal



Alternate heading from the series of articles written by Mr. Bragdon to record his adventures into the realm of ornament derived from Nature and from geometry

action between speaker and audience whereby the two become respectively the positive and negative poles of the same magnetic current. Mr. Hampden assures me that the same thing is true of acting: the participation of the audience is necessary for a thoroughly successful performance, and it is gained in the same way. Never afterwards did I speak by rote or from notes, but I trusted to the power of my thought to find its own expression, confident that my own *aliveness,* more than the words I uttered, would express what I wanted to convey.

Since those two appearances I have made, I suppose, several hundred addresses on a great variety of subjects, at colleges, schools, clubs, art museums, and before groups of "serious thinkers," large and small. In 1934 I delivered a series of four lectures on "Design in Space" at the Architectural School of Princeton University, inaugurated by an exhibition of my drawings. I had several friends among the undergraduates who made these occasions pleasant and memorable, and through the kind offices of one of them—Sam Thomas—I was privileged to meet the great Albert Einstein.

He was an hour late for the appointment, and there were several other persons waiting to see him besides Sam and me; but once comfortably settled in an armchair in his private office, he behaved as though time were not—as indeed it is not, according to his famous Theory. His massive head appeared even larger by reason of the lion-like mane of hair which stood out all around it; his face fairly shone with good nature; he smiled always and laughed often, and his eyes seemed full of light. He had the candor, the curiosity, and the absorption-in-the-moment of a child. Fortunately we did not discuss the fourth dimension. Upton Sinclair had interested him in thought transference, because Sinclair and his wife communicated in that manner, and Einstein asked me what I knew about it, whereupon I told him about certain more or less successful experiments I had made over a period of weeks of practice with my friend Fritz Trautmann.

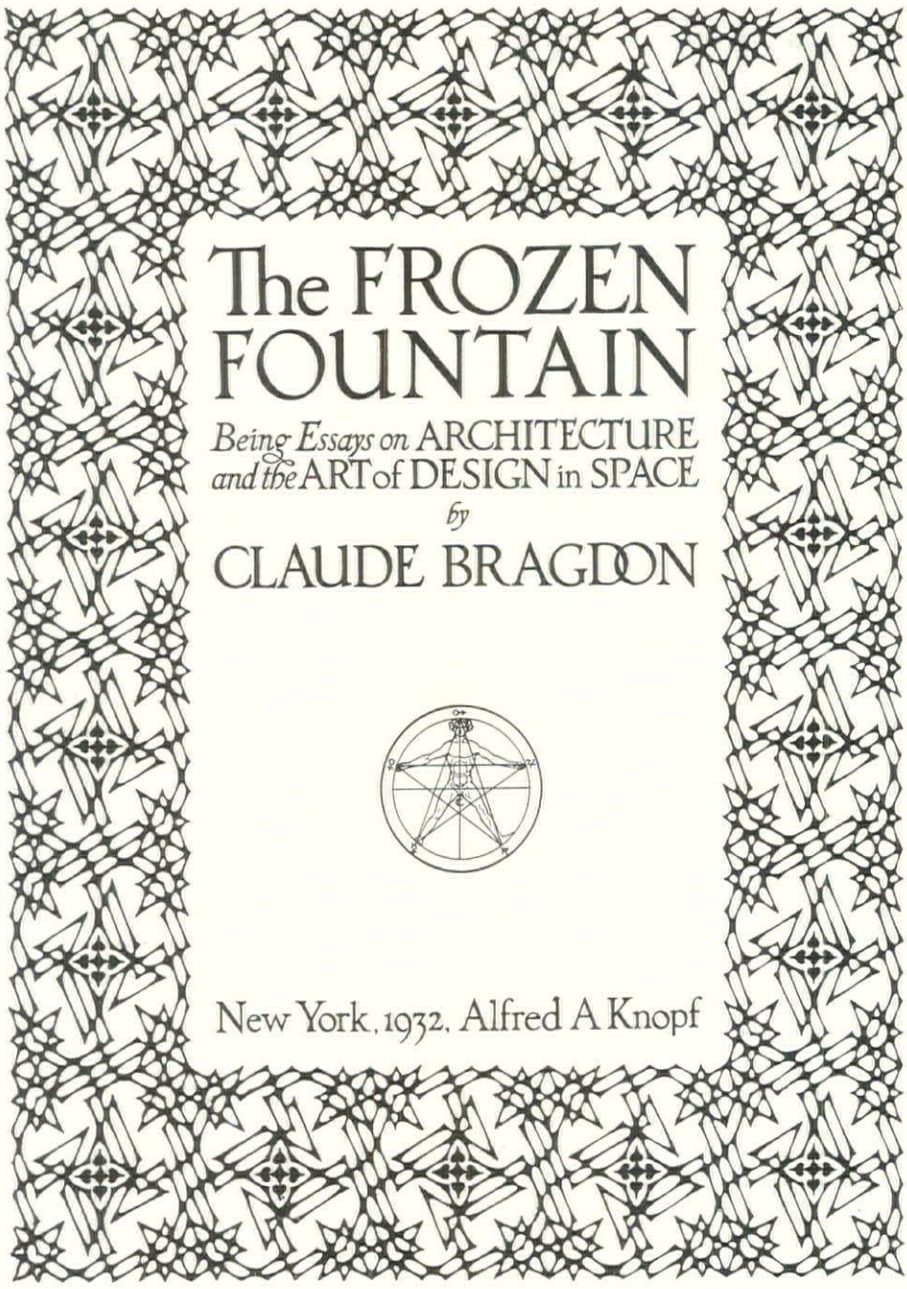
I should not want to be a professional lecturer. For no better reason than that they have heard me speak, people expect me to attend their parties, ask me to introduce them to my publisher, tell me their troubles, and even want me to give or lend them money, which I am ashamed to say I have sometimes been weak-minded enough to do. On the other hand there are rewards and compensations—spiritual, not material, for I am never paid much for such services, and in most cases nothing at all. But it is wonderful to discover in a multitude of faces the face of one to whom your words make music; to feel the return of the wave you have yourself sent forth. Nor is there anything comparable to the sense of being the channel of forces beneficent in their nature. Such transfigurations cannot be induced by any effort of will, and I have experienced them rarely--most often while speaking on the subject of Beauty, or of Love.

By the time a man has reached the age of seventy, as I have, he should have gained some idea of the meaning, I shall not say of *life,* which remains forever a mystery, but of his own life in time and space—what it was for, and about. The reader may be interested to learn what I think has been the direction, pattern and purpose of my life.

In the journal of my maternal grandfather, Fayette Shipherd, he tells how, a young man on his knees in prayer, God spoke to him and told him what was to be his earthly destiny: He would go always from one small or divided congregation to another, building each one up and animating it with new life; and he would have no respite from these labors, nor reap what he had sown. Accepting this burden in a spirit of gratefulness, my grandfather indeed lived as predicted by the voice which spoke to him in answer to his prayer: "Lord, what wilt thou have me to do?"

I have never made any such supplication and perhaps for that reason have been vouchsafed no guidance as to what I was to do. Yet, looking back, I seem to have been under some similar compulsion, deserting the task I had with difficulty mastered for a new one about which I knew little or nothing, and as soon as I had become proficient at that, leaving it for something else; never resting from these labors, nor reaping what I had sown.

My first idea of making a living was to become a wood engraver, then a profitable employment. But by the time I had become fairly proficient the art was already dying a slow death by reason of zinc etching and half-tone methods of reproduction, so I decided to quit. Next I became a cartoonist, and with brilliant success until I learned, as already narrated, that one should never be as funny as one can. Then, after due preparation, I embraced the profession of architecture which I practised for many years, and successfully, becoming a Fellow of the American Institute of Architects. But this did not wholly content me, so on the side I did illustrating, book-plate, book cover, and poster designing; and I even became a publisher of books. Ever since I can remember, I wanted to write, just as I wanted to draw, but up to the time I was thirty I never supposed this desire would be gratified. I wrote "The Golden Person in the Heart," and from that time to the present I have produced fourteen other books. My greatest turn-about occurred when I abandoned a successful architectural practice in order to become a theatrical designer. This took me to New York and completely revolutionized my mode of living. In the intervals between one production and another I made researches into color-music. I had always done more or less lecturing, but



Title page designed by Mr. Bragdon for one of his books, utilizing the knight's tour in a major square eight by eight. Reproduced by courtesy of the publisher

my final metamorphosis was into a teacher—of young men, in the School of Architecture, Princeton, and young women, at Briarcliff Junior College.

These many and various life-activities are all referable to a single urge: the desire to discover, create, and communicate *beauty*. Just as the love and service of God drove my grandfather from one broken-down church to another, so have I been driven from occupation to occupation in the service of Beauty.

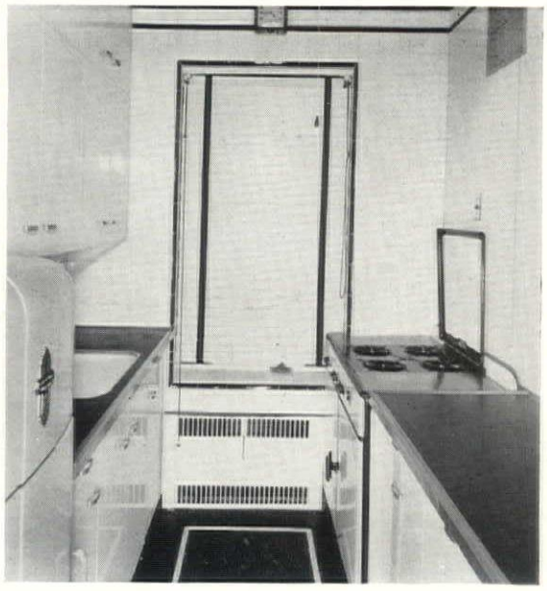
Song and Light, the civic festivals in public parks developed by Harry Barnhart, the community chorus leader, "master of song," and by me, "master of light," had nothing but beauty for their object. They were exactly what they were announced as being: "A free expression of Beauty by and for the people." Architecture, compared with most other professions, is like the piece of cake which contains the ring of gold: the element of beauty enters into it, and that was to me its great attraction. "Beauty of a richer strain" I sought in color-music, and this quest so fascinated me that when I had the chance to enter the theatre I welcomed it because of the opportunity there afforded to continue my experiments with colored light, the theatre being the only place I knew where this could be done. I went into publishing not with the idea of making money, but because I wanted to publish beautiful books beautifully; and even my preoccupation with the fourth dimension was largely because I hoped to extract from it new motifs for ornament.

I am told that in India it is recognized that man's normal life divides itself naturally into four distinct phases, each with interests and activities proper to it, and to it alone. Childhood and youth are for playing and learning. Then comes marriage, with its attendant responsibilities and labors as husband, father, householder, and business man. The third stage sees a lightening of these burdens through their assumption by the sons of the house, leaving their father free to seek the society of his friends, and the counsel and inspiration of holy men, thus preparing him for the fourth and final phase, the Forest Life.

Having passed through the earlier of these phases in their order, I seem now to have entered upon the Forest Life. This transit was marked by a severe and painful illness which has changed me somewhat, leaving me more fit either for life or for death. Suffering was to me a thing unknown: it had been my boast that doctors, nurses, drugs, and all the dreadful paraphernalia of illness did not exist in my prospect, when suddenly I was struck down; medicine bottles cluttered the top of my dressing-table and flowers filled the ice-pitcher; every morning the doctor counted my pulse-beats, and white-clad sentinels watched at my bedside day and night. I was in such pain that nights seemed endless, and my longing for day was only equalled by my dread at the approach of night.

But one morning after a month of this, during which I had grown gradually better, I got up, shaved, bathed, dressed, and informed the doctor when he came that he was fired. I likewise discharged the nurse, threw away the medicine bottles and the flowers, and dramatizing myself as a normal and healthy human being, resumed my interrupted habitual life, though on a somewhat diminished scale, and concentrated on the finishing of these memoirs. That knocking of the heart of which I became for the first time conscious during my illness, although I do not think so, may indeed be the summoning knock of Death the Friend. If so, this probably constitutes my last testament, and I should now take leave in phrases worthy of so solemn an occasion. But somehow I cannot take death as seriously as all that. To me, life will be what I have found it always, a never-ending climax, by death "changed not in kind but in degree," and no more arrested by the wearing out of the old machine than time stops when the clock stops.

Left: a well-planned complete kitchen, in which proper attention is paid to door and other clearances and work center locations. . . . Right: well-designed kitchenette



UNIT PLANNING — III

KITCHENS

Subjects already presented include closets and stairs. . . . Contemplated subjects include the unit planning of bathrooms, school classrooms, hospital wards, private rooms and operating units

TWO FACTORS have combined to bring the modern residential kitchen into the spotlight of current general interest. One is the popular demand that well-equipped, efficiently planned and economical kitchens be made more easily available than formerly. The other consists of the correlated efforts of engineers, architects and manufacturers to meet this demand in simple, concrete terms.

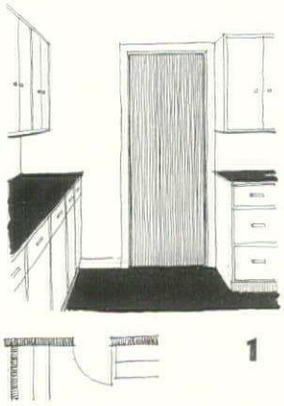
A scientific approach to the kitchen planning problem has resulted. Solutions to kitchen planning problems today are largely subject to standardization within definite limits. Work centers with suitable equipment form planning units of standardized character and dimensions and the architect need only organize them effectively to create a kitchen that will work well in practice. Even this problem of organizing the work center units can be reduced to a few effective schemes from which deviations can be made to meet specific project needs.

Given in the accompanying TIME-SAVER STANDARDS data are factors and diagrams which indicate the recommended minimum size and capacity of individual work centers and the proper organization of these work centers into complete kitchen plans. With these is information regarding methods of combining work center units in typical layouts.

Obviously these data cannot be adopted as complete solutions to all kitchen planning problems. Dimensions given in every case indicate only the average space required by work center units, and do not refer to any particular type of manufactured equipment. They may be safely used in preliminary planning to determine arrangement of work centers and to allot sufficient space for installation of required units. Precise dimensions of kitchen planning units will naturally be determined from characteristics of the equipment items finally selected for actual installation.

DETERMINING KITCHEN CAPACITY

In theory each kitchen should be scaled in size and layout to the food service requirements of each individual client. In practice two factors tend toward the standardization of required capacities. First, certain essential equipment is needed for food storage and preparation in any household, however small. As the food service load increases there is not a proportionate increase in the need for utensils or storage space to accommodate them. There is no absolute relationship between space requirements and food service loads. Proof of this lies in the fact that a skilled chef in a Pullman dining car kitchen can prepare more



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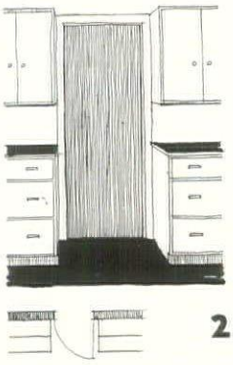

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WORK SURFACES AND DOORS

Above: linoleum counter tops provide adequate work surface adjacent to all centers. Note recessed space for portable table. . . . Left above and center: door swings against counter end eliminating "danger zone." . . . Left below: doors back to back are satisfactory if clearance to prevent hardware interference is provided. All three door locations are satisfactory.

food than any individual household would normally require in a space hardly larger than that required for an apartment kitchenette.

Secondly, all houses are subject to resale at any time. Kitchens should be planned for normal, rather than special needs to make the house salable to any buyer when necessary. It is generally better, therefore, to relate the size and equipment of a kitchen to the size of the house than to special requirements—real or imagined—of its first owner.

Authorities uniformly agree that the capacity of a kitchen should be related to the number of bedrooms in a house. The most practical plan so far devised, and actually tested, may be stated as follows: Allow two persons to the master bedroom, one person to each additional bedroom and add two extra persons to represent facilities required for guests and for accumulation of surplus kitchen utensils. The sum of these represents the number of persons for whom food service is required.

There is another way of expressing the same thing. The number of bedrooms plus three will determine the number of persons to be served. Capacities of major equipment elements are related to the number of persons thus found in accordance with the following principles: (1) refrigerator storage space should normally allow approximately 2 cu. ft. per bedroom plus 1 to 2 extra cu. ft. of refrigerator capacity.

This may also be stated as approximately 1 cu. ft. for each person to be served plus 1 extra cu. ft. of refrigerator capacity.

(2) Wall cabinet storage facilities should allow about 6 sq. ft. of shelf area (in wall cabinets) per person, including guests.

(3) Base cabinet storage space and area of working surfaces for each work center have been determined by test to require the lineal feet of frontage indicated in Table I T-S.S. 75.

(4) Capacity of ranges varies widely. No scientific basis exists for fixing the cooking capacity of a range within such limits as are of practical application in residential kitchen planning. Space allowances given on the accompanying T-S.S. are adequate to accommodate ranges which have proven suitable for indicated service loads.

(5) Size of a sink or dishwasher, or a combination of both, may vary widely. This is the most flexible element in a kitchen plan and is one which space limitations may govern to a greater extent than any other part. It is generally conceded that 4 or 5 lineal feet of sink space *including the work top* is to be preferred, even for small kitchens. Dimensions up to 8 or 10 lineal feet may be used. Many sink or sink and dishwasher combination units contain base cabinet storage areas as an integral part of their assembly. In such cases this storage space should be counted in estimating the requirements of work center arrangements.

ORGANIZATION OF PLAN UNITS

The basic principles of kitchen planning have already been adequately presented in T-S.S. Serial No. 8, of September, 1935, (C6. 1.1.) *"Household Kitchen Planning—Elements."* Six work centers were established: (1) food storage center, (2) food preparation and kitchen cleaning center, (3) cooking center, (4) hot and cold food service centers, (5) tableware cleaning center (6) tableware storage center.

The trend toward simplification has led to a combination of some of these elements. Three major work centers are now generally recognized, together with one secondary or optional center which may, or may not, be in the kitchen. Various authorities combine these centers in different ways without substantially affecting the final result. One combination provides three major centers as follows: (1) food storage and preparation center, (2) sink and dishwasher center, (3) cooking and serving center. A fourth supplementary center can be used for tableware storage or pantry. The other method commonly used is to consider food storage as a separate center and to combine food preparation as an element of the sink and dishwashing center, the remaining centers being universally accepted.

The latter scheme, which keeps food preparation space in immediate relationship to the sink, has merit since water is constantly required in preparation of foods before cooking. If work centers must be physically disassociated due to plan conditions, it seems better to keep this preparatory space near the sink rather than the refrigerator. When centers are contiguous the advantage of this arrangement appears immaterial.

The objective of good planning is to organize work centers to save steps between them during ordinary preparation, serving and ultimate re-storage of food and dishes. An ideal plan is a U-shaped arrangement, in which the sink and dishwasher or work top form the bottom of a U with the food storage and preparation center and the cooking and serving center forming legs of the U. A storage center for tableware may be located in the kitchen near the dining room entrance, in a separate pantry space, in an area used for a breakfast nook, or in the dining room itself.

When plan conditions do not permit a U-shaped arrangement, choice lies between an L-shaped plan and a parallel wall for kitchens that require more space than can be provided in a single wall arrangement of limited length.

These statements refer primarily to new work when the planning problem can be solved without interference with existing structural elements. In remodelling or modernization work it is often impractical to perfect such ideal arrangements because of expense incident to the relocation of doors, windows, partitions or utility outlets.

In principle, any plan which interrupts a continuity of the three major work centers by door space, breakfast nook, storage closet or any other element not constantly used in food preparation is faulty to the extent that it requires extra steps every time this gap is crossed and working efficiency of the kitchen is thereby reduced during the preparation process.

Obviously it is desirable to work toward an ideal in any kitchen. Thus, if work centers must be physically separated, their *relative* location should be such as to allow a natural sequence of activity *from* storage and preparation, *through* sink and cleaning, *to* the cooking and serving center. In such cases the efficiency of work center planning units is forcefully demonstrated, for each work center combines a major item of mechanical equipment with storage and working facilities necessary for its most effective use.

EQUIPMENT OF WORK CENTERS

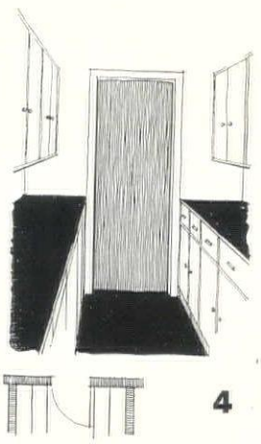
Correct apportionment of needed wall and base cabinet storage facilities to various work centers comprising a kitchen has only recently been crystallized. Minimum recommendations for each work center in relation to total requirements are given on the accompanying T-S.S. Serial No. 76.

Wall cabinet space is normally made up of standard cabinets approximately 1 foot deep and about 3 feet high, with two adjustable shelves and a third shelf formed by the bottom of the cabinet unit. Each lineal foot of such a cabinet provides approximately 3 sq. ft. of shelf area. Occasionally storage space may be required above a refrigerator, sink or range. In such instances the cabinet may be of one or two shelf capacity.

It may be noted here that cabinets above refrigerators are relatively inaccessible and should usually be counted as surplus storage space for extra quantities of staple foods to which constant access is not needed. Cabinet space above the range is often necessary in kitchens with restricted wall space to provide the required amount of storage area. Over-range cabinets should be protected from possible damage by a sheet of asbestos firmly glued, or otherwise attached, to the under side. In place of cabinets over the range, the requisite amount of wall storage should be provided adjacent to the range center. Cabinet space above a sink must provide adequate headroom of at least 5′-6″.

Corner Cabinets to co-ordinate with wall cabinets are available from some manufacturers. However, their shelf capacity cannot be counted as fully effective. These units should be rated at from 60 to 80% of their gross shelf area or else discounted altogether and used solely for dead storage of bulky equipment or the decorative display of glassware, china or crockery.

Base cabinets are made in three principal types: (1) all drawers (usually a shallow top drawer and two to four drawers beneath), (2) drawer or



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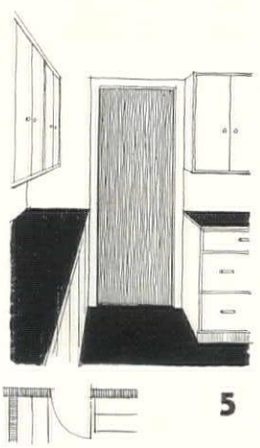

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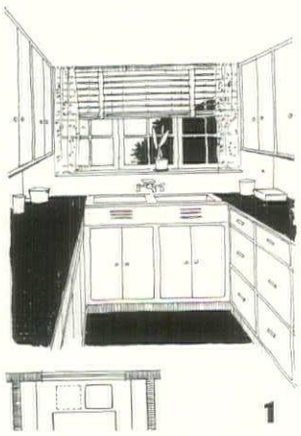
Above left: metal counter tops and range hood provide sanitary surfaces. Piping, etc., may be accommodated in furred corner. At right: note inclusion of dishwasher, lighting fixtures and convenience outlets. Sketches at extreme right show unsatisfactory door locations. Persons working at counters illustrated are endangered by swinging doors



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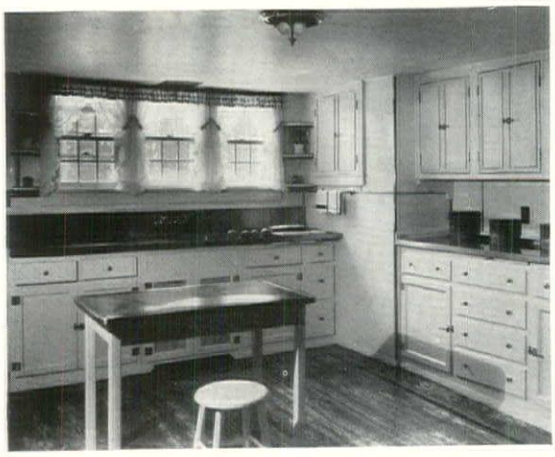
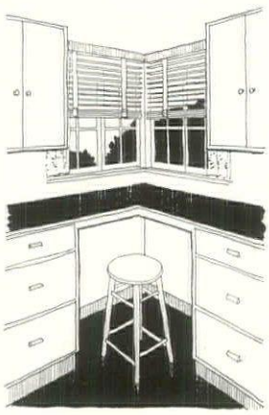


TREATMENT OF CORNERS AND WINDOWS

More spacious kitchens illustrating different methods of employing corner space. Left: built-in units with continuous work tops and furred corner. Right: independent units with space between range and preparation center for access to corners. Sketches at left illustrate window treatment: (1) window over cleaning center at end of U-shaped plan. Jambs should be at least 16" from side wall to permit installation of wall cabinets. (2) Corner window, work surface serves as plan desk. Not recommended for kitchens of minimum area as wall cabinet space is wasted unless cleaning center is located in corner. (3) Normal position of window is directly over sink



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cupboard type having a shallow top drawer and cupboard and shelf space beneath; and, (3) all cupboard type having no drawers and one or two adjustable shelves, towel rack, plate warmer or other special internal fitments behind the cupboard doors. The capacity of base cabinets is approximately 6 cu. ft. per lineal foot for cabinets with a normal counter height of 3 ft. and a work top 2 ft. wide. There is apparently an endless controversy between authorities as to whether or not cooking utensils and bulk supplies should be stored in drawers or in shelved cupboards. To the architect in consultation with his client or with the manufacturer of selected equipment is left the final decision as to which type shall be specified.

TREATMENT OF CORNERS

When the layout brings adjacent work centers together at the corners of rooms, such as occurs twice in a U-shaped plan and once in each L-shaped plan, the following conditions require study:

(1) Wall cabinets may be joined at corners and top and bottom fillers used to block off dead space thus created. Or the corner can be enclosed from floor to ceiling and used for ducts, riser pipes, structural members or other utilitarian purposes. Corner space may be partially conserved by using special corner cabinets or open cupboards, noted above, thus contributing importantly to provision of adequate storage requirements.

(2) Work top space at corners is useful, though not fully effective. Adjacent work tops may (and preferably should) be joined by a filler section, such as manufacturers normally provide for this purpose. A corner filler can be valuable in gaining flexibility in planned dimensions. In many instances room dimensions will not precisely fit the sum of all contiguous elements to be installed along a given wall since minimum critical dimensions of base cabinets or equipment units must be respected. But minor spaces beyond this minimum can be taken up and the necessary adjustment made at corners of work tops and base cabinets.

(3) Where base cabinets adjoin at corners, there is usually a total loss of storage value unless corner shelves are inserted to match those in adjacent units. Some manufacturers provide corner base cabinets. Effectiveness of these, however, is almost negligible since access is difficult to shelves through adjacent cupboard doors.

3

CLEARANCE OF DOORS

When any door swings into a kitchen it creates a congestion that partially destroys effective use of adjacent work tops or space for much used equipment and cabinets. Fear that the door will be opened suddenly tends to keep a kitchen operative from working comfortably in that area. Therefore, it is desirable to arrange cabinets near door openings so that the door swing will come against the end of a cabinet or will be not less than 18 to 20 inches beyond the face of any cabinet, range, refrigerator or sink.

This is particularly important in kitchens of the parallel wall type in which doors are commonly located at each end. Kitchen efficiency is markedly impaired by "danger zones" at either end; and whenever possible such areas should be

minimized by adopting one of several following alternatives: Swinging doors between kitchen and dining room can be divided into two leaves, each with half the swing of a normal opening. Again, storage cabinets for cleaning utensils, brooms, vacuum cleaners, etc., placed at either side of the door and at right angles to normal work areas can act as buffers at the danger zone. A third scheme is to arrange doors so that they do not swing into the kitchen.

LOCATION OF WINDOWS

When a window is located near the corner, jamb and trim should be set at least 13 inches from the inside of the corner to permit installation of wall cabinets. Windows which occupy the entire corner below a cantilevered construction provide ideal lighting along both adjacent work tops. However, wall space available for wall storage cabinets may be seriously diminished in such cases.

SEQUENCE OF WORK CENTERS

Practically all mechanical refrigerators of domestic type are equipped with doors hinged at the right, although left-hinged doors may be obtained if desired. If a standard right-hand-hinged refrigerator is to be employed, it is desirable to arrange the remainder of the work center to the left of the refrigerator. If sequence of operations from food storage through preparation, cleaning, cooking and serving is planned to be from left to right, the refrigerator should be ordered with a left hand door.

WORK CENTER UNITS

Data on the following TIME-SAVER STANDARDS include minimum recommended spaces for the various work centers requisite to a well-equipped, modern kitchen. These work center planning units are useful primarily in determining space requirements for kitchens during the preliminary planning stages of a project. They are dimensioned to represent maximum practicable allowances for minimum recommended equipment. In all cases actual dimensions to be used in detailing should be obtained from the manufacturer of equipment selected.

In this connection it should be noted that cabinets of all types—steel, wood or a combination of both—are normally made in a series of standard sizes as indicated in T-S.S. "Work Center Units." Items of major equipment—range, sink and refrigerator—vary however. Also, in certain instances installation requirements vary with the type of equipment selected. Thus, all planning units should be carefully checked against established manufacturer's data before definite space allocations are made or installation details specified.

T-S.S. data concern *minimum* recommendations only. It is obvious that certain kitchens may require enlargement of individual centers or adjustment of relative space allotments. However, these kitchen planning units will greatly facilitate the allocation of proper space for kitchen work centers now generally recognized as standard for the average residential project.

CLEANING CENTER

SEQUENCE OF CENTERS

Above, left: ample space is provided in this cleaning center. At right: note sequence of work centers from storage and preparation through cleaning center to cooking center. Work centers in this efficient type of plan "overlap" one another

AMERICAN ARCHITECT
TIME-SAVER STANDARDS

Serial No. 75

MARCH 1937

Household Kitchens—WORK CENTER UNITS

PURPOSE

Diagrams and tabular data on this sheet give minimum average sizes and recommended capacities of work centers generally regarded as basic to a well-equipped household kitchen. They have been developed from research information compiled by recognized domestic science authorities and equipment manufacturers. Drawings are diagrammatic only. They do not supplant working drawings. Precise dimensions depend on dimensions of and clearances around the particular makes and models of mechanical units.

For description of typical plans, location of work centers, working clearances and treatment of doors, windows and corners see T-S.S. Serial No. 76, "Household Kitchens—Location of Plan Elements."

WORK CENTER UNITS

T-S.S. C6.1.1 (September 1935) indicated six work centers for the household kitchen. These have been simplified into three basic work centers, each including a unit of mechanical equipment with storage and counter space necessary for its proper use. Depending upon the way in which work centers are organized in the kitchen, functions and uses may overlap. In such cases adjustments can be made to meet the total requirements of space or working area for each center as given in the table. A fourth center (see below) is optional.

Cabinet space is used for the storage of both foods and utensils which are normally used at that particular center.

I—Storage and Preparation Center. Requirements: Refrigerator for perishables, work top for food preparation, base cabinet for bulk storage, wall cabinets for package goods.

II—Preparation and Cleaning Center. Requirements: Sink, drainboard(s), base and wall cabinets, work-top space; in addition, electric dishwashers, garbage disposal equipment, towel dryers and similar appliances. When such appliances are used, the cabinet and work-top space which they replace in diagrams and tables must be added to the center to maintain recommended allowance. (See "Recommended Sizes" below.)

This is the most flexible of all centers due to the wide variety of sinks manufactured, differences in local building regulations and individual requirements; and should receive first consideration if size of kitchens is to be expanded.

III—Cooking and Serving Center. Requirements: Range, counter space for serving (counters in other centers also being used) and base and wall storage cabinets; also dish warming and water heating appliances.

Wall cabinets over ranges may be required in many kitchens of minimum area, to maintain total of wall cabinet space per person. Their use should be avoided as accumulations of vaporized grease, etc. and storage of constantly used articles directly over hot surfaces make them difficult to clean and sometimes dangerous. Equivalent wall cabinets may be located elsewhere, preferably adjacent to this center. If installed over the range, cabinets can be protected with asbestos or by a hood with an exhaust duct, preferably equipped with a fan.

Tableware Storage and Serving Center, while not part of the "working" kitchen, may be provided in the form of wall and base cabinets with work-top, or other articles of furniture in kitchen, pantry or dining room.

RECOMMENDED SIZES OF WORK CENTERS

Sizes given are not absolute minima, but are desirable to maintain modern standards of living. They are based upon research in hundreds of kitchens throughout the United States. Results have been reduced to the following rules:

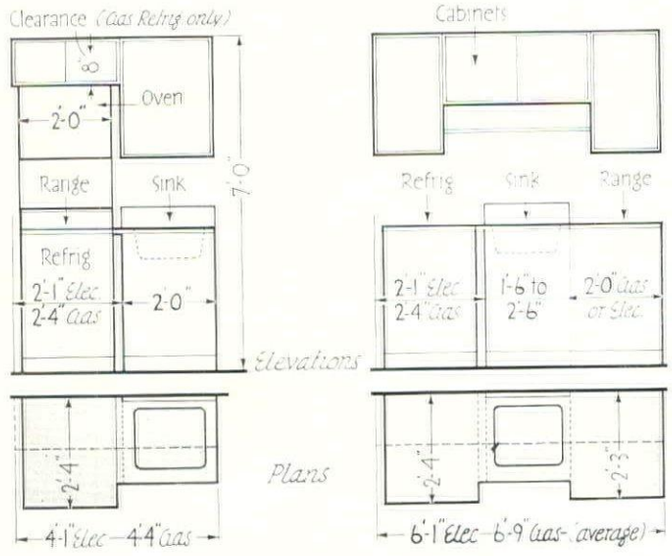
Rule 1. To determine total food service requirements: Allow two persons per master bedroom, 1 each for each additional bedroom and add 2 for normal guest allowance. Sum of these indicates normal kitchen food service requirements. *Example*: For a 3-bedroom house, 2 plus 1 plus 1 plus 2 equals 6 persons.

Rule 2. To determine refrigerator capacity: Allow approximately 2 cu. ft. per bedroom plus 1 to 2 extra cu. ft. (Or: 1 cu. ft. per person plus 1 to 2 cu. ft.) *Example*: 3-bedroom house, 6 persons; 3 × 2 plus 2 equals 8 cu. ft. (6 × 1 plus 2 equals 8.)

Rule 3. Wall cabinets: Allow 6 sq. ft. of shelf area per person (including guests), or for 30" high cabinets, 12" deep inside, 2 linear feet per person.

Rule 4. Base cabinets (including work-tops): Allow amounts shown in the accompanying table for each work center.

Ranges, sinks and dishwashers vary in size. Dimensions shown in the table and diagrams allow use of largest sizes normally required, consideration having been given to the size of the house and type of equipment found to be adequate.



KITCHENETTES

Typical kitchenettes shown above are built up of individual units, for apartments and one-bedroom houses. Left: Minimum size for small apartment. Right: more desirable size. "One-piece" kitchenettes, often more compact and complete, are made by many manufacturers

Recommended Min. Sizes and Capacities - Work Center Units

TYPE OF HOUSE		1 BED ROOM		2 BED ROOM		3 BED ROOM		4 BED ROOM	
Items Stored or Work Performed	Type of Storage	Cu. Ft.	Lin. Ft.	Cu. Ft.	Lin. Ft.	Cu. Ft.	Lin. Ft.	Cu. Ft.	Lin. Ft.
I - STORAGE and PREPARATION CENTER									
Perishable Food Storage	REFRIGERATOR Gas	4	2'-4"	5	2'-8"	7	2'-10"	9	3'-2"
	REFRIGERATOR Elec.	4	2-0	5	2-4	7	2-6	9	2-10
Food Preparation - Cutlery Small Utensils, Baking Tins, Mixing Utensils Flour, Sugar, Meal Storage	BASE CABINET	6¾	1-3	11¼	2-6	16½	3-0	19¼	3-6
Canned & Dry Package Goods Preparation Glassware Storage	WALL* CABINET	9	3-6	12	4-6	13¾	5-6	16¼	6-6
TOTALS -	GAS Refrig.	19¾	3-7	28¼	5-2	37¼	5-10	44½	6-8
	ELEC. Refrig.	19¾	3-3	28¼	4-10	37¼	5-6	44½	6-4
II - PREPARATION and CLEANING CENTER									
Dishwashing etc.**	SINK	—	2-0	—	4-4	—	5-0	—	6-2
Storage - Fruits, Vegetables, Silver, Cooking Utensils, Cleaning Materials	BASE CABINET	8¼	1-6	16½	3-0	19¼	3-6	20	4-0
Dishes and Glassware	WALL CABINET	5¾	2-6	7½	3-0	9	3-6	10	4-0
TOTALS -		14	3-6	24	5-4	28¼	6-6	30	7-0
III - COOKING and SERVING CENTER									
Cooking	RANGE Gas	—	2-4	—	3-10	—	4-6	—	4-6
	RANGE Elec.	—	2-0	—	3-6	—	3-10	—	3-10
Cooking & Serving Implements Cake, Bread, etc. Storage	BASE CABINET	8¼	1-6	8¼	1-6	10	2-0	12½	2-6
Serving China Misc. Storage	WALL*** CABINET	3¾	1-6	3¾	1-6	5	2-0	5¾	2-6
TOTALS -	GAS Range	12	3-10	12	5-4	15	6-6	18¼	7-0
	ELEC. Range	12	3-6	12	5-0	15	5-10	18¼	6-4

NOTES:

Sizes of refrigerators and ranges and totals include clearances for setting and for air circulation. See also T-S.S. C6.2.1.

Base cabinets include drawers, bins, shelves and racks according to the function of the center and the client's requirements.

* Wall cabinets extend over refrigerators.

** If electric dishwasher and other mechanical appliances are installed, space so occupied should be replaced by additional base cabinets to maintain adequate storage capacity. Increase linear foot totals by approximately two feet for dishwasher.

*** Wall cabinets do not extend over range. One linear foot of 2'-6" high wall cabinet storage in addition to tabulated amounts is recommended by some authorities to obtain desirable number of sq. ft. per person and may be installed either over range or over storage, preparation, cleaning or tableware storage centers.

AMERICAN ARCHITECT
TIME-SAVER STANDARDS

Household Kitchens—WORK CENTER UNITS

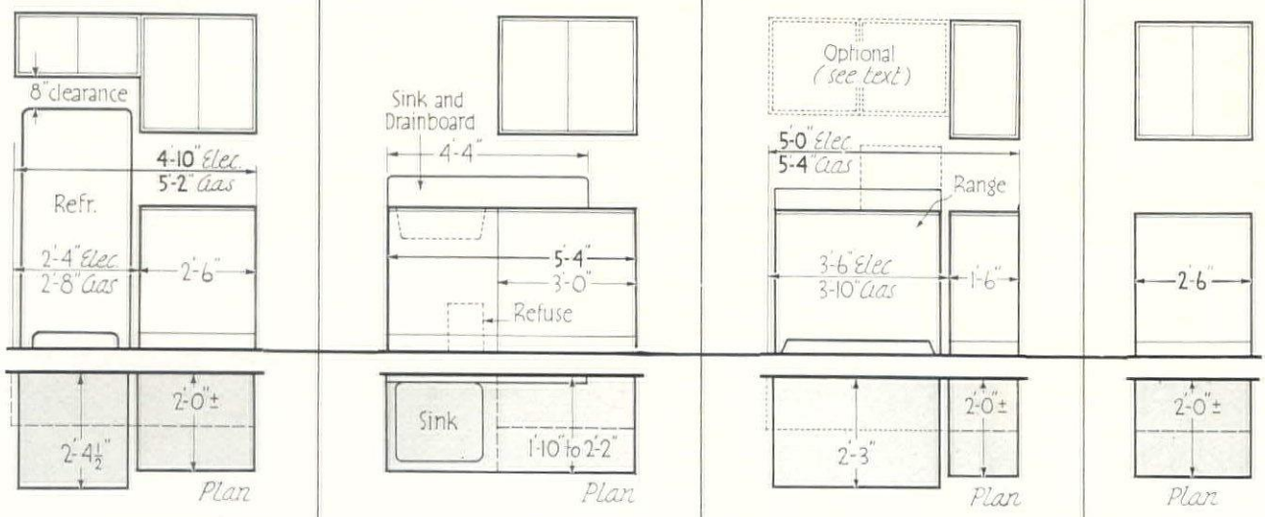
Serial No. 75
MARCH 1937

TYPE of HOUSE

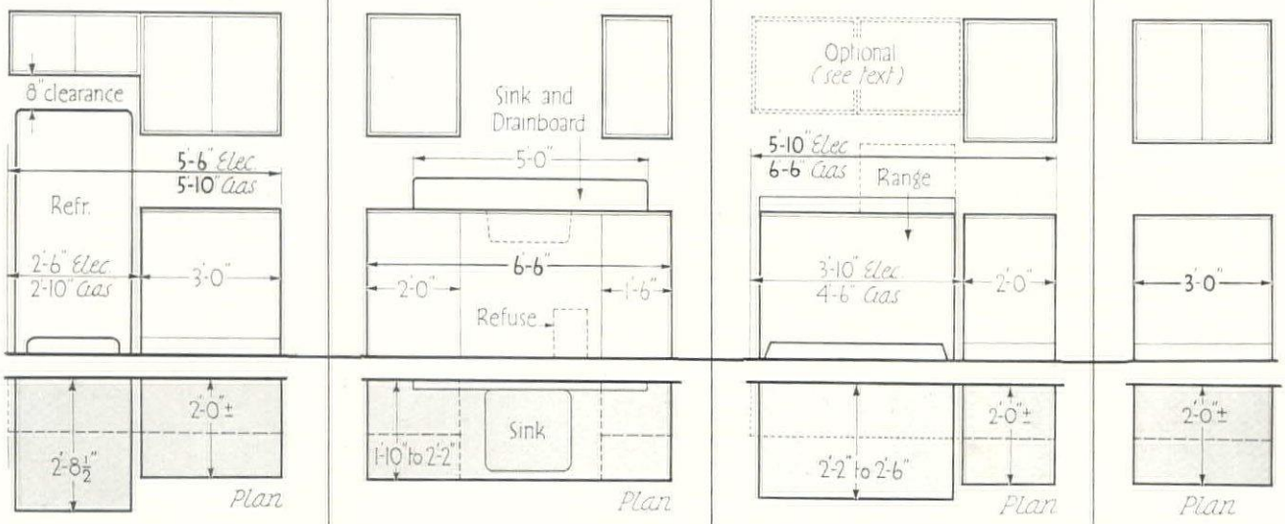
RECOMMENDED MINIMUM DIMENSIONS

I STORAGE - PREPARATION *Refrig, Cabinets, Work-surface.* ✱	II PREPARATION - CLEAN'G *Sink, Cabinets, Work-surface, Refuse* ▲	III COOKING & SERVING *Range, Cabinets, Serving Counter* ✱	IV TABLEWARE *Cab'ts, Serv'g Cnt'r* ○

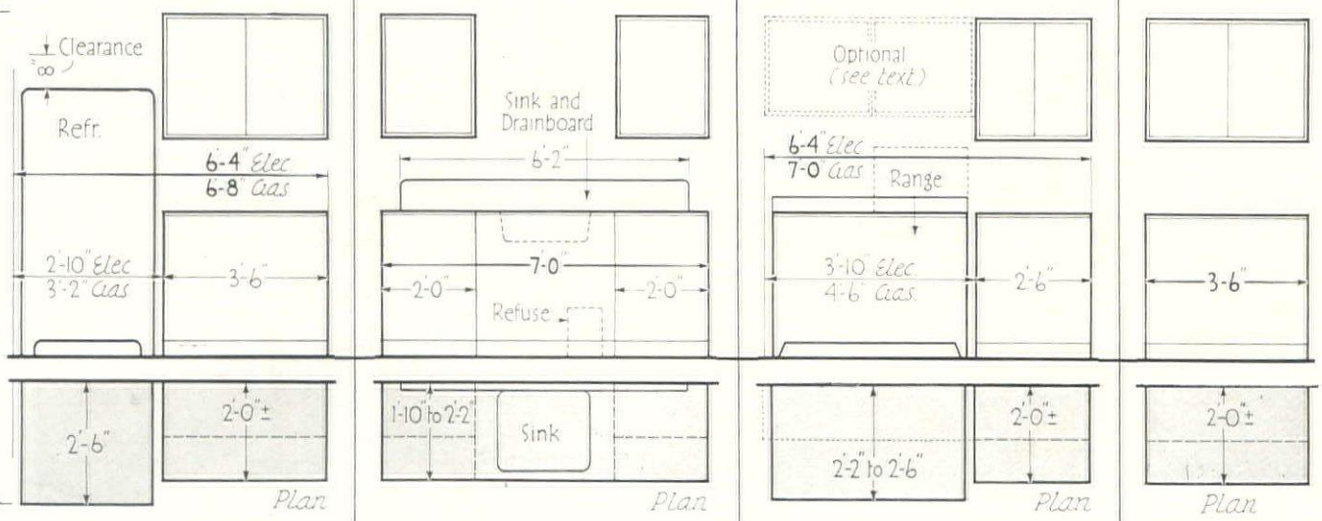
TWO BED ROOMS



THREE BED ROOMS



FOUR BED ROOMS



NOTES
✱ Clearances for Refrigerators and Insulated Ranges are included. Check with T-S-S. Cb 2.1
○ May be omitted in Kitchen if provided for in Pantry or Dining Rm.
▲ See Table and Text for notes on Dishwashers.

All details at 1/4"=1'0"

AMERICAN ARCHITECT
TIME-SAVER STANDARDS

Serial No. 76

MARCH 1937

Household Kitchens—Location of Plan Elements

PURPOSE

Information on this sheet will serve as a guide in the development of well-equipped and convenient household kitchens, embodying the work centers shown on T-S.S. Serial No. 75, March, 1937.

Organization of Work Centers. The relative location of work centers should permit the continuity of kitchen activities *from* storage and preparation center (best located near service entrance) *through* preparation and cleaning center *to* the cooking and serving center (best located near entrance to dining room).

In principle, any plan which interrupts this continuity with doors, breakfast nooks, closets or other elements not constantly used in food preparation, is faulty in that extra steps are required every time the gap is crossed, working efficiency being thereby reduced.

The ideal plan is U-shaped. The sink, with or without dishwasher, and work-tops form the bottom of the U, with the other two major work centers forming the legs. If the plan does not permit this arrangement choice lies between an L-shaped plan and a corridor. (See illustration.) All work centers are seldom accommodated on a single wall in 2-, 3- or 4-bedroom houses.

In remodeling where ideal conditions are prevented by cost of relocating doors, windows, partitions or utility outlets, planning principles embodied in accompanying diagrams should be followed.

REQUIRED CLEARANCES

Diagrams indicate practical clearances between work centers or other limiting obstructions. The 4-foot minimum indicated will allow comfortable working area for two people and will permit use of drawers without interference. It also will accommodate a number of sink cabinet units. More desirable for kitchens of the U or two-wall type is 5 feet. Clearances should be allowed around refrigerators as noted in T-S.S. C6.2.1 and in the drawing below.

WINDOW TREATMENT

Windows are usually best located above the sink, although it is practicable to locate them near the preparation and cleaning center on either side, depending on the working habits of the housewife and location of mechanical equipment. Depending on the orientation of the kitchen, they may be located to the right or left of the preparation and cleaning center. In some instances it is possible to locate the window in a corner. This last, however, cuts out wall space ordinarily available for cabinets and is usually undesirable. When a window is located near a corner the trim should be set at least 13 inches from the inside of the corner, to permit installation of wall cabinets. An allowance of 16 inches to the jamb should be the minimum.

DOOR TREATMENT

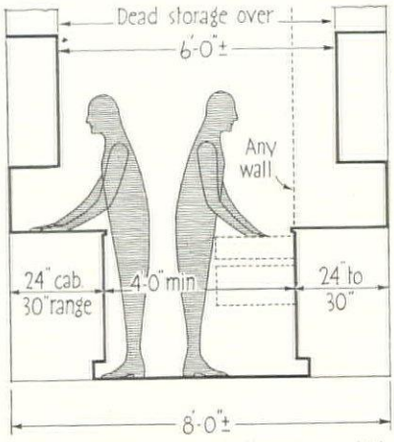
Location of doors may contribute a great deal to the working efficiency of the kitchen. Wherever possible cabinets near door openings should be arranged so that the door swing will occur against the end of a cabinet or will not be less than 18 to 20 inches beyond the face of any cabinet, range, refrigerator or sink. When door swings interfere with kitchen working areas a danger zone is created. To eliminate such conditions swinging doors between kitchen and dining room can be divided into two vertical leaves. Utility cabinets can be placed at either side of the door to act as buffers at the danger zone, or doors can be arranged so that they do not swing into the kitchen.

CORNER TREATMENT

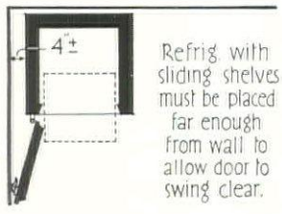
When the layout develops corners formed by adjacent cabinets, the corner space is comparatively useless due to its inaccessibility. Several conditions require study under these circumstances.

1. Corner areas may be entirely blocked off and enclosed corner used for pipes or other utilitarian purposes, or may be partially conserved by using special corner cabinets or open-end cupboards. In such cases corner cabinets can only be counted as approximately 60% of their total capacity. Use of ordinary stock units set in the corner at an angle is not recommended, for this arrangement wastes more space than it saves.

2. Work-top space at corners is useful and may be developed through use of fillers to adjust work center units to existing room dimensions. When base cabinets adjoin at corners provide necessary hardware clearance for drawers.

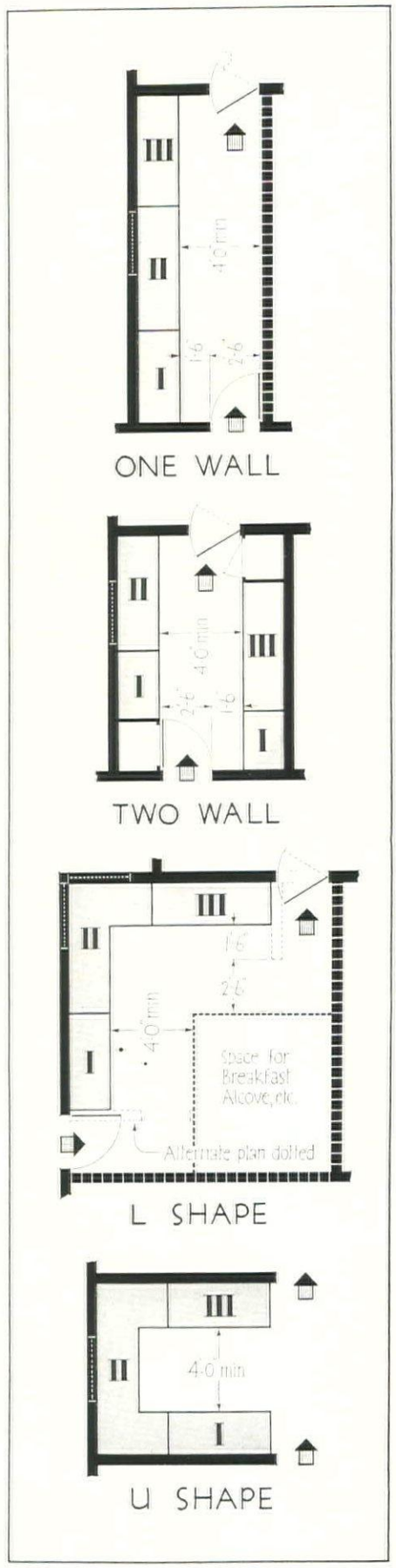


Min. recommended comfortable working width.



Refrig. with sliding shelves must be placed far enough from wall to allow door to swing clear.

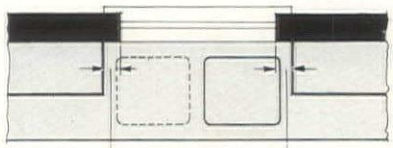
Above: Diagram illustrating necessary refrigerator door clearance when placed against wall, to provide room for removal of sliding shelves.
Left: Minimum clearances between cabinets to provide working space for two people.
Right: Basic kitchen plan types, showing proper sequence of work centers from entry to dining room. Note door locations. U-shaped plan is generally regarded as most satisfactory. Tableware center (IV) should be near dining room door.

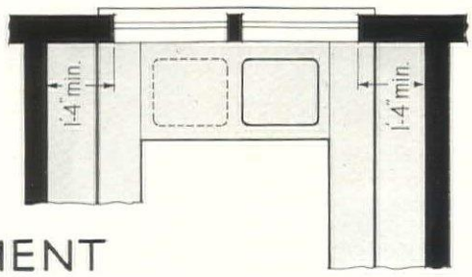


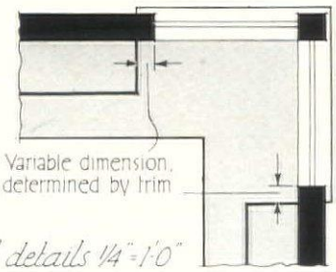
AMERICAN ARCHITECT
TIME-SAVER STANDARDS

Serial No. 76
MARCH 1937

Household Kitchens—Location of Plan Elements

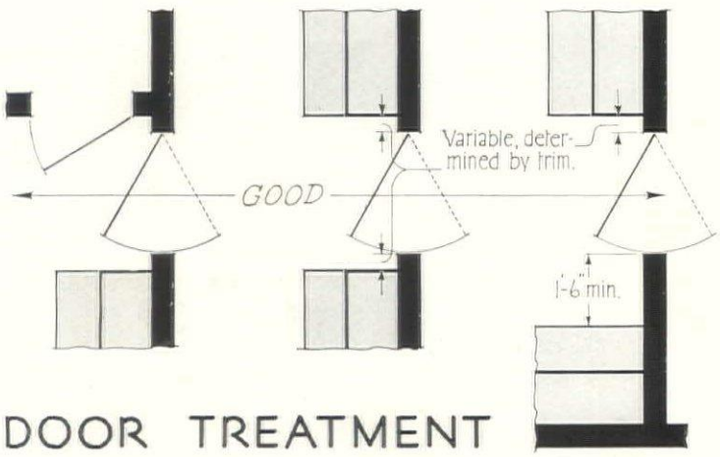




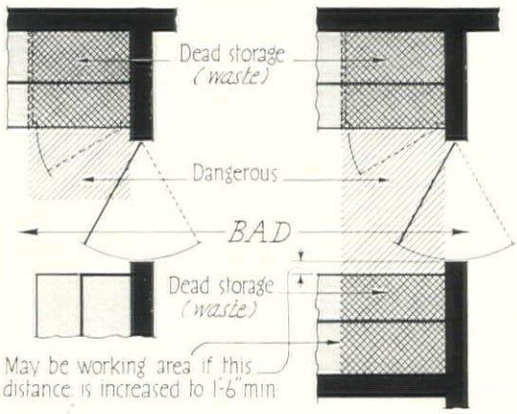


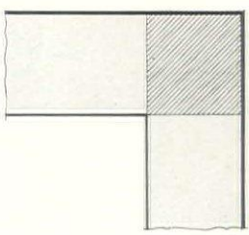
All details 1/4"=1'0"

WINDOW TREATMENT

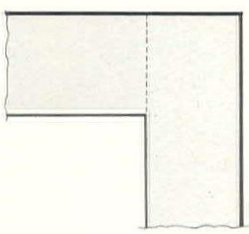


DOOR TREATMENT

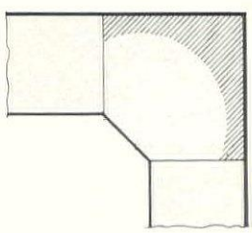




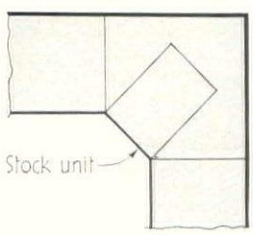
When usual base units are provided, shaded area is inaccessible



Corner space may be used by providing open ends on one or both units

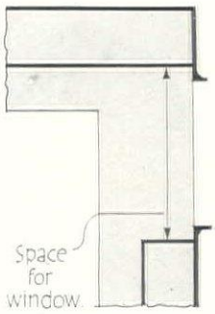


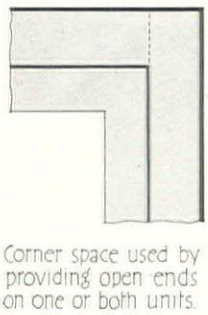
Area at corners somewhat inaccessible. Stock corner units are available.



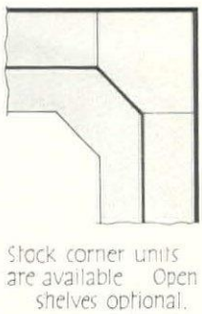
Not recommended, as more than 2 sq. ft. of space is lost over usual way.

BASE UNITS





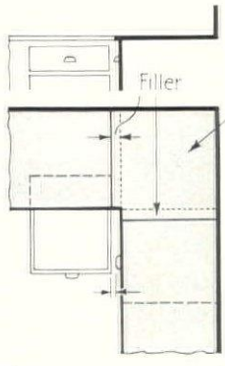
Corner space used by providing open ends on one or both units.



Stock corner units are available. Open shelves optional.

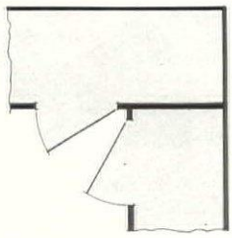
WALL UNITS

CORNER TREATMENT



Stock corner may be as drawn or square with filler.

Drawers at corner must clear existing hardware



Doors should be swung against each other with clearance for hardware.

CORNER CLEARANCES

TECHNICAL DIGEST

KEY TO PRESENTATION

Typical reference:
15 N'36:14-26 **gptv**

This indicates: Issue of November 15, 1936, pages 14 to 26 inclusive, presented according to the following key:

d—detail drawing
s—section
g—graph
t—text
p—plan
v—photo view

Accordingly, **gptv** means graph(s), plan(s), text and photographic view(s) in the article.

AIR CONDITIONING & HEATING

Air conditioning methods for income properties. (C. M. Burnam, Jr.) Buildings & Building Management. 16 Ja'37:31-36 **tv**

Discussion of different types of air conditioning systems for the building owner and manager. Illustrated descriptions of eight office building installations.

Air conditioning with well water. Domestic Engineer. Fe'37:76-78, 150-152 **dpt**

Part II of discussion begun in January issue. Diagrams of control methods, plans of a bungalow and a small restaurant to be estimated for cooling (calculations are given as typical examples). Section of a typical installation. Tables of heat transmission coefficients for estimating heat losses.

Degree-day alignment chart. (J. D. Kroeker). Heating & Ventilating. Fe'37:30-31 **gt**

A chart for solving graphically the involved formula for computation of heating costs. Any fuel at any price in an appliance of any efficiency to offset any heat loss at any given seasonal heating coefficient (degree-day) can be used in this universal chart.

BUILDING TYPES, ELEMENTS & PLANNING

Shops—Blinds. (B. & N. Westwood). Architects' Journal. (London). 31 D'36:909-914 **dtv**

Data on and illustrations of various awnings for shop fronts, including telescopic arm and Dutch types. A novelty is the "Reflectoplan" blind which shades the windows and persons looking at them while increasing the light in the store by affording a reflecting surface which directs light through the upper part of the windows.

Schools. Architectural Design & Construction. (London). Ja'37:89-112 **pstv**

Second part of a new reference series. This includes views and plans of 14 elementary, 3 secondary and 4 technical schools.

Aerodromes. Architect & Building News. (London). 15 Ja'37:79-81 **dtv**

An analysis of present-day requirements, including discussion of area, runway and site layout, standardization, minimum size, elements of planning buildings.

The Museum in Architecture. (A. Perret). Revista de Arquitectura. (Buenos Aires). D'36:588-591, 619 **t**

Spanish translation of a lecture (Sept. 1936). Brief history of the museum, leading up to a description of the now familiar program of the ideal museum: display galleries, places for study, adjacent gardens, need for physical protection of various kinds, and consideration of illumination.

Sport-building projects. Arkitekten Maanedshaefte. (Copenhagen). No. 12'36:221-236 **pstv**

Two large projects. First, by Hans Hansen, consists of a grouped stadium for football (38,000 places) and sport hall covering tennis, badminton and squash courts, gym and restaurant, locker rooms, club rooms, etc. There are also many outdoor tennis courts and a pool. The other project by Edvard Thomsen, is for a stadium.

CONSTRUCTION

Industrial Architecture — Great spans. L'Architecture d'aujourd'hui. (Boulogne-sur-Seine). N'36:2-88 **dpstv**

Special reference issue illustrating and describing frames and details of great spans in wood, metal and concrete. Many examples selected from executed market halls, reservoirs, silos, hangars, bridges in steel and concrete, factories, etc.

The pavilion of the Aviation Club "Roland-Garros" at Buc, France. L'Ossature métallique. (Brussels). Ja'37:5-14 **dpstv**

French article on a recent structure by the eminent modernists, Beaudouin & Lods. Many unconventional structural details. Numerous clear photos of welded and bolted connections. Progress shots of erection, drawings of details. This pavilion includes a restaurant, bar, and lounge nearly 90 ft. long, which can be entirely opened on one side by sliding sash. There is also a card room and a globe of the world about 11 ft. in diameter. Light steel frame construction with thin insulated wall panels.

Designs involving fillet welds. (C. D. Jensen). Welding Journal. Ja'37:2-4 **dt**

Data on reduction of non-standard-shaped fillet welds to equivalent 45° fillets. Recommends changing stress units from lb/sq. in. to lb/linear in. of weld, in order to simplify design. Several examples clearly illustrated with diagrams and calculations of typical designs.

Metal frames constructed by oxy-acetylene welding. (G. Ancion). L'Ossature Métallique. (Brussels). Ja'37:26-32 **dtv**

Brief article in French. Numerous photos of welded structures in many countries. Data on spans and loading conditions. Bibliography.

Reinforced brickwork. (L. W. Burridge). Royal Institute of British Architects, Journal. (London). 23 Ja'37:285-295 **dtv**

Brief history. Advantages include: simple formwork (required for horizontal elements only), no special plant, high strength, reduction of dead load, excellent fire resistance, no surface treatment necessary. Structural theory also discussed showing many debts naturally to concrete notation and practice, typical problems being solved in the text. Concludes with a list of constructional elements for which RBM will be found appropriate.

Dry-built brickwork. South African Builder. (Johannesburg). N'36:11 **t**

Brief description of a new Viennese method, called "Novadom," which substitutes a continuous tape of petrified wood-wool, impregnated with bitumen, for the mortar-joint in brickwork. No vertical joints. The tape is about ⅜" thick. Exterior is stuccoed and interior is finished with wallboard. Tests have shown strength equal to good cement-mortar brickwork at considerable saving. An important advantage is possibility of continuing bricklaying through periods of freezing weather.

(*Continued on page* 100)

ARCHITECTURALLY SPEAKING

by

OTIS ELEVATOR COMPANY

LOOKING back over 1936 we are impressed with the increasing demand for Escalators. For this we have to give credit to John Q. Public. He has become really Escalator-conscious and rises up more frequently of late to demand them as necessities. We know this from the growing section in our scrap-book devoted to clippings of his doings. At the moment he seems to be chiefly concerned with subway stations and railway terminals. And our friends in the department stores tell us that Mrs. John, perhaps more politely but nevertheless firmly, is indicating by her patronage that she, too, classes Escalators with motor cars.

We ourselves think that the surface of Escalator uses has just been scratched and leap at every opportunity to study a specific problem so we may pass on our experience in our recommendations.

Speaking of problems, we think of the way our engineers solved the problem of those buildings that have moderate-speed, geared-machine elevators which give inadequate service according to today's standards. Through Finger-Tip Control, they have made it possible to modernize these installations at reasonable cost. And that means those buildings can now be stepped up to "first class." This is being made the central idea in many modernization proposals—and gets three rousing cheers from building owners.

We often overlook the importance of little things because of the big things. But it's the big things *plus* the little things that mean elevator progress, we've found. And there are always a lot of *important* little things developing in the Otis plants.

For instance, you no doubt received a bulletin recently on a new-type door hanger—Type "A." Each hanger sheave is a ball-bearing unit with the outer race ground to the contour of the track. Insures easy operation—exceptionally quiet and long wearing.

And there are other "little things" of recent birth. A modern annunciator. The signals are registered by illumination of glass numerals. And there's a new multi-light position indicator, similar in design to this annunciator. It speeds up traffic and eliminates confusion by showing passengers the exact location of the elevator as it travels up and down the hoistway.

Still more "little things" include a new type of folding car seat and improvements in the electric dumbwaiter. These dumbwaiter improvements feature reliability, safety, and long life of equipment.

These are detailed to you in Otis bulletins for ready reference in time of need. They indicate elevator progress just as surely as something that promises to revolutionize vertical transportation overnight.

MATERIALS & FINISHES

Recent developments in concrete. The Builder. (London). 8 Ja'37:132-133 †

Description of the new Freyssinet & Mopin processes. The former involves use of lowest possible water-cement ratio, high proportion of fine and very fine aggregates, and vibration followed by compression to eliminate water films. Heating to 212° F. and initial tension stresses in steel reinforcement are other features of the process. The result is concrete which attains strengths of 5000 lb/sq. in. in less than two hours (Portland cement), or 14,000 lb/sq. in. two or three hours after the set begins (Aluminous cement). Ultimate strengths of 17,000 to 21,000 lb/sq. in. are easily reached. These notes also discuss elongation and elasticity of steel and concrete.

The Mopin Process produces pre-cast units rapidly by vibration and special aggregates, permitting quick re-use of molds. Exact shapes are retained and after final set there is no shrinkage. Data are given for time of vibration necessary and types of aggregates used for several structural elements. Floors, walls, partitions, stairs, balconies, larders, linen cupboards are a few of the elements which have actually been made. These units have been used in a number of French housing developments, proving to be lighter in weight, less expensive, stronger, and easily patched (before set).

Vibrated concrete. (P. Hallensleben). Deutsche Bauzeitung. (Berlin). 13 Ja'37:28-34 **dtv**

Technical article in German reviewing the recent book of Freyssinet on his discoveries and practice in the field of vibrated concrete. Actual examples illustrated include: a pair of concrete masts; the marine station at Le Havre with elaborate concrete pile foundations; and a thin-section concrete girder with a span of over 60 ft.

Tests on shrinkage of concrete. (Prof. J. R. Shank). Engineering Experiment. Station News. (Ohio State Univ.) O'36:6-10 **dgt**

Portland cement may shrink in dry air as much as it would contract in 100° F. temperature drop. Shrinkage develops stresses. It is most rapid after first exposure of concrete to air after initial curing. The stresses may be great enough to cause cracks. Shrinkage is also related to bond with steel, with rates of change of strength and other properties such as plastic flow. This paper describes tests of shrinkage for both plain and reinforced concrete with graphs and tables of the behavior of speciments tested. One conclusion advanced is that, contrary to general opinion, variations of cement or water content, within practical limits, do not appear to affect shrinkage cracking in reinforced concrete.

Standard sizes for coarse aggregates. (A. T. Goldbeck). Industrial Standardization. (New York). Fe'37:45-48 †

Portland cement concrete is nearly 7/10 aggregates. This industry (4/5000 producers) turns out over 300 million tons of sand, gravel, crushed stone and air-cooled blast furnace slag, in a peak year. The Division of Simplified Practice now recommends two groups of sizes to help both producer and user. The square-mesh sieve is now standard. Two tables of sizes are included, one of which will be appropriate for selections in any locality.

Lucite. Modern Plastics. Ja'37:42-43 **tv**

The new name for "Pontalite." This note stresses use for decorative edge-lighting since this material, like quartz, has the property of carrying light around bends in rods and sheets.

More data in Illuminating Engineering Society Transactions. Ja'37:10 t. Including physical properties.

Plexiglas. Modern Plastics. Ja'37:49 †

A new colorless thermoplastic (polymerized derivative of Acrylic Acid). Looks like silicate glass but keeps properties of an organic resin. May be bent or formed in various shapes without developing strains or blemishes. Thickness of ¼ in. is practically unbreakable. Great stability to weathering, tough and hard, elastic, chemically stable, perfectly colorless transparency, easy to work.

New Italian plastic. Science Digest. Mr'37: 31 †

Rhodoid is a fireproof, odorless, non-yellowing form of cellulose acetate. It has been used for lamp-shades, book covers, transparent sheets for tents and airplanes.

Chemical coloration of metals. (H. Krause). Zeitschr. des Vereines Deutscher Ingenieure. (Berlin), 30 Ja'37:127-131 †

German article discussing application of metal coloring, execution, preparation of the object, methods to be followed for steel, zinc, aluminum, magnesium, copper and copper alloys. The influence of alloys on color, difficulties in execution of such work. There is a short bibliography.

How to avoid paint failures in modernizing. Buildings & Building Management 16 Ja'37:39-44 †

Includes data on effects and treatment of moisture, chemicals, grease, oil and dirt, rust, old paint, types of wood surfaces, weather conditions, mildew, new plaster and cement, new galvanized iron.

Spray painting cuts costs and improves work. Buildings & Building Management. 16 Ja'37:37 **tv**

Review of a government pamphlet quoting following statistics (in part):

Spray guns use about 50% more paint on one coat than brushing but one sprayed coat covers as well as two brushed coats. One man with spray gun can do on the average as much work as four or five skilled painters with brushes. Appearance of sprayed work is much better. Comparative figures are given for several actual jobs.

ILLUMINATION & ELECTRICAL EQUIPMENT

Low voltage "neon". (P. Freedman). Light & Lighting. (London). Ja'37:5-6 †

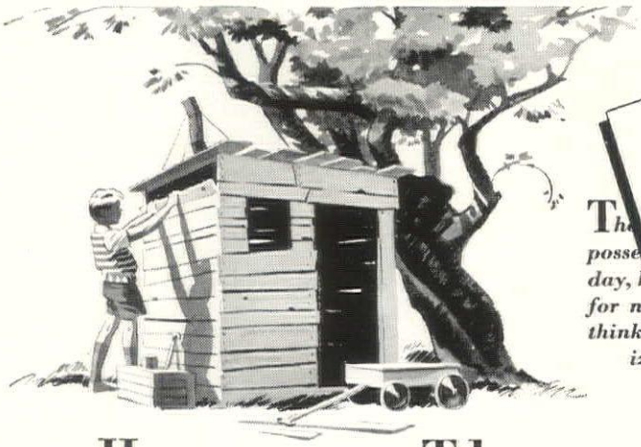
Report of a paper read before British I.E.S. Dec. 1936. Requirement of 500-3500 volts per section of standard discharge type of gaseous tube lighting involves use of transformers, high tension cable, careful insulation and grounding. This makes a general distribution of high tension discharge equipment impracticable and shows the need for low voltage type. Conditions to be met include: operation on A. C. or D. C. of 100-150 and 200-250 volts with minimum or absence of auxiliary devices; standardization of tubes 10-11mm., 15-16mm. and 20-22mm. diameters, operating at 5, 7 and 9 watts/ft. respectively; satisfactory color, appearance, luminosity and length of life. High tension tubes last 5-6000 hours but are usually guaranteed for 2-3000.

Three types have been investigated: high frequency; hot cathode; and negative glow. The first causes radio interference. Hot cathode tubes require considerable auxiliary equipment. Negative glow tubes, first developed in 1917-18, give a softer light at close hand while not losing brightness at 100 ft. as compared with high tension tubes. They have a life of 2-5000 hours, may be used on both A. C. and D. C. at about 7.5-10 watts/ft. Future development of these lamps must include 100-120 volt operation and somewhat greater luminosity. Colors now obtained include: orange (neon but paler than h.t.); pale blue (mercury and argon); green, white and other colors in special tubing. Present construction uses 3.7mm. diameter spirals of iron wire on pyrex insulation.

Cadmium & Zinc vapor lamps. (J. W. Marden, N. C. Breese, G. Meister). Illum. Engr. Soc. Transac. Ja'37:84-94 **dgtv**

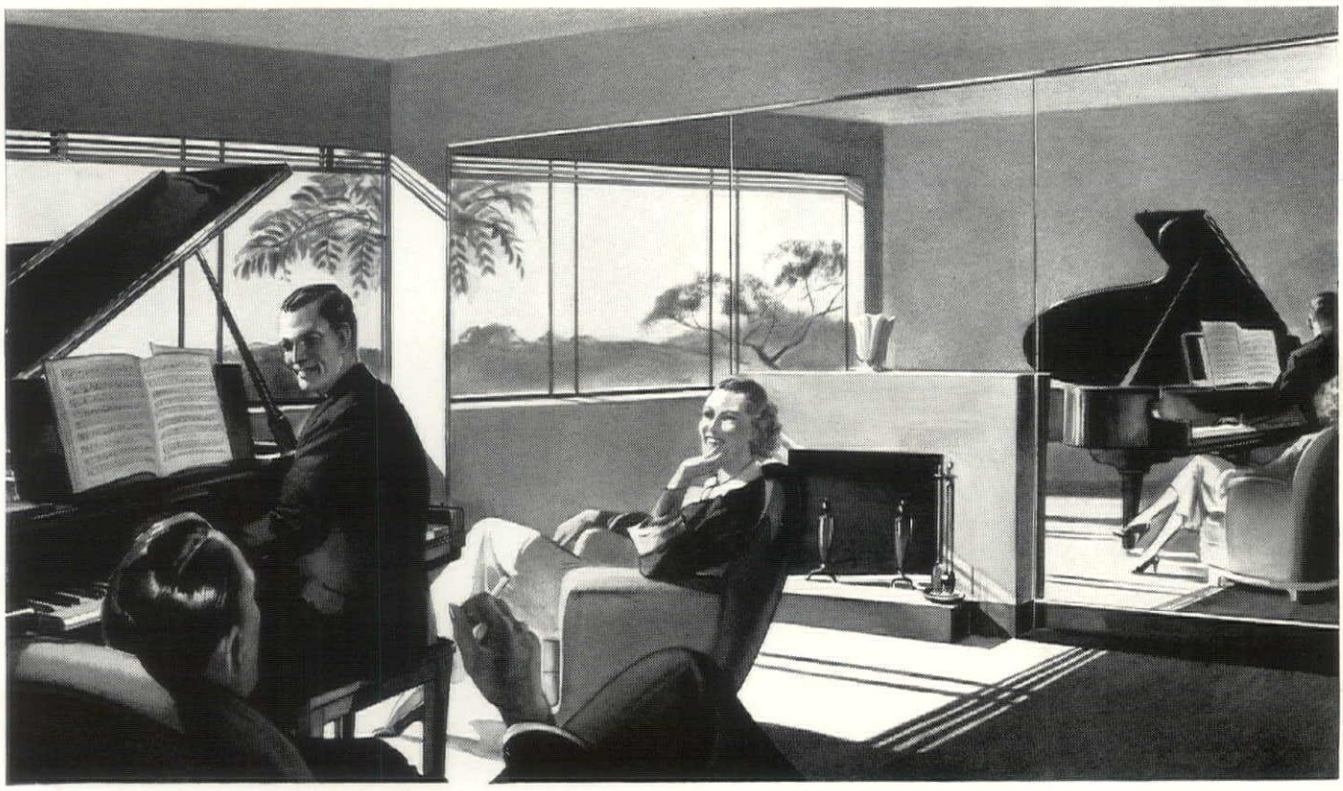
Color characteristics: strong red, weaker blue and blue-green, no light green or yellow. Possibly may be combined

(*Continued on page* 102)



THIS ADVERTISEMENT appears in the following publications: Saturday Evening Post, February 13 • Collier's, March 6 • The American Home, March • Better Homes and Gardens, March.

The Houses That Jack Built ...



THE HOUSE THAT JACK BUILDS TODAY is more than a house ... in the hands of the architect, using new and improved materials it becomes—a HOME, a comfortable, economical, practical home.

In actual practice, the guiding genius of architectural skill effects savings, both in original cost and upkeep. With knowledge born of experience the architect weaves modern materials and new structural usage into today's pattern of a home.

And in this modern home, the trend is toward the use of more and more glass, both as a building material and a decorative means. Sparkling corner windows that banish shadows—Ample mirrors that brighten and widen rooms—Double glazing that is so essential to successful air conditioning—Mirrored panels—Glass doors—Mirrored table tops. These and countless other uses bring a distinctive beauty to even the most modest dwelling.

This new importance of glass is only one of the many radical changes that have come about during the past few years. That is why the skilled architect and dependable builder, working together with new methods and materials, give you your best assurance of permanent satisfaction in your home and lasting value in your building investment. Libbey·Owens·Ford Glass Company, Toledo, Ohio.

• • •

NOVEL USES FOR GLASS, both decorative and practical. A glass pushplate on the door to the kitchen never tarnishes. Glass drawer fronts on a closet chest; you can tell at a glance what each drawer contains. A Vitrolite glass top for the kitchen table; both sanitary and practical. Many other practical suggestions which utilize the sparkling beauty of glass will gladly be suggested by your decorator or local L·O·F Glass Distributor.

LIBBEY · OWENS · FORD

L·O·F QUALITY GLASS

with mercury vapor for daylight approximation.

This paper reports investigations of luminous efficiency and energy distribution for both low and high pressure lamps of both kinds. The high pressure is less than half the size of the low pressure type and has a concentrated arc of greater brightness, a higher efficiency and a broadening of spectral lines.

Low pressure lamps are filled with a uniform glow. The lumen output varies with wattage but passes through a maximum at about 150 watts. Low pressure cadmium and zinc types both show sharp spectral lines.

For high pressure, quartz tubes were preferred because of greater stability at high temperatures. The coldest part of the tube was 766° C. for Cadmium, and 970° C. for Zinc. Lumen output increases with wattage.

Cadmium is about twice as efficient as Zinc (up to 20 lumens/watt) but life is short. High wattages give areas of continuous spectra. The stability of quartz is a limiting factor in maintaining high efficiencies with either high pressure type.

It is suggested that a blend of tungsten filament, mercury arc and cadmium discharge should give an excellent approximation of white light.

The status of vapor lamps. (L. A. Hawkins). Illum. Engr. Soc. Transac. Ja'37:95-106 tv

Recently developed vapor lamps are more efficient than mazda lamps and are likely to be improved. For some applications the colors available are an advantage. Fluorescent materials used with some mercury vapor lamps give unusual color effects with great efficiency. Most incandescent lamps have 1000 hour life and efficiency of 20 lumens/watt. An approximation of daylight would equal several hundred lumens/watt (200-600). This means that an incandescent lamp is about 4% efficient. A green or blue bulb is about 1% efficient. "I can think of no other device used by the electrical engineer which has an efficiency nearly so low as incandescent lamps."

There are vapor lamps on the market yielding 50 lumens/watt, and laboratory types up to 70, 80 or 100 lumens/watt. Sodium vapor seems to have the greatest possibilities of efficiency but the color is against it, and it must be used in large units. This has led to outdoor use, and use as colored warning (crossroads, etc.). There are over 100 miles now in use and several long installations being made including the 15-mile San Francisco-Oakland Bridge.

Vapor lamps usually require auxiliaries which outweigh efficiencies. The new high pressure, high intensity mercury vapor lamps have two or three times the efficiency of low pressure (Mazda), and give whiter light. The very small "capillary" type with quartz tube and artificial cooling yields 45 l/w. Suggested use for projection.

New fluorescent lamps give a wide range of colors by selective radiation. Atomic frequency changers (fluorescent materials) absorb energy. They change the ultra-violet component of vapor lamp radiation into visible light but they cannot convert radiant heat of incandescent lamp radiation into light. They cannot shorten wave lengths.

"Neon" is handicapped by high voltage, difficulty of replacement, low energy and light output per unit of length.

Hot cathode neon is free of these defects and is efficient for use when neon color is desirable (beacons, enclosed signs).

Negative glow. Small gaseous lamps used now for exit, night and pilot lights. Three watts and smaller.

New lamps as bright as the sun. Science Digest. Mr'37:89 t

General Electric is now developing fluorescent colored lamps 50-200 times as powerful as ordinary incandescent types. These contain a trace of mercury, a small amount of argon gas and a special fluorescent powder which clings to the inside of the bulb. The ultra-violet radiation generated by the argon and mercury is picked up by the powder which fluoresces into visible colored light with much greater efficiency than colored incandescent lamps.

The 'Capillary" high intensity mercury vapor lamp is exceedingly small yet produces a brilliance greater than that of the sun due to tremendous internal pressures on the order of several tons/sq. in.

Fluorescence—An unexplained phenomenon. (C. A. Dehlke). Science Digest. Mr'37: 53-54 t

"Fluorescence must be regarded simply as the transference of ultra-violet radiation into the various colors of the visible spectrum." This article describes some of the practical uses in mining, in detective and testing work, as well as the beautiful effects possible in the museum, on the stage, and in advertising.

Electronic tubes. Electrical Engineering. Fe'37:284 t

Chart showing nomenclature of and describing twelve types. Data on output energy, character of space, control means, type cathode, names and definitions. This will clear up some distinctions and relations between, for instance, various types of photoelectric and thermionic tubes. If more indication of the uses of each type had also been included this would have been more valuable for laymen.

The year's progress in illumination. (W. C. Brown). Illuminating Engineering Society Transactions. N'36:842-865 tv

A survey of new developments and continuing activity in lighting, including: light sources; ultra-violet radiation; reflecting and transmitting materials; lighting for schools, offices, stores, industry, homes, farms, expositions, luminous buildings, new devices, controls. This paper is documented with references to fuller data on each of these subjects.

Modern stage lighting applied to museum groups. (R. C. Engelken). Illuminating Engineering Society Transactions. D'36:985-994 vt

A description of illuminating methods used in the new African Hall of the American Museum of Natural History in New York City. These habitat groups were carefully designed to give effects of particular time of day in specific phases, involving local setting, effect of time of day on sun's location and shadows, and the relative temperature of the scene which determines color quality of light. Miniature models were built for lighting studies for the showcases which were 18 ft. long, 14 ft. deep and 16 ft. high. One-half (14) of the groups have been completed. Interior groups average 3,500 watts each; corner, double-size, groups, 6,000 watts. Four purposes of lighting required special types of equipment: General lighting; Localized general lighting; Horizon lights; and Modeling lights. There are descriptions and photographs of five groups.

PLUMBING & SANITATION

Plumbing examination questions and answers. Domestic Engineer. Fe'37:72-74 dt

Suggested solutions for problems given in a previous issue. Ten additional questions and answers, and another plumbing diagram to be corrected are included in this number.

Plumbing examinations. Domestic Engineering. Ja'37:76-77 dt

Test questions and answers, and diagrams showing improper connections, wrong sizes and wrong practice, to be corrected by applicants for license. Twelve questions from a New York State city examination, with answers, are included in this article. Corrected diagrams and more questions will be published in later issues.

Although this is for examinations for plumbers, applicants for architectural registration will find the series a useful review.

Standard drinking water requirements. Heating & Ventilating. D'36:49

Table of temperatures and amounts of water required per hour for different classes of water-cooler service as adopted by National Electrical Mfrs. Association.

THIS architect is rendering his client an invaluable service. He has taken a definite point of view on acoustical materials . . . and made a recommendation based on actual experience.

Experience in the durability of Johns-Manville Sound-Control Materials. Knowledge of the fact that these materials retain their high rate of sound absorption *throughout their entire long life* . . . and are, therefore, a truly economical investment from every standpoint.

And like all architects who have used our engineering service, he knows its value in helping to co-ordinate the sound-control work with his basic design . . . and in assuring the proper application of the quieting treatment. Two factors as important in securing effective, economical sound control as are the materials themselves.

Architects who follow his example in specifying J-M Sound-Control Materials are looking beyond today. Are providing for that future time when the permanent efficiency and lasting economy of these materials will constantly remind their clients of a service rendered well . . . and to their mutual benefit.

• • •

For the latest data on Johns-Manville Acoustical Materials and for full details on our engineering consultation service, write to Johns-Manville, 22 East 40th Street, New York City.

Johns-Manville Sound-Control Materials and Acoustical-Engineering Service

ACTUALLY IT COSTS NO MORE TO USE THE BEST ACOUSTICAL MATERIALS

BOOKS

SCULPTURE: By Lee Lawrie. 48 plates in portfolio form, 10 by 13 inches. Illustrations from photographs. Cleveland: 1936: J. H. Jansen. $7.50.

Mr. J. H. Jansen has at last performed a task for which there has been widespread demand—the bringing together of Lee Lawrie's sculpture between one set of covers, in reproduction sizes that convey a fairly true semblance of the originals. Lee Lawrie himself contributed a foreword in which he explains very neatly his philosophy regarding the relationship of sculpture and architecture. "If the sculpture is to reflect ideas that will tell the passerby the kind of building it marks, pertinent subjects must be found. . . .The next consideration is the design . . . that it may be comprehended at a glance. Then comes the modelling, which must have no unnecessary details that would complicate the design and obscure the idea." Lawrie's sculpture never employs the forms that are brought to mind by the term "architectural decoration." Rather does it serve to accent the architecture, and sometimes also to characterize the building for which it is made.

PLUMBING ENGINEERING. By Walter S. L. Cleverdon. 445 pages, 5½ by 8½ inches. Illustrations from photographs and diagrams. New York: 1937: Pitman Publishing Corporation. $3.50.

In recognition of the fact that plumbing has progressed far beyond the scope of the journeyman pipe fitter, this book is written. Its author speaks herein to architects, engineers, plumbers, building superintendents, and students. The material in its profusely illustrated pages includes, of course, something of hydraulics, pneumatics, and biological chemistry, insofar as modern plumbing embraces these subjects.

COUNTRY HOUSES OF THE MIDLANDS. A Review of the Old Halls and Manor-Houses of Northamptonshire. By J. Alfred Gotch. 100 pages, 8 by 11 inches, and 110 pages of illustrations from plans, drawings, photographs, and one map. Printed in Great Britain. New York: 1936: Charles Scribner's Sons. $8.50.

Through the indefatigable labors of Mr. Batsford, the world knows more, through the printed page, of English history than of the monuments of any other country or any other group of periods. The present volume indicates that there has been, and probably still is, more to be recorded. Mr. Gotch, who is a past president of the R.I.B.A., contributes the text, which serves to fill in the social, political, and architectural background for these old halls and manorial houses of Northamptonshire. Many of them, of course, are familiar through other publications, notably Tipping's "English Homes" and other well-known documents.

ZONING. The Laws, Administration, and Court Decisions During the First Twenty Years. By Edward M. Bassett. 275 pages, pages, 6 by 9 inches. New York: 1936: Russell Sage Foundation. $3.

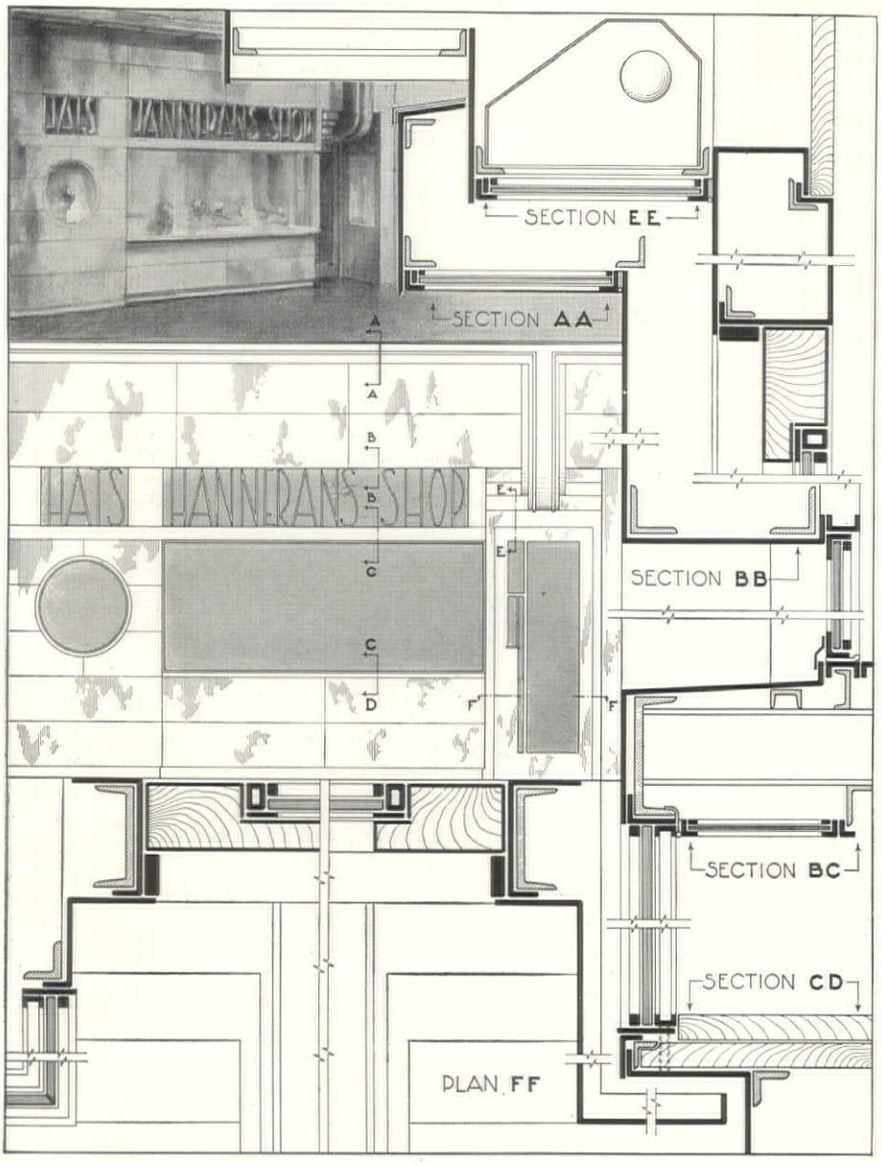
The name of Edward M. Bassett has been closely coupled with all zoning programs in the United States since 1913, when New York appointed a commission to study and propose regulations for limiting the size and height of buildings. Mr. Bassett was on the commission. He has been at the job of formulating zoning principles and registration ever since. For this volume he acknowledges his indebtedness to the files of the Zoning Committee of New York, in which have been kept all State enabling acts, local ordinances, and court decisions. The more significant examples of these are herein set forth.

(*Continued on page* 106)

DESIGN *as you please*

WITH

U·S·S STAINLESS STEEL



EMINENTLY SUITED FOR EXECUTION IN USS STAINLESS STEEL. ***Here is an attractive modern store front for a crowded urban thoroughfare, designed to invite "window shopping" and to attract traffic into the store. Note the use of large exposed surfaces made possible by the immunity of USS Stainless Steel to atmospheric corrosion. Note also the unusual simplicity of construction.***

THAT'S one of the beauties of USS Stainless Steel . . . that it gives you new freedom to design as you please, to achieve exactly the effects you desire. No longer need you be hampered by metals which require protective coatings, which you know will corrode and weaken with time.

Much more than another "white" metal, USS Stainless Steel is important to architects because it offers them a new, wider range of important physical properties. Briefly these are:

1. COMPLETE IMMUNITY TO ATMOSPHERIC CORROSION. **Like glass, USS Stainless Steel is easily cleaned of surface soil by the quick wipe of a damp cloth. The metal itself will never be dulled, will always look "brand new."**

2. EXCEPTIONAL TOUGHNESS. **USS Stainless Steel is one of the toughest and strongest of all metals. Push and kick plates of this new lustrous alloy resist abrasion and scratching, should outlast your building.**

3. VARIETY OF SPLENDID FINISHES. **USS Stainless Steel is easily finished in a variety of beautiful lusters ranging from high polish to glowing satin.**

For store fronts and entrances, USS Stainless Steel is particularly suitable. Its clean sparkle suggests fresh modern merchandise. Your client knows that in the end it will save him money . . . that his store will look "brand new" forever more!

FOR ARCHITECTS ONLY. *A new booklet on the use of USS Stainless Steel in Architecture. 16 pages of facts, photographs and drawings. 24 brilliant photographs of stainless steel store fronts, entrances, restaurants, kitchens, hardware, interiors and decorative work. Also contains information regarding physical properties, fabricating instructions, data on corrosion-resistance, etc. Every architect should have his own copy. May we send you one?*

U·S·S STAINLESS STEEL

AMERICAN STEEL & WIRE COMPANY, *Chicago and New York*
CARNEGIE-ILLINOIS STEEL CORPORATION, *Pittsburgh and Chicago*
NATIONAL TUBE COMPANY, *Pittsburgh*

Columbia Steel Company, San Francisco, *Pacific Coast Distributors*

United States Steel Products Company, New York, *Export Distributors*

UNITED STATES STEEL

BOOKS

(*Continued from page* 104)

LOAD DISTRIBUTION AND STRENGTH OF ELEVATOR CABLE EQUALIZERS. By Ambrose H. Stang and Leroy R. Sweetman. 32 pages, 6 by 9 inches. Illustrations from diagrams. Research Paper RP912. Pamphlet binding. Washington, D. C.: 1936: U. S. Department of Commerce, National Bureau of Standards. 5 cents.

CHINESE INFLUENCE ON EUROPEAN GARDEN STRUCTURES. By Eleanor Von Erdberg. Edited by Bremer Whidden Pond. 121 pages, 7½ by 10 inches, and 31 pages of illustrations from photographs, old prints, and drawings. Cambridge, Mass.: 1936: Harvard University Press. $5.

The Chinoiserie of the 17th and 18th Centuries in Europe has always been a source of pleasure and amusement to students of style development. The European designers of that period translated, frequently with quaint naïveté, the forms that belonged unmistakably to China. Miss Eleanor Von Erdberg brings together in this volume the first comprehensive study of Chinese influence on garden design and garden structures in Europe during the 17th and 18th Centuries. The text is supplemented by a surprisingly extensive list of buildings, with notes as to their location, materials, and authorship.

STAPLE VITREOUS CHINA PLUMBING FIXTURES. Second Edition. 28 pages, 6 by 9 inches. Illustrations from diagrams and drawings. Commercial Standard CS20-36. Pamphlet binding. Washington, D. C.: 1936: U. S. Department of Commerce, National Bureau of Standards. 10 cents.

OLD NEW ORLEANS. A History of the Vieux Carré, Its Ancient and Historical Buildings. By Stanley Clisby Arthur. 248 pages, 6 by 9 inches. Illustrations from photographs, drawings, and maps. New Orleans: 1936: Harmanson. $2.50.

The book is essentially a guide book to the Crescent City on the lower Mississippi, with particular reference to its architectural treasures. The reader will find here concise descriptions of all those buildings, iron work and gardens which the students of architecture and the laymen with literary and artistic leanings visit New Orleans to see. There are detail maps, drawings by such men as William P. Spratling, detail drawings of old iron work and the like. It is certainly a book which any architect, visiting New Orleans would find a valuable guide and an interesting mentor.

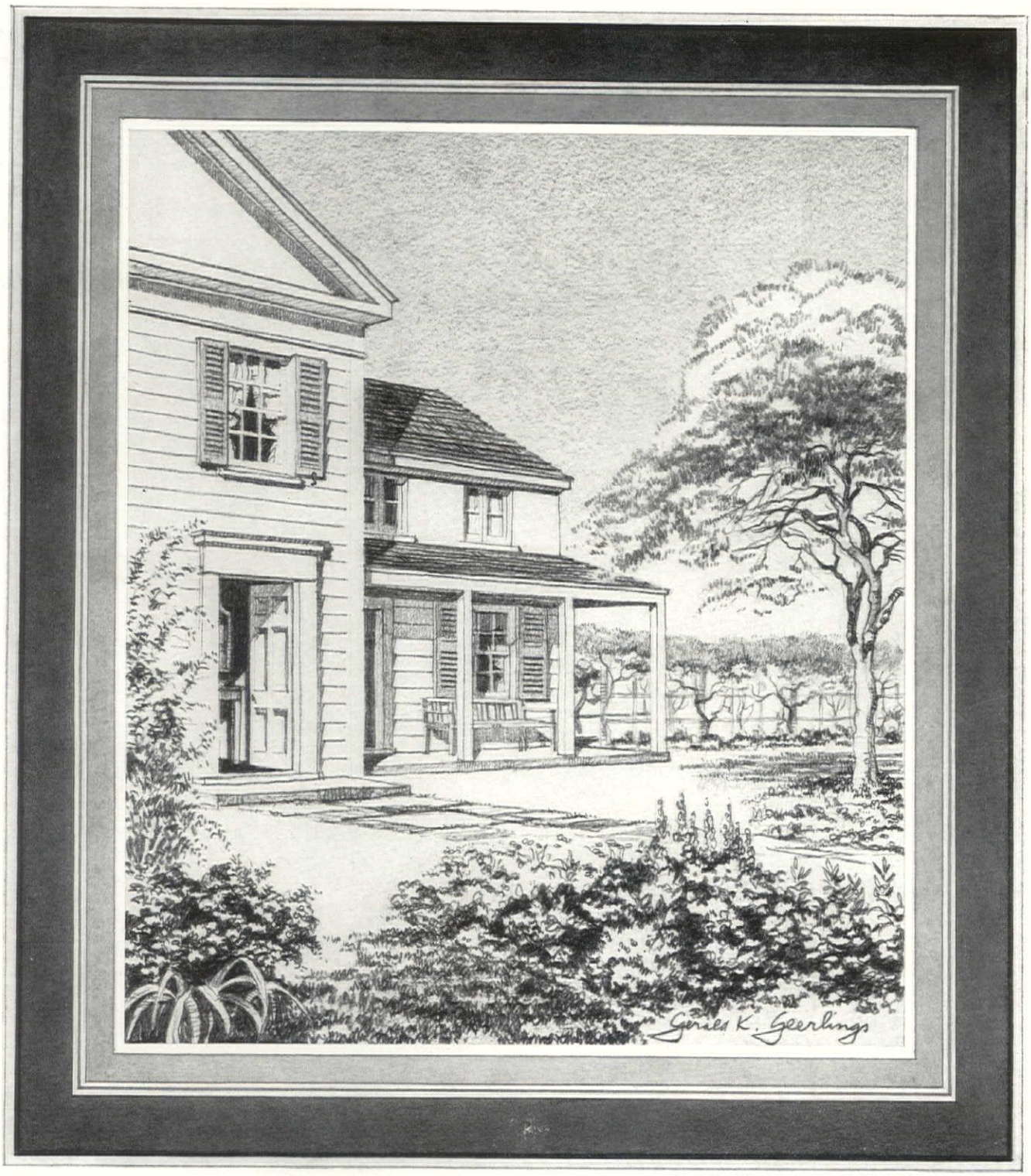
BASIC STANDARDS OF APPRAISAL PRACTICE AND PROCEDURE. Foreword by John W. Townsend. 53 pages, 6 by 9 inches. Washington, D. C.: 1936: Association of Appraisal Executives.

FINE PRINTS, OLD AND NEW. By Carl Zigrosser. 63 pages, 5½ by 8½ inches. Illustrations from prints. Paper binding. New York: 1937: Covici Friede. $1.

Carl Zigrosser, who is an advisor and confidant of many artists in his capacity as director of the Weyhe Gallery, writes entertainingly from a broad knowledge of prints. The book is tinctured with a praiseworthy urge to bring back the print to its original role of the widely distributed inexpensive medium for public enjoyment, rather than for the collector alone.

ILLUMINATION DESIGN DATA. By Ward Harrison and C. E. Weitz. 69 pages, 7 by 10 inches. Illustrations from diagrams, photographs, and color charts. Spiral binding. Cleveland: 1936: General Electric Co., Nela Park Engineering Department. 50 cents.

A compact and orderly compilation of data that would be required in the successive steps of lighting design. An unusual feature is the inclusion of a color chart giving the effect of various color patterns and natural finishes as to their respective reflection factors.



WORK-SAVERS

When the general floor plans are to have the electric, heating and plumbing work shown on them it is an advantage to do the drawing for these contracts on the *backs* of the tracings. Lettering can be on the front faces for the sake of convenience. Then, as the drawings develop, when changes are made it will not be necessary to erase as many notes or lines which are intersected by the indication of these three branches of the work, as though all lines were on the front faces of the drawings. If the heating system requires ducts, check over the construction so that these will not unexpectedly jut below the finished ceilings.

GERALD K. GEERLINGS.

TECHNIQUES

CONSTRUCTION

SKYLIGHT REFLECTOR

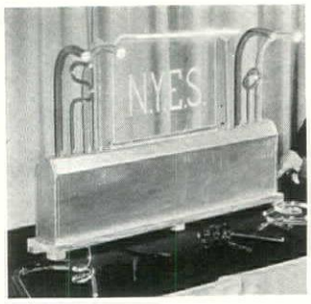
A large-sized, diffusing fixture of unusually low and uniform surface brightness to cover large areas and to minimize the intensity of specular reflections from shiny surfaces by providing an artificial luminous ceiling for local lighting applications in industry, has been announced by Benjamin Electric Mfg. Co., Des Plaines, Ill. The Benjamin "Skylight" fixture consists of a large 28x36 inch, trough-shape porcelain enamel steel reflector fitted with two medium-base sockets for lamps from 15 to 200 watts in size. The reflector opening is covered by two sections of flat diffusing glass joined and removable at the middle. Both plain Opal and Daylight diffusing glass covers are available. Provision is made to gang two or more reflectors together along either or both edges to form an artificial luminous ceiling of any desired size to cover effectively any required area of a shiny surface. Hand holes in ends of reflector simplify relamping. These fixtures improve seeing conditions by replacing the reflections of small glaring light sources and dark, harsh shadows with a soft, non-glaring reflection of the Opal cover glass of these fixtures. **764M**

EAVES TROUGH

Announcement has been made of a new type of hanging eaves trough. The new eaves trough is known as Kuehn's Gutter. Installed on a building it gives a box gutter effect because of its formation. Although this eaves trough has an entirely different appearance, its application is the same as the half-round trough. The Titelock Eaves Trough Hanger is readily adapted to this square gutter. Among the features of Kuehn's Gutter are its attractive appearance and the rigidity and strength achieved by the new design. The decorative flutings on side and bottom are among its seven reinforcing features. The line is complete with lap joint, slip joint, mitres, hangers, ends and drops. There is also a high back furnished for box gutter installation. This is a new product of Milcor Steel Company, Milwaukee, Wisconsin. **765M**

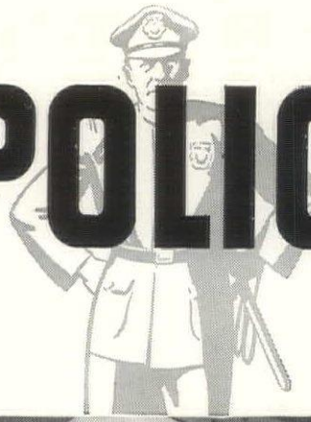
MATERIAL

NEW PLASTIC



Lucite, a new crystal clear plastic by E. I. duPont de Nemours & Co., New York, transmits light around bends as was shown in a demonstration recently given by Mr. Harold Payne before the New York Electrical Society. Electric light bulbs were placed in a box on a table, below several rods and a sheet of Lucite. The light was seen to travel through the material, appearing only at the end of the tubes, on the edge of the sheet, and the engraved section of the sheet. This property of edge lighting is also possessed by quartz. Lucite is a thermoplastic resin. It can be sawed,

(*Continued on page* 112)



POLICED *Inside and Out*

by Sturtevant Air Conditioning!

General Aniline Works, Inc., Albany Division

Protected against dye dust . . . cooled . . . heated!

At this new dye manufacturing plant of the well-known General Aniline Works, Inc., Rensselaer, N.Y., protection against fine dye dust is essential. It must be removed from the air *inside* for the protection and comfort of employees... must be prevented from escaping to the *outside* and contaminating the neighborhood.

This has been accomplished through the installation of Sturtevant Air Conditioning Equipment.

During the summer, this equipment also contributes to the comfort and efficiency of employees by cooling the entire building. In the winter, it takes over the entire heating job.

If you have an industrial air conditioning or air handling problem take advantage of Sturtevant's 75 years of air engineering experience. A well-posted, thoroughly-experienced engineer from our nearest office would welcome an opportunity to cooperate.

Typical Sturtevant Installations

Life Savers, Inc., DuPont Rayon Co., Inc., Libbey-Owens Ford Glass Co., Philip Morris, Ltd., Hudson Silk Hosiery Co., Lederle Antitoxin Laboratory.

B. F. STURTEVANT COMPANY
HYDE PARK, BOSTON, MASS. *Branches in 40 Cities*

THE COOLING AND AIR CONDITIONING CORPORATION
Division of B. F. Sturtevant Company

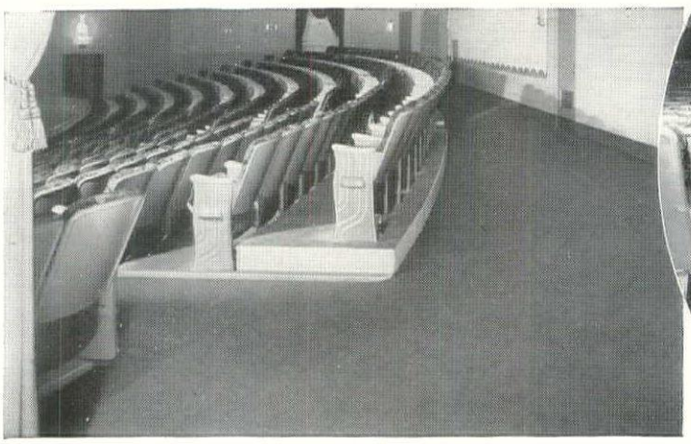
Sturtevant
REG. U.S. PAT. OFF.
Air Conditioning
FOR BETTER PRODUCTS AT LESS COST

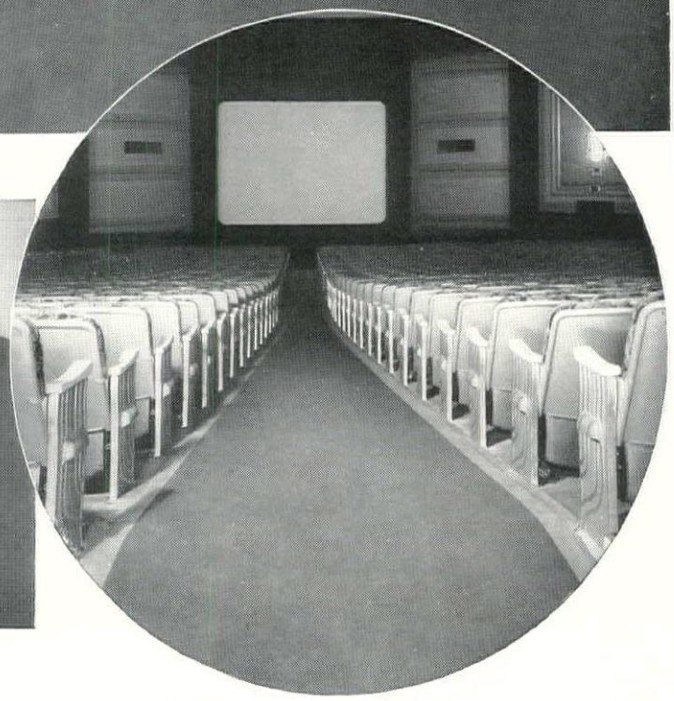
ACMA

PIONEERS IN INDUSTRIAL AIR CONDITIONING

Chicago's WILL ROGERS

In the spacious lobby, Lokweave Broadloom provides a sweep of beauty unbroken by ugly seams.





Up in the balcony and down the center aisle Lokweave cushions every step and helps to provide good acoustics.

MEMORIAL THEATRE

Architects: C. W. and George L. Rapp, Inc.

CARPET COUNSEL

By the Bigelow Weavers

The magnificent Will Rogers Theatre is a splendid memorial to one of America's most beloved stars of stage, screen and radio.

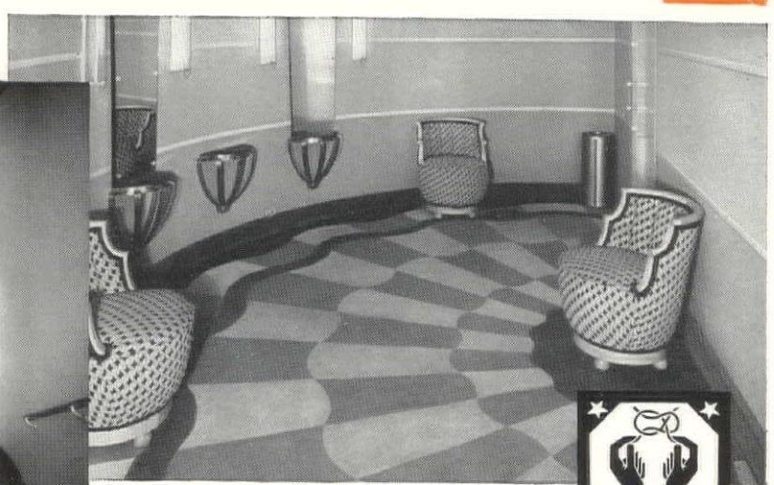
We at Bigelow are proud that we served as Carpet Counsel and that our Lokweave* Broadloom was the carpet chosen by the architects: C. W. and George L. Rapp. They selected Lokweave, they say, because it gave them the greatest latitude in designing to meet unusual conditions, and in attaining a design befitting this particular theatre.

Helping architects to get exactly the color schemes, designs and effects they want is easy with Lokweave. Its patterns are made by cutting and inserting different color carpets to form any design you wish—with never a seam showing.

No matter what *your* carpeting problem may be, we're fitted by long experience in working with architects to help you solve it with the least work and worry on your part. May we serve you as expert Carpet Counsel? Contract Department, Bigelow-Sanford Carpet Co., Inc., 140 Madison Ave., New York.

*Sold and installed under Collins & Aikman license.

See how Lokweave's special design follows the line of traffic on this unusual stairway.



And how this unique pattern is just made to order for the attractive little alcove!

RUGS & CARPETS BY BIGELOW WEAVERS

TECHNIQUES

(*Continued from page* 108)

cut, drilled and polished. It transmits a large portion of the sun's ultra-violet light. It is not affected by sunlight and is said to be impervious to alcohol, alkali, and acids. Its freedom from color permits fabrication into delicate tinted shades. By combining dyes and pigments, varying degrees of color and transparency can be obtained. **766M**

HEATING

GAS WATER HEATER

The American-Bosch Kabinette automatic gas water heater provides a compact unit to harmonize with modern kitchen design. Its metal housing or cabinet is 25 inches square and stands 36 inches high. It is finished in white enamel with black trim and chrome plated top. The chromed top is flat and as it is the same height as the average range, table or counter, it provides additional useful table surface. This new unit is entirely automatic in operation. The water in its 20-gallon storage tank is always automatically kept heated to a predetermined temperature as desired. The use of an extended fin-type heat exchanger is said to utilize the utmost heat content of the gas consumed. The American-Bosch Ball-Tank, a spherical tank, is employed with this unit. An adjustable temperature control is also provided. This is a new product of United American Bosch Corp., Springfield, Mass. **767M**

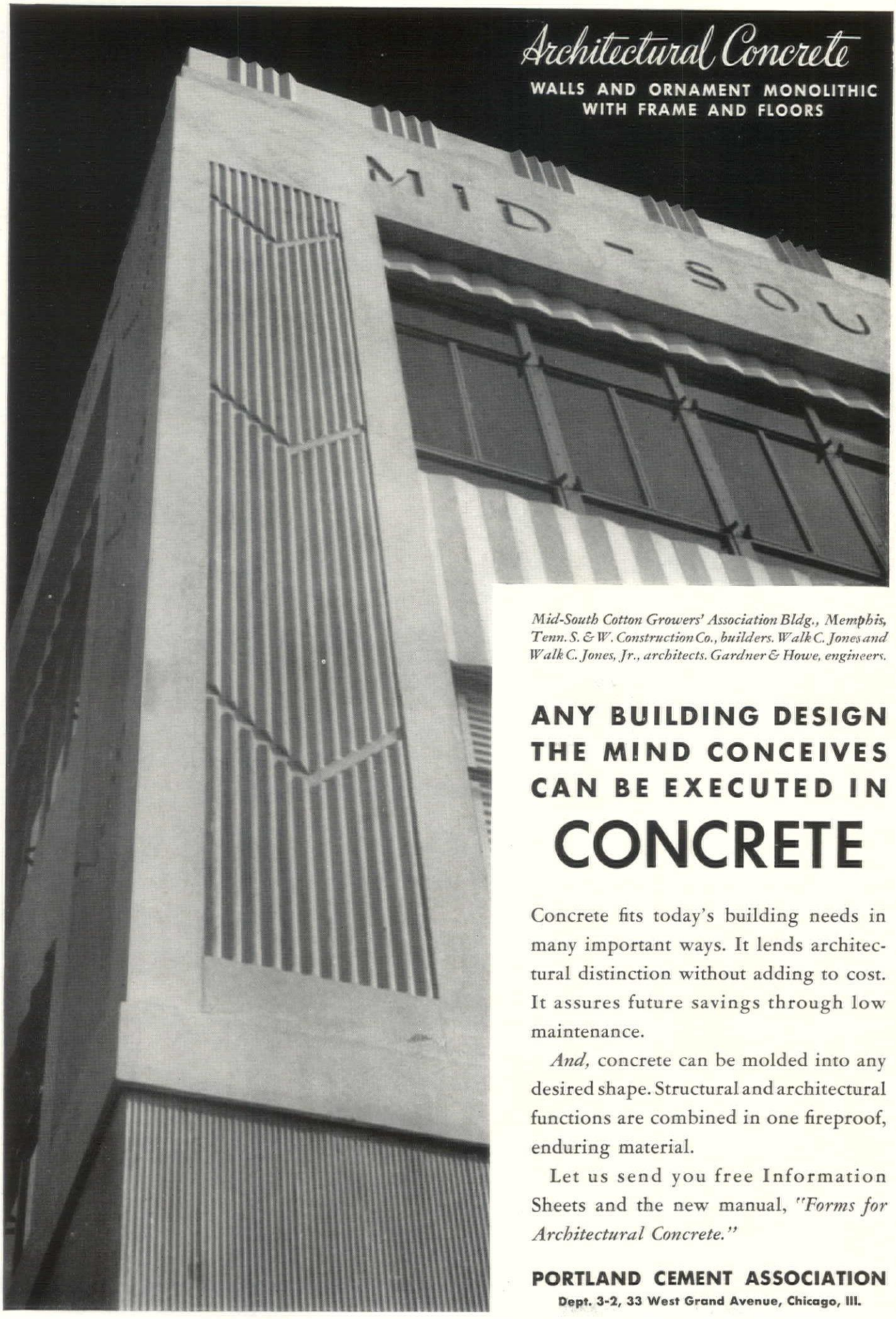
PACKLESS VALVE

Designed for service with convection heaters, radiators or other equipment used on two-pipe vapor, vacuum or steam systems, the new Trane Hermetic Radiator Valve requires no bellows, and has no gaskets, stuffing boxes or packing. The valve proper receives its motion through a sealed diaphragm from a pressure button on the end of the valve stem. Movement of this diaphragm does not exceed 3/32" at any time. The operating mechanism of the valve is simple and uses multiplying levers. These multiply the travel of the diaphragm more than three times thus giving the valve sufficient travel to make fine adjustment possible. The valve body is of cast brass with forged brass bonnets and collars. Heavy nickel plating with polished trim is applied to all exposed metal parts. A disc of durable composition closes tightly against a flat raised seat. The standard pattern is provided with a wheel handle of bakelite which is said to be impervious to water and will not overheat in service. It is a product of The Trane Company, La Crosse, Wisconsin. **768M**

STOKER-BOILER UNIT

The American Radiator Company of New York and the Anchor Stove & Range Company of New Albany, Indiana, have collaborated in the design of the Anchor-Arco Kolstoker-Boiler Unit. This new unit is a complete automatic heating plant with the respective functions of the Anchor

(*Continued on page* 114)



Mid-South Cotton Growers' Association Bldg., Memphis, Tenn. S. & W. Construction Co., builders. Walk C. Jones and Walk C. Jones, Jr., architects. Gardner & Howe, engineers.

ANY BUILDING DESIGN THE MIND CONCEIVES CAN BE EXECUTED IN

CONCRETE

Concrete fits today's building needs in many important ways. It lends architectural distinction without adding to cost. It assures future savings through low maintenance.

And, concrete can be molded into any desired shape. Structural and architectural functions are combined in one fireproof, enduring material.

Let us send you free Information Sheets and the new manual, *"Forms for Architectural Concrete."*

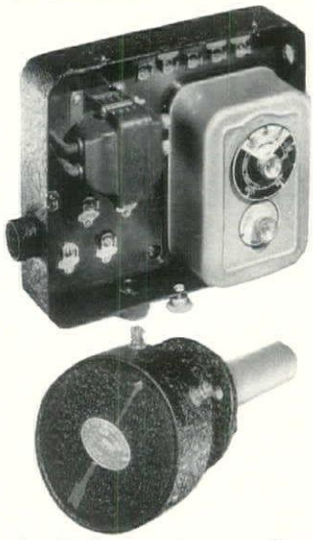
PORTLAND CEMENT ASSOCIATION
Dept. 3-2, 33 West Grand Avenue, Chicago, Ill.

TECHNIQUES

(*Continued from page* 112)

Kolstoker and the Arco Boiler co-ordinated for maximum efficiency in the feeding and burning of coal and the conversion of heat energy into steam or hot water heat. The engineers of the American Radiator Company have developed special features in the Arco Boiler part of the unit to meet particular demands of the Anchor Kolstoker. The unit is finished in bright red and black. **769M**

STOKER CONTROL



A new development in stoker firing is the Pyrometric control system, so called because it meters the coal to the fire on a basis of both time and temperature. This system operates the stoker under thermostatic control from the rooms being heated and also makes the most of the stable fuel bed characteristic of a coal fire to keep the heating plant warm and conditioned for use when the thermostat is not calling for heat. In effect the boiler or furnace is used as a small reservoir of heat ready for quick delivery. The Pyrometric control system also is said to provide positive assurance that the coal burner will not continue operating if for any reason the fire becomes extinguished. A unique feature of the Pyrometric system, which has been introduced by the Iron Fireman Manufacturing Co., Cleveland, is found in its indicator dial. This dial tells which one of four reasons is responsible for the operation or idleness of the burner. **770M**

UNDERGROUND STEAM CONDUIT

A new type of conduit for underground steam and hot water lines, known as Adsco-Bannon Tile Conduit, has been placed on the market. It consists of a substantial base drain tile supporting a circular, salt glazed, vitrified tile conduit. The tile conduit, with bell and spigot joints in approximately 2 ft. lengths, is separable on the job into two halves along the horizontal center line with a resulting diagonal fracture. The bottom half of the conduit is placed on the base drain, the joints mortared and the trench backfilled to approximately the top of the half section of conduit. Pipe rollers or multiple pipe supports with rollers are placed in recesses in the two horizontal, reinforcing ribs which are in the bottom of the pipe support sections of conduit. The pipe supports are held rigid without piercing the conduit wall. One or more pipes can be installed, tested, inspected and insulated with standard insulations before the top half of the conduit is placed. The top and bottom halves of the conduit are sealed with mortar in the bell and spigot joints and between the projecting outside lips on each side of the conduit; then the trench is ready for backfill. American District Steam Co., North Tonawanda, N. Y., is the manufacturer of Adsco-Bannon Tile Conduit. **771M**

(*Continued on page* 116)

The Modern Answer

Fisher Studio Apartments, Chicago . . . Designed by A. N. Rebori and Edgar Miller . . . Furnished by Marshall Field and Company.

TO OLD AND NEW PROBLEMS IN PLANNING

● Confronted with the many-sided problem of providing the maximum of daylight from a northern exposure, and still holding heat loss to a minimum; obtaining complete privacy; and, at the same time, creating a structure of distinctive architectural beauty, the designers of this multiple apartment building turned confidently to Insulux Glass Block. And in this—the modern building material—they found today's emphatic answer to these and other problems in planning.

Insulux admits diffused light and still obscures the vision. It may be erected in large areas without the usual heat loss because it contains a partial vacuum of rarefied air that materially retards heat flow. Insulux also deadens sound and resists fire. For complete details about Insulux Glass Block, turn to Section 3-30 of Sweet's Catalog File for 1937 or send the coupon.

. . .

Owens-Illinois Glass Company . . . Toledo, Ohio.

OWENS-ILLINOIS

INSULUX

RETARDS HEAT

ADMITS LIGHT

Owens-Illinois Glass Company
Industrial and Structural Products Division
316 Madison Avenue, Toledo, Ohio

Please send me, without obligation, complete details about Insulux Glass Block.

Name _____

Address _____

City _____ *State* _____

TECHNIQUES

(*Continued from page* 114)

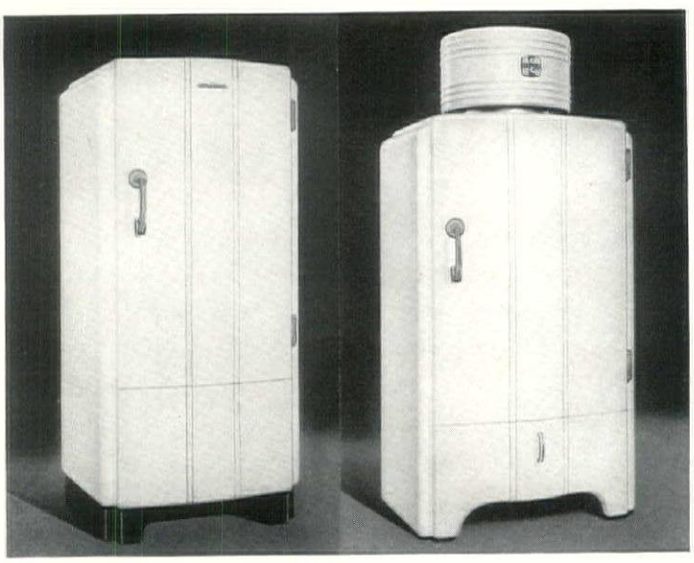
COAL BURNING HOT WATER HEATER

A redesigned rear flue outlet and an enlarged combustion chamber feature a new coal-burning domestic hot water heater recently developed by American Radiator Company, New York. The heater, offered with or without self-contained jacketed storage tank and automatic regulator, is furnished in 16-inch diameter, with either 30 or 40-gallon capacity. The large combustion chamber is reported to reduce firing to twice daily for ordinary household purposes. Especially made for homes, stores, restaurants, etc., where water heating is not, at present, part of the complete system, the new model has a fuel capacity of 41 lbs. and the grates are designed to burn low-cost pea coal. **772M**

SKELETON TYPE BLOWER

The Emerson Electric Manufacturing Co., St. Louis, Mo., now has skeleton blowers available in four sizes for those who prefer to build their own blower housings, with capacities ranging from 1400 cfm to 4950 cfm, free delivery. The blower wheels are mounted directly on the motor shaft, and insulated with rubber which eliminates noise and provides freedom from troublesome belts and pulleys. An eight-speed control unit on the 17-D, 30-D and 50-A types provides perfect balancing of the air circulation by being able to select any three of the eight speeds available. Model No. 14-A has a two-speed snap switch. All parts are finished in black. **773M**

REFRIGERATION



HOUSEHOLD REFRIGERATORS

Eighteen household models, in both Flatop and Monitor Top styles and in both porcelain and Glyptal enamel finishes, with lower price, new styling and advanced features, are included in the 1937 line of Refrigerators offered by General Electric Company, Cleveland. All models now carry the General Electric five years' performance warranty on the complete sealed-in-steel Thrift refrigerating unit. Flatop models predominate in the new line, sizes ranging from four-foot cabinets to 15-foot cabinets. Monitor Top models in the six and eight-foot cabinets are finished with Glyptal enamel. A Liftop model, with Glyptal enamel sides and porcelain

(*Continued on page* 124)

AIR CONDITIONING

HEATING, COOLING AND CONDITIONING OF AIR

Delco-Frigidaire

The Air Conditioning Division of General Motors

offers for 1937

1. A complete line of automatic heating equipment, which enables you to specify with accuracy and confidence automatic equipment for houses and buildings of *any* size and with heating requirements of *any* kind.

2. *Controlled-Cost* Air Conditioning—a new achievement in cooling and conditioning—which removes the "mystery" from this whole subject and puts it on a sound engineering basis.

3. The most powerful educational advertising campaign yet undertaken in this field—to insure even further the wide public acceptance of Delco-Frigidaire products.

4. A special engineering consultation service for architects... available at any time and without placing the architect under any obligation whatsoever.

HEATING AND AIR CONDITIONING NEWS!

News!

About Automatic Heating

From the world's leading manufacturers of devices for the combustion of liquid fuels

ONE of your major difficulties in the past in specifying automatic heating equipment has been its inflexibility—both in capacity and in cost—its inability to match your plans and your clients' wishes. Delco-Frigidaire offers for 1937 a *complete* line of automatic heating equipment—fitting any size house and providing heat of any kind ... backed by a national, factory-trained service organization available to your clients anywhere.

"Factory-Fitted" Delco Oil Burners equipped with the Thin-Mix Fuel Control

You know how a too rich mixture in your car wastes fuel—cuts efficiency. Oil Burners that lack proper controls let the mixture of oil and air get too rich ...waste fuel... cause smoke and soot.

The Thin-Mix Fuel Control *keeps* the mixture *thin*. It releases almost microscopic quantities of the cheapest grade of domestic fuel oil into the burner to produce a thin mixture of oil and air—a clean hot flame that gets *more* heat from less oil and saves money every day the Delco Oil Burner is in use.

And here's more news!

No longer do you have to specify an over-sized oil burner... a seven-room burner for a five-room house, for instance. Delco Oil Burners are "Factory-fitted" for any size house.

No heat, *no* fuel, *no* money is wasted

Delco Automatic Furnaces with the "Im-pak-tor" principle of construction

Delco Automatic Furnaces (steam, hot water or vapor systems) fired by the Delco Oil Burner, now offer new smaller models at drastically lower prices.

And every Delco Automatic Furnace offers the exclusive "Im-pak-tor" construction...the General Motors development that "squeezes" the heat out of the furnace flame *before it can escape up the chimney*.

A Delco Automatic Furnace heats the *inside* of the house, *not* the great outdoors. It's like heating a larger house with the same amount of fuel. (Delco Automatic Furnaces are also available for gas.)

The Delco Conditionair— "It Air Conditions as it Heats"

And now we come to perhaps the most revolutionary Delco development—the Delco Conditionair—that *air conditions as it heats*.

Fired by the Delco Oil Burner, the Delco Conditionair heats, filters, humidifies and circulates a conditioned supply of air to every room in the house—changing it completely every ten to fifteen minutes.

Yet, and here is the amazing thing: This true winter air conditioning—this heating *plus* air conditioning—*costs no more to operate than heating alone.*

General Motors is the world's leading builder of devices for burning liquid fuels. And it is out of this vast experience that Delco-Frigidaire—the Air Conditioning Division of General Motors—is able to offer these money-saving automatic heating appliances.

You should have complete information about Delco Automatic Heat in your files. Consult Section 26-6 in Sweet's Catalogue. And write today to Delco-Frigidaire Conditioning Division, General Motors Sales Corporation, Dayton, Ohio, for the latest news of interest to architects.

It Pays to Talk to DELCO

AUTOMATIC COOLING

News!

About Air Conditioning

Controlled-Cost Air Conditioning takes the *mystery* out of summer cooling

It's not mysterious—this business of air conditioning. But it *is* an important investment. And it's not something your clients should rush into blindly.

Frigidaire *Controlled-Cost* Air Conditioning takes the guesswork out of cooling costs and cooling performance. It saves trouble. It saves possible disappointment. And it simplifies the whole problem . . . presents it to you in sound, engineering terms.

It gives you the *facts* that you and your clients want to know . . . *before* installation.

For instance: while the *first* job of summer air conditioning is to *cool*, no two jobs are exactly alike in their requirements. It may be a matter of the control of humidity—or of removing smoke or food odors from the air. Whatever it is, *Controlled-Cost* Air Conditioning has the answer . . . and it has the answer *before you* specify the equipment.

Read the six points of *Controlled-Cost* Air Conditioning on this page. Then let a Delco-Frigidaire man sit down with you and give you the whole money-saving, trouble-saving, *Controlled-Cost* story. Write to Delco-Frigidaire Conditioning Division, General Motors Sales Corporation, Dayton, Ohio.

What *Controlled-Cost* Air Conditioning Means to Architects

IT ALLOWS YOU TO SPECIFY . . .

1. A system that gives the desired atmospheric conditions—your client pays *only* for what he needs.
2. Equipment of exactly the right size and capacity for your client—neither too small, which would mean unsatisfactory service; nor too large, which would be wasteful and costly.
3. A *method* of installation that suits any building—whether remodeled or new—owned or rented, therefore controlling the ultimate cost.
4. *More* cooling action with *less* current consumption. Hence a control over operating costs.
5. Dependable, *proven* equipment for low maintenance cost.

And gives you and your client a presentation of *all* the facts, so that you will know *and can therefore control* the entire cost.

How General Motors Pioneered *Modern* Air Conditioning

Controlled-Cost Air Conditioning is the direct result of General Motors' vast experience in electrical refrigeration . . . the basis of economical summer cooling.

General Motors has built more electric refrigerators for homes and stores than anyone else. General Motors developed Freon, the cooling liquid that has revolutionized the refrigeration and air conditioning industries. General Motors developed the Finned Cooling Coil. Frigidaire *Controlled-Cost* Air Conditioning is a product of the same leadership in ideas and in engineering. It, too, is a product of General Motors!

FRIGIDAIRE

The Air Conditioning Division of General Motors

HEATING AND CONDITIONING OF AIR

'BOOTS, BOOTS, BOOTS—
MOVIN' UP AND DOWN AGAIN'

Back in 1929, Boston Terminal Company replaced South Station's steel-and-glass roof with individual umbrella-type platform structures. One at a time, platform wearing courses were concreted with 'Incor' Cement. Early strengths with 'Incor' saved weeks of delay waiting for concrete to harden. But, even more important than time-saving, 'Incor' makes better, longer-wearing concrete—because it cures thoroughly in the short time concrete can be kept wet.

Witness the fact that here, at South Station—where steel-tired baggage trucks grind the concrete day and night, and millions of passengers (1½ million a month, in summer) tread the surface—'Incor' concrete is as smooth and sound as the day it was placed, eight years ago. Suggesting that architects specify 'Incor'* Cement for heavy-duty concrete, as well as for watertight structures and concrete frame erection. Write for copy of illustrated book—"Heavy Duty Floors." Address Lone Star Cement Corporation, 342 Madison Avenue, New York. Sales offices in principal cities.

*Reg. U. S. Pat. Off.

'INCOR' 24-HOUR CEMENT

IT'S ALWAYS *Fair Weather* IN A G-E CONDITIONED HOME!

G-E OIL FURNACE

G-E AIR CONDITIONING UNIT

NEVER any question about the acceptance of a General Electric Product! The G-E monogram has always been associated with equipment of the highest standards of quality.

Quick acceptance—enduring satisfaction—lack of complaints after houses are built—these are but a few of the advantages you enjoy when you specify General Electric Heating and Air Conditioning Equipment.

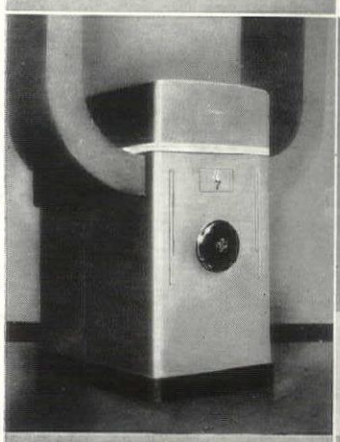
Why not play safe? Concentrate your recommendations in this one reliable source of supply.

There is a General Electric Representative near you who is thoroughly experienced in all types of heating and air conditioning installations. Consult with him. He can save you time and save your client money. And he will gladly work with you without cost or obligation. Just call the local dealer of General Electric Heating and Air Conditioning Equipment.

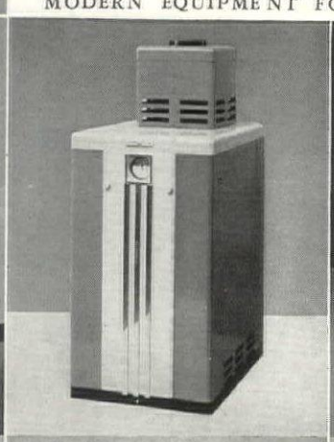
If you have trouble locating the General Electric Heating and Air Conditioning dealer in your neighborhood, write us direct. Address—General Electric Company, Air Conditioning Dept., Div. 31015, Bloomfield, New Jersey.

GENERAL ELECTRIC *Air Conditioning*

MODERN EQUIPMENT FOR EVERY HEATING AND AIR CONDITIONING NEED



G-E OIL-FIRED WARM-AIR CONDITIONER



G-E GAS FURNACE

G-E GAS-FIRED WARM-AIR CONDITIONER

G-E WINTER AIR CONDITIONER FOR RADIATOR HEATED HOMES

TECHNIQUES

(Continued from page 116)

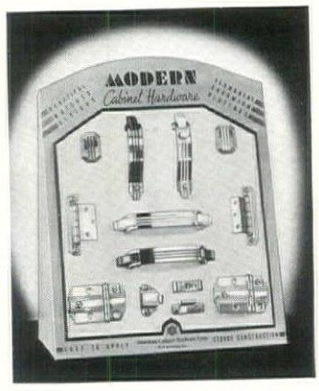
top is also offered. Features of these refrigerators include the Thrift-ometer, which shows the cabinet temperature at a glance; sliding top shelf, as well as other sliding shelves, stainless steel Super-Freezer, new finger tip door latch, egg rack, fruit basket and matched covered dishes; automatic interior light; easily accessible temperature control and defrosting switch and flexible rubber ice cube trays. Cabinet equipment varies with different models. All sliding shelves are the full width of the cabinet. **774M**

COMMERCIAL REFRIGERATORS

The new line of commercial Reach-in Refrigerators, announced by C. V. Hill & Co., Inc., Trenton, N. J. is especially designed for economical service under hard usage and high temperatures. To give added protection against heat, three inches of corkboard, plus one-half inch of low conductivity insulating board, are used for insulation. The insulating board not only adds to the total insulation, but also covers the entire exterior, including the framework, with a continuous, unbroken, airtight insulating panel, while the corkboard is protected from moisture by waterproof paper and by a thick application of hydrolene cement. To withstand hard usage, both exterior and interior, including coil chamber and baffles, are of vitreous porcelain, the floor being welded to the walls and the side walls to the back wall in the lower half of the refrigerator. Equally wear-resisting are the hard rubber door jambs, the stainless steel lower sills, the chromium plated drain and bell trap, the chromium plated brass hardware, and the heavily tinned welded shelving. The line includes a wide variety of sizes, ranging from 20 cu. ft. to 68 cu. ft. capacity and built with either overhead or Ice-Maker coils. **775M**

MISCELLANEOUS

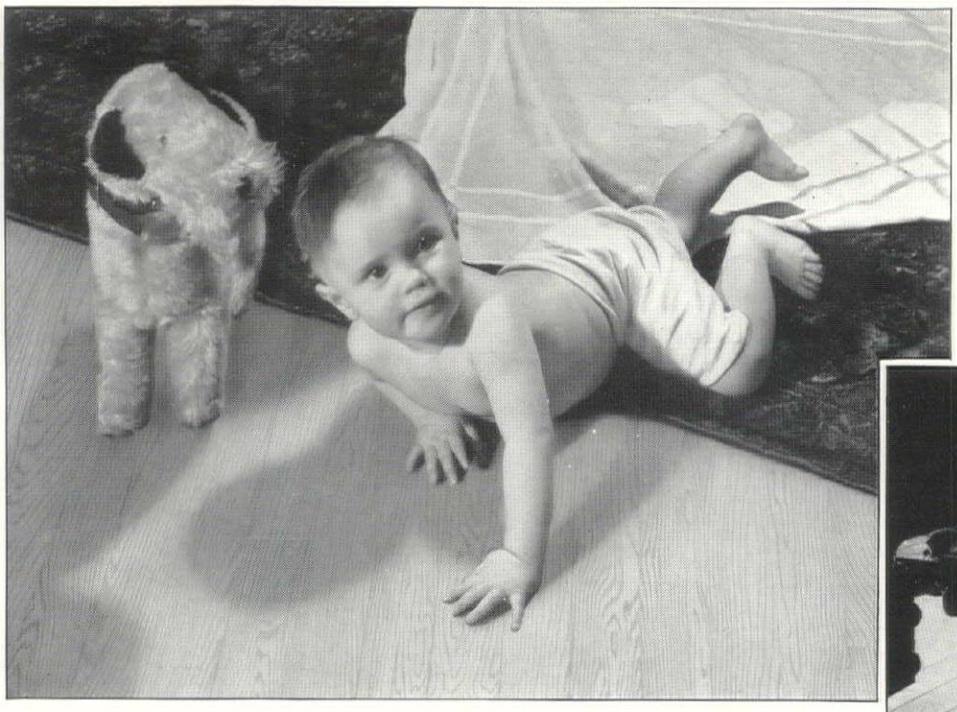
CABINET HARDWARE



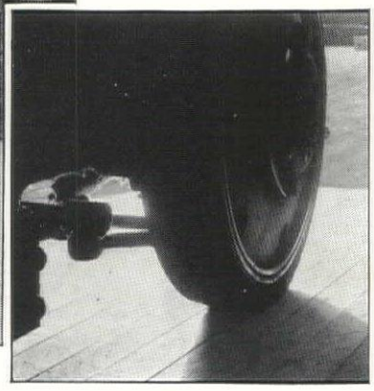
The American Cabinet Hardware Corp., Rockford, Illinois, has announced a complete new cabinet hardware line that is now available through retail channels. A feature of the line is that complete ensembles are available—hinges, catches, knobs, pulls, etc.—in which a single design motif has been carried throughout the group. Another new feature is the packaging of individual items. Each item or, where necessary, each pair, is placed in an envelope complete with necessary screws and simplified instructions for installing. The envelopes are then placed in cartons. **776M**

NORTHERN HARD

Maple— The longest-wearing *comfortable* floor!



Not even the pounding wheels of heavy industrial trucks cause Hard Maple to splinter, sliver or develop ridges.



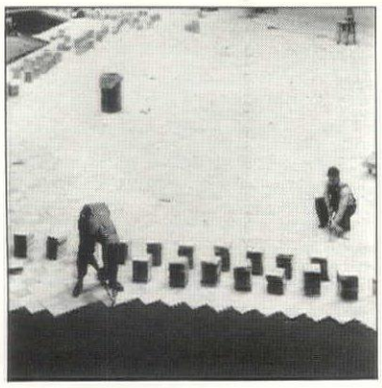
THESE INFANT FINGERS POINT TO A MILLION-DOLLAR SAVING FOR INDUSTRY

Because Baby's innocent, exploring fingers are safe on its warm, smooth surface, Hard Maple Flooring is the favorite choice for children's playrooms. For regardless of wear, or how many generations of use, Hard Maple stays smooth and *does not splinter.*

This fact alone offers industry a million-dollar saving in flooring costs. For under industrial usage a thousand times more gruelling than the scuffing of infant feet, Hard Maple demonstrates remarkable resistance to indentation and abrasion. Many, many years of service will not cause splinters, slivers or ridges. Its fibre is so remarkably tough, its grain so tight, that Hard Maple holds its smoothness despite abuse.

This smoothness means other advantages, too. For one, *exceptional sanitation* — no "pits" to hold germ-laden dust. And *minimum cleaning costs* — for this flooring, properly finished, requires no scrubbing — brushing alone keeps it clean. Further, Hard Maple's warmth, dryness and resilience underfoot reduce fatigue and favorably affect workers' comfort and efficiency. And always, it speeds up traffic and simplifies plant alterations.

From the day of installation, **MFMA*** Northern Hard Maple begins to pay dividends—and with each year of extra service, its economy becomes more apparent. Before building or remodeling, investigate this longest-wearing comfortable flooring, available in strips or blocks.



Maple blocks being laid in the University of Minnesota Sports Building. For "gyms," smooth, resilient Hard Maple means lowest-cost-per-year-of-service, as well as in factories, mills, bakeries, warehouses, stores, schools and homes.

MAPLE FLOORING MANUFACTURERS ASSOCIATION
1784 McCormick Building, Chicago

See our catalog data in Sweet's, Sec. 17/66. Our service and research department will gladly assist you with your flooring problems. Write us.

Floor *with* Maple

***MFMA** — This trade-mark on Maple Flooring guarantees that it conforms to the exacting grade standards of the Maple Flooring Manufacturers Association. It protects you against species substitution and inferior grade. It assures you of *genuine* Northern Hard Maple. Look for it on the flooring you buy.

MFMA Approved

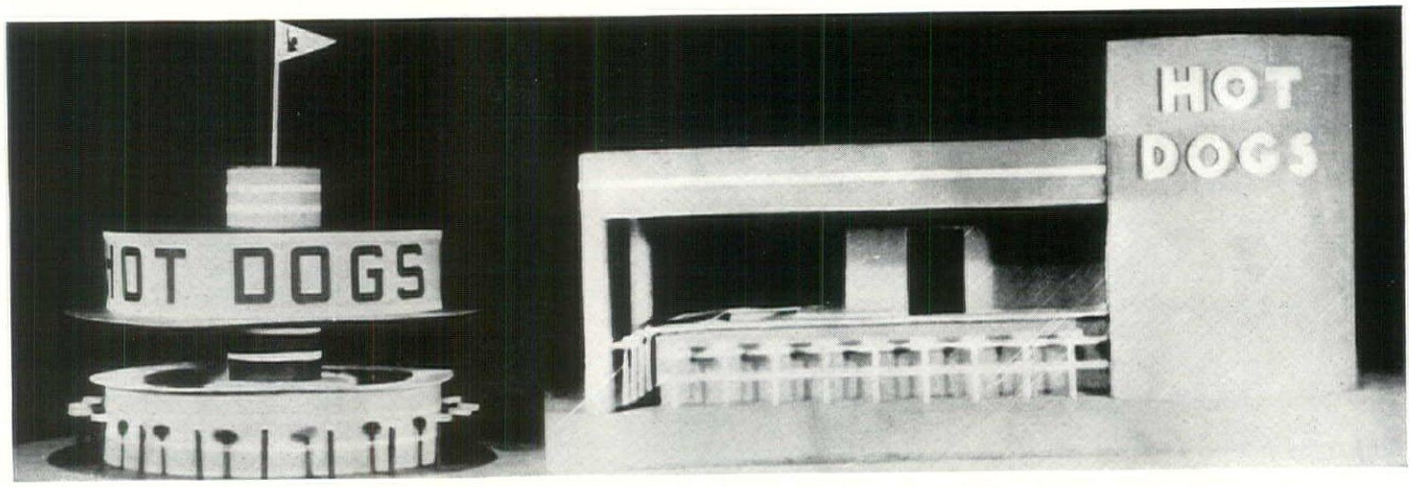


PHOTO: WIDE WORLD

In a recent competition at Cooper Institute the students decided to glorify the hot dog stand as a 100% American gesture for the New York World's Fair

(*Continued from page* 18)
will meet and learn to know each other.

An elaborate program of entertainment has been planned, including several shows of Broadway caliber, professional and amateur football in the Cotton Bowl, and many famous bands and orchestras. One event of special interest will be the "Cavalcade of the Americas"—a giant spectacle telling the story of the freedom won by the Latin American Republics.

THE NATIONAL HOUSE AND GARDEN EXPOSITION, at the Chicago Coliseum from May 8th to 16th, 1937, is to feature Home Modernization. The show will be a clinic of all that is new and practical in residential construction methods, building materials, and home equipment.

Plans are under way to make it the most outstanding home show ever held in America, both in the artistic presentation and diversification of exhibits. The show will be under the management of John A. Servas, the veteran exposition builder.

The central attraction is to be a Colonial house of brick construction, appropriately landscaped and employing real trees to carry out the effects. Designed by White & Weber of Chicago, the home will have seven rooms, all on one floor, with garage attached. It will be completely furnished, and will show the latest in architectural treatment, and novelties of proven practicability in residential construction.

Space reservations, ranging from $50 to $200, are being accepted at the Exposition's headquarters, Room 605, 228 North La Salle Street, Chicago, Ill.

ORGANIZATIONS

THE FORMATION OF THE WESTCHESTER CHAPTER of the American Institute of Architects is announced, effective as of October 22, 1936. Pending the first independent meeting of the chapter, at which the formal election of officers will take place, Kenneth K. Stowell, charter member of the Westchester Chapter, was elected "interim" President.

A SIGNIFICANT NOTE in the address delivered at St. Louis by Paul E. Stark, upon assuming the presidency of the National Association of Real Estate Boards, is given by this excerpt: "Building is increasing at a rapid pace. As activity reopens, this must be our first objective: the tragedy involved in hundreds of thousands of foreclosures per year cannot be permitted to reoccur. . . . The cure, of course, is lower interest rates, longer periods of amortization, and lower taxes, and to these three objectives, I believe, the National Association of Real Estate Boards should dedicate itself during 1937."

EFFECTIVE MERCHANDISING has been mentioned many times in connection with housing; rarely, however, with direct reference to the architect. How ably such a program can be used was well demonstrated by the State Association of Wisconsin Architects, in a series of eight newspaper advertisements run in the Milwaukee Journal.

These advertisements were designed to "air out" some of the popular fallacies in the building field; to challenge certain impressions; to emphasize the desirability, efficiency, and low cost of competent architects' services.

The following results, only a few of many favorable replies, speak for themselves: One architect received two contracts as a direct result of the ads. A builder lost a contract—almost signed—to an architect. The owner of a large number of Milwaukee properties, contemplating an extensive repair program, dismissed the idea of hiring his own crew; instead, he plans to turn over the entire job to an architect. By no means least were many "complaints," from certain branches of the building industry, to this new form of competition.

SCHOOLS AND SCHOLARSHIPS

RUTGERS UNIVERSITY pioneer in Air Conditioning instruction by correspondence, has announced the complete revision and enlargement of that course, "to keep abreast of the newer applications of science as well as of changes in typical equipment, apparatus, and control devices."

The Air Conditioning course lends itself particularly to group use of correspondence study courses; particularly where the home-study work is supplemented with a regular class meeting. By this means, executives, and others not ordinarily available for instruction, are able to co-operate with the training program.

The fee for the course is $24. Further details of this, and other courses offered by the University, may be obtained from the University Extension Division, Rutgers University, New Brunskick, N. J.

SEVEN ARCHITECTS have been appointed to the advisory co-operating committee of the Syracuse University Department of Architecture.

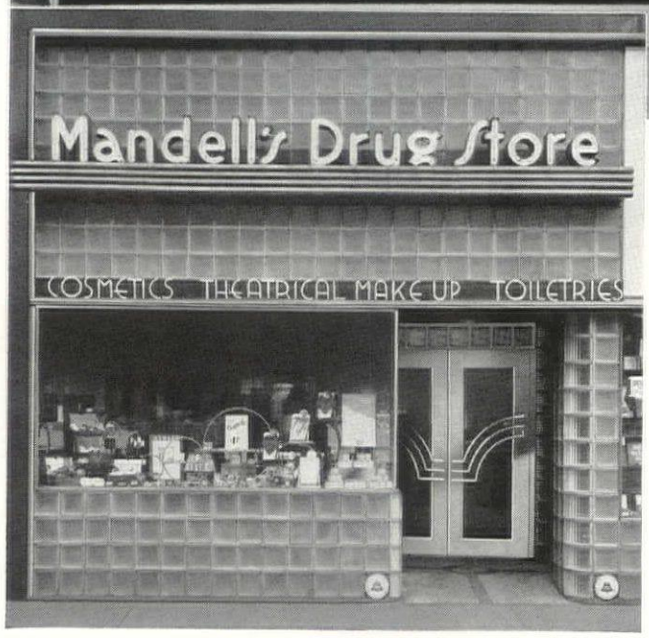
This announcement from L. C. Dillenback, Acting Director of the Department, is in line with School's desire to bring theory and practice to a closer mutual activity. It is expected that many important suggestions from the profession at large will be conveyed to the faculty through the committee.

The personnel of the committee is as follows: Conway L. Todd, of Rochester;

(*Continued on page* 128)

Kawneer RUSTLESS METAL CONSTRUCTION— FOR ANY TYPE OF STORE FRONT!

C. Godfrey Poggi, Architect



Nicholas H. Weiss, Architect

● No matter what store front problem arises Kawneer can help you solve it . . . with complete, harmoniously designed construction of both Cold-Rolled and Extruded types . . . with adequate equipment for producing the durable alumilite finish on aluminum, and the customary finishes for bronze and stainless steel . . . with dependable facilities for fabricating Rustless Metal Doors, Windows, and special Architectural Metal Work—cast, wrought, extruded, or hollow metal.

The use of modern Kawneer Rustless Metal construction is definitely on the increase, both in conjunction with other modern materials, and for facing the entire front with metal. The liberal use of Kawneer metal members adds life, dignity, and appeal to any type of front.

REFER TO CATALOGS IN SWEET'S ON KAWNEER STORE FRONTS AND ON KAWNEER WINDOWS, DOORS, AND ARCHITECTURAL METAL WORK, OR WRITE THE KAWNEER COMPANY, NILES, MICHIGAN, FOR FURTHER DATA.

NEW! Recent Kawneer developments of interest to architects and builders include:

- COMPLETE EXTRUDED STORE FRONT CONSTRUCTION
- A VARIETY OF USEFUL SNAP-ON, TRIM, REED, AND PILASTER MOULDINGS
- NEW MOULDINGS FOR USE WITH STRUCTURAL GLASS
- SEVERAL TYPES OF RECESSED AND CONCEALED AWNING BARS
- LIGHT AND MEDIUM SEALAIR WINDOWS FOR COMMERCIAL AND RESIDENTIAL USE IN THE AVERAGE HOME

Kawneer
RUSTLESS METAL
STORE FRONTS

(*Continued from page* 126)

James A. Randall, Syracuse; Paul Hueber, Syracuse; Louis J. Gill, San Diego; Ernest I. Barott, Montreal; Dwight James Baum, New York; and Lorimer Rich, of New York City and Washington, D. C.

A BEQUEST OF THE LATE EDWARD LANGLEY architect of Scranton, Pa., has made $104,000 available for the establishment of architectural scholarships, by the American Institute of Architects, for study, research, and travel. The awards, which will not exceed ten each year, are open to any architectural draftsman, teacher, or graduate student who is a citizen of the United States or Canada, and who is able to offer satisfactory evidence of his character, ability, purpose, and need.

THREE FELLOWSHIPS IN ARCHITECTURE have been announced by the University of Pennsylvania to be awarded during the year 1937-1938.

The first, a thousand dollar award, is the gift of an unknown donor. As a basis for the award, applicants will be required to submit to the Chairman, three projects in advanced Design, and credentials as to character and scholastic record which would show promise of future development.

Two more one thousand dollar fellowships, the gift of the Theophilus Parsons Chandler Foundation, are for the promotion of the study of architecture. As a basis for these awards, applicants who are not graduates of the University of Pennsylvania will be required to submit examples of work in Design, Water Color, Freehand Drawing, and satisfactory credentials as evidence of character and study.

In all three of the above fellowships the candidates selected shall agree to perform and complete at the University of Pennsylvania the full year's program in Design, and other subjects as may be required giving full roster time to this program. The holder, if eligible, will take as part of his required work, competitions for foreign travelling scholarships, such as the Paris Prize, Fellowship of the American Academy in Rome, The Le Brun Prize, etc. Additional information may be obtained upon request from the University of Pennsylvania, School of Fine Arts.

OBITUARIES

Dr. John Nolen, internationally known landscape architect and a pioneer in modern city and regional planning, died at the age of 67, in his home at Cambridge, Mass.

Born in Philadelphia, Dr. Nolen was graduated from the University of Penngree at Harvard. During his life he was engaged on more than 400 public planning projects, including 50 cities, and as many towns and suburbs.

Since 1933 he had been a consultant in the Department of the Interior with assignments in the National Park Service, The National Resources Committee, the Housing Division of the Public Works Administration and the Resettlement Administration. More recently he had been engaged in extensive research on American Parkway Systems for a report to be published as one of the Harvard University city planning studies.

William Fountain, New York architect, was reported among the passengers lost when a Stinson airliner crashed into the

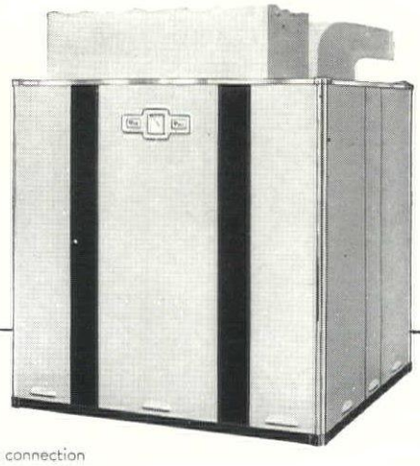
(*Continued on page* 133)

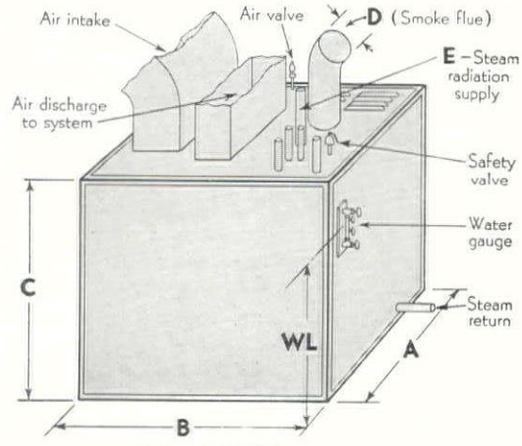
All in One QUIET MAY

HEAT-AN-AIRE CONDITIONER

Architect's Complete Data

Available in Time Saver Form





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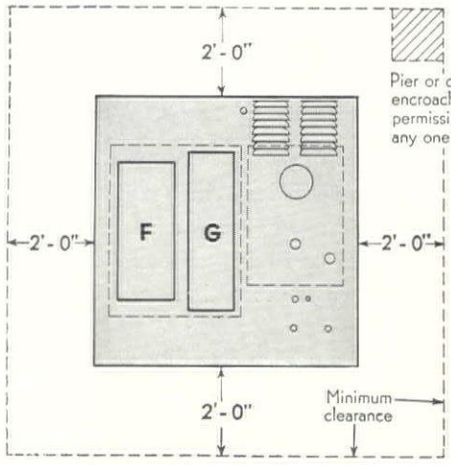
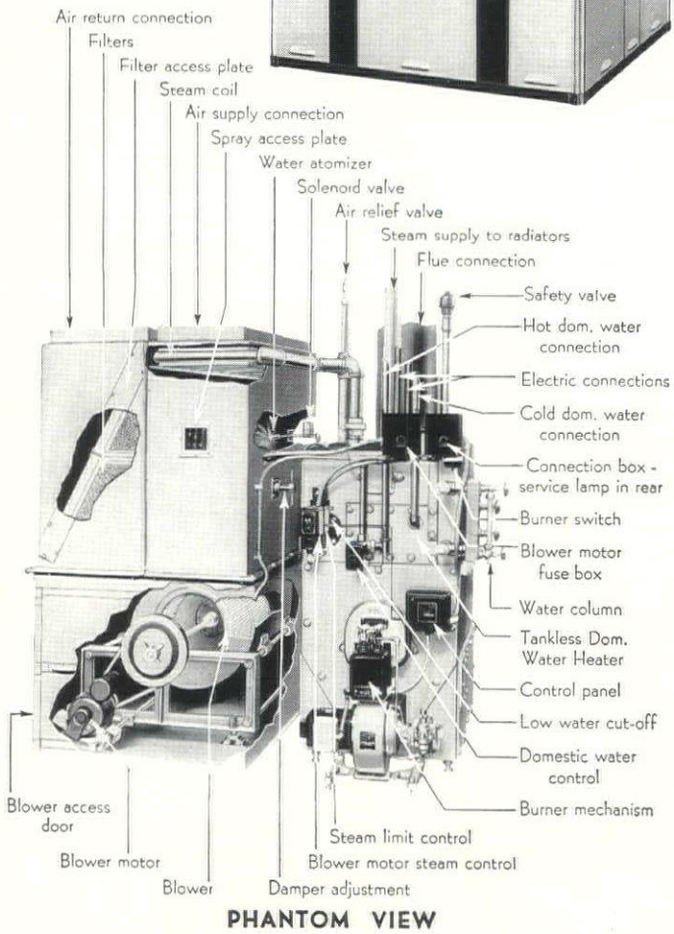
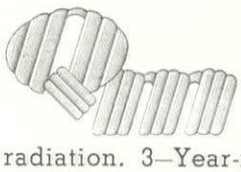


TOP PLAN – Scale 1/4"=1'-0"



PHANTOM VIEW

QUIET MAY



QUIET MAY provides the only completely engineered unit combining 1—Conditioned warm air. 2—Steam radiation. 3—Year-round tankless domestic hot water. 4—Controlled summer air circulation.

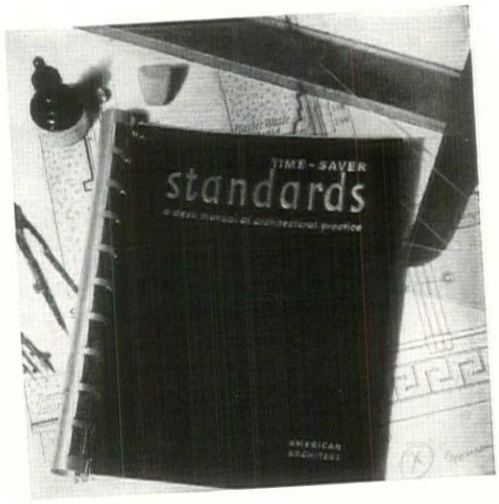
This perfectly-matched unit supplies sufficient hot water for all domestic needs, summer and winter; in the winter, plenty of warm air, humidified and cleaned, under controlled circulation; in summer, a large volume of air, cleaned, and under controlled circulation, with provision for the easy addition of cooling and dehumidifying equipment.

HEAT-AN-AIRE conditioner is especially designed for homes, schools and churches. It is adaptable for installation in new construction or in modernizing homes. It provides the unique advantage of supplying both warm air and steam radiation (if desired) in different portions of the same building without additional equipment.

Our condensed descriptive folder "All Lines Point to Quiet May" including TIME SAVER SHEETS covering all Quiet May equipment will be mailed on request. Factory engineering cooperation available on any planning if desired.

MAY OIL BURNER CORPORATION

Baltimore, Maryland



Register for Time-Saver Standards NOW

TIME-SAVER STANDARDS COVER SUCH IMPORTANT TOPICS AS

Office practice, basic material, models, lettering, perspective; structural design; plan arrangement—residential, non-residential; general planning—residential, farming, commercial, industrial, institutional, recreational; city planning, site planning, landscape; basic building material; finishing, acoustic, sound absorbing materials; thermal insulation, heating, cooling, air conditioning, refrigeration, plumbing, water supply, sewerage, electrical distribution, lighting equipment, elevators, conveyors, protective equipment, furnishings, construction equipment.

If you have not yet registered to receive Time-Saver Standards issued by American Architect and Architecture you can do so now and receive a compete set including all back issues. These back issues, now available, are essential for the fullest utilization of this practical working reference service.

Time-Saver Standards are cost-cutting tools of wide usefulness to architects and other important designers and executives concerned with building construction. They contain much needed and often used data on all elements in building design and construction.

Time-Saver Standards are available to every eligible architect, engineer, specification writer and building executive resident in the United States. Eligible applicants who register now will receive two Tubak binders, complete index and the 192 Time-Saver Standards pages issued to date, and in addition will receive, without cost, all future pages issued until the next registration date in 1938.

Time-Saver Standards have proved themselves an invaluable help for drafting room and office work in more than 6,000 architectural and engineering offices throughout the country. They have received the enthusiastic endorsement of outstanding architects, engineers and designers because these sheets present so authoritatively the solutions of problems commonly met in practice. They form an indispensable, personal desk manual of architectural practice. To judge their value to you, examine the Time-Saver sheets on pages 94, 95, 96 and 97 in this issue.

For your convenience in registering for Time-Saver Standards service fill out and use the coupon to the left.

APPLICATION FOR AMERICAN ARCHITECT TIME SAVER STANDARDS SERVICE
Director, Technical Service, AMERICAN ARCHITECT & ARCHITECTURE
572 Madison Avenue, New York:

I wish to register to receive, without further cost, TIME-SAVER STANDARDS to be issued in the future. I enclose $5.00 to cover the cost of two (2) Tubak binders and 192 pages of Standards issued to date.

(This free distribution is restricted to the following: Architects, designers, engineers, specification writers, squad bosses, executives in the building field resident in the U. S. A.)

Name of Individual .....

Name of Firm .....

Address of Firm .....

Dominant class of work done by firm (principal types of buildings such as small or large residences, commercial buildings, schools, etc.) .....

Position of applicant (firm member, designer, engineer, specification writer, squad boss or executive in building field) .....

Are you a subscriber to AMERICAN ARCHITECT & ARCHITECTURE .....

If not, do you see it regularly? .....

I certify the above answers are correct.

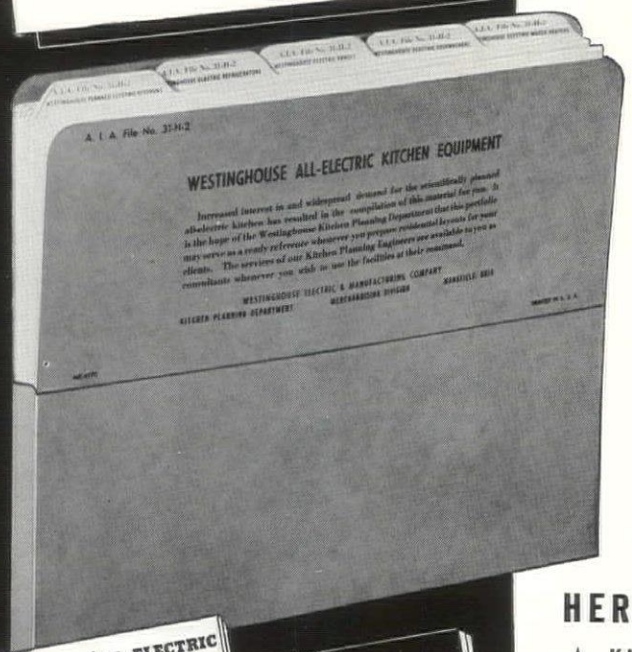
Signed .....

Payment must accompany all orders. Please check form used ☐ Cash ☐ Money Order ☐ Check.

(Non-eligible applicants may use this registry form but must enclose $7.00 if in U. S.; $9.00 foreign, for 2 binders, Standards issued to date and all new Standards to be issued within one year.) *Prices subject to change without notice.* 3-37

AMERICAN ARCHITECT and ARCHITECTURE
572 Madison Avenue
NEW YORK

HERE'S PRACTICAL KITCHEN PLANNING HELP *always at YOUR finger tips!*



★ Draw into your individual home and apartment plans those kitchen layouts which nation-wide scientific study has proved utilize space most advantageously and save countless steps and motions every day. The complete, factful A. I. A. file, illustrated at the left, is packed with invaluable suggestions. Simplify your kitchen planning. At the same time, give your clients the easy-to-use kitchens made possible by modern research. The coupon below will bring one of these practical kits to you, all ready for everyday reference. Send for yours today.

HERE'S WHAT THE KIT CONTAINS

★ **KITCHEN GUIDE**—32 pages of practical suggestions for presenting the scientifically-planned kitchen idea to your clients. Pictures and describes the four basic kitchen layouts and the principles of proper arrangement from which they were evolved.

★ **BOOK OF BEAUTIFUL KITCHENS**—A colorful 24-page picture-story book in which is shown how easily outmoded, inconvenient kitchens can be transformed into light and airy, time and step saving kitchens for only a few cents a day.

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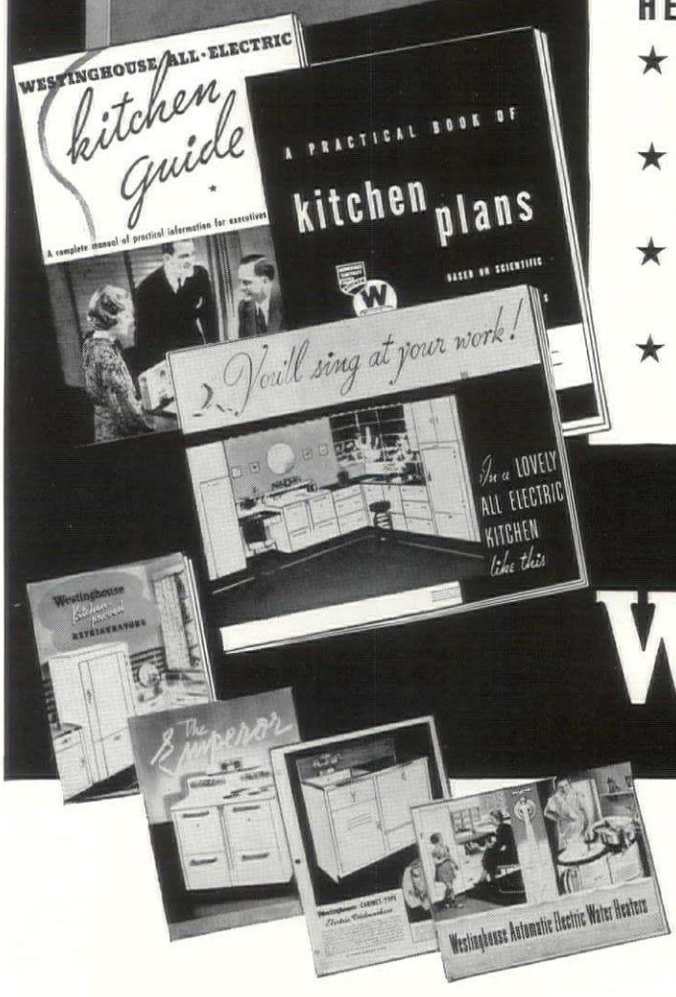

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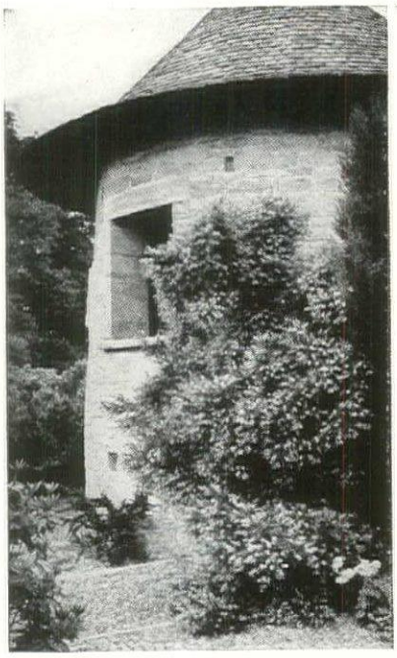


Garden Decoration and Ornament

for Smaller Houses

by G. A. Jellicoe

The author, who is well known as a town-planner and designer of houses and gardens, analyzes in this profusely illustrated volume the structural features and ornaments of gardens for small country houses, suburban and town houses. *The London Times Literary Supplement* praised it for its "beautifully chosen illustrations" and spoke of it as "of a quality rare in modern garden books . . . full of stimulating ideas." *Country Life* says "it should be of great value to home and estate owners and garden lovers all over the world." $6.00

The Supervision of Construction

by W. W. Beach

This book is perhaps the first comprehensive treatment of the supervision of construction to be published and is indispensable to architects, engineers, construction superintendents, technical libraries, students and all interested in architecture and engineering. Written by one of the best-known architect-engineers in the Middle West, it is an authentic, up-to-date handbook that fills a long-felt need. Within its 488 pages are included all the details of the superintendent's work; there are appendices, 20 diagrams and illustrations. $6.00

Contents

CHARLES SCRIBNER'S SONS

TRENDS

(*Continued from page* 128)

sea on a flight between Brisbane and Sydney, Australia, February 20th.

Joy Wheeler Dow, architect and author, died at the age of 77 in the Weber Memorial Hospital at Biddeford, Me. He had been ill a week with pneumonia.

Mr. Dow was educated in the public schools in New York City. It was not until he was thirty, however, that he began to work in his chosen field, architecture. He became widely known for his work in Michigan, Connecticut, and New Jersey, and was one of the first in America to apply traditional architectural designs to small homes. His best known work is the Unitarian Meeting House in Summit, N. J.

Mr. Dow was the author of "American Renaissance," "Old Time Dwellings of Kennebunkport," and "Her Boy Friend." He also contributed to many publications.

Arthur K. Ohmes, 62, a heating and ventilating system engineer for forty years, died of pneumonia on February 12th, in his home at Hasbrouck Heights, N. J. He was treasurer of the firm of Tenney & Ohmes of New York City.

Mr. Ohmes was born and educated in Germany. He came to this country to pursue his career in 1894.

During his very active life, Mr. Ohmes was in charge of designing the heating and ventilating systems for the Bellevue Hospital; the Hotel Pennsylvania; the Metropolitan Museum of Art; the American Museum of Natural History; the Savoy-Plaza; the First National Bank, at Broadway and Wall Street; the Fuller Building, at Madison & 57 Street; all in New York City and the Cathedral of Learning at the University of Pittsburgh; the National Hotel at Havana.

COMPETITIONS

Wide interest in the use of glass in present day construction has led to the Pittsburgh Glass Institute's announcement of a competition based on executed examples of glass in architecture, design, and related subjects.

Unlike many competitions in the architectural field, all entries will consist of photographs of completed work, not drawings of projected designs. While good photographs are desirable, the basis of the competition is glass design, not photography, and will be so judged.

Both public and professional interest has made it desirable to co-ordinate in a more easily accessible form all outstanding work that is now being done in glass. Plans are being considered for the publication of prize winning designs, and those receiving honorable mention, in book form, thus providing a valuable reference work on glass for the use of draftsmen, architects, and designers.

The competition is open to all architects, decorators, and designers. To be eligible for entry, all work must have been completed between January 1st, 1936 and March 31st, 1937. The competition closes at midnight, April 30, 1937. Details of the various classifications of entries, prizes, etc., may be obtained from the Pittsburgh Glass Institute, 30 Rockefeller Plaza, New York.

A prize for water color painting was announced recently by the New York Water Color Club, whose forty-eighth annual exhibition is being held through February 28th at the Fine Arts Building in New York.

The Obrig Prize of $100, given annually by the National Academy of Design, was awarded to Henry Jay Lee, for his water color, "Storage Tracks," a (*Cont. on next page*)

TRENDS

(*Continued from page* 133)

painting of cabooses on a railway track.

Mr. Lee is the Art Director for American Architect and Architecture.

ANNIVERSARY

The 80th anniversary of the founding of the American Institute of Architects was celebrated last month by a dinner at the Architectural League of New York. The dinner was featured by a series of four playlets depicting colorful episodes in the history of the organization, beginning with the first architects' meeting in New York eighty years ago, from which grew the national Institute, with sixty-eight chapters in all parts of the country.

Speeches, resolutions, and discussion in the re-enacted scenes were taken from old minutes of the organization, and two of the principal parts, those of Richard Upjohn, first president, and Richard Morris Hunt, first librarian, were played by their grandsons, Hobart B. Upjohn, president of the New York Chapter of the Institute, and F. C. Hunt.

"Eighty years ago, or to be more precise, on the 23rd day of February, 1857, there assembled at the office of Richard Upjohn in Trinity Building, New York City, thirteen architects for the purpose of discussing the formation of a society which would 'hold regular meetings at which all branches of the arts and sciences directly or indirectly appertaining to architecture might be discussed,' or as they later expressed it, 'to promote the scientific and practical perfection of its members and to elevate the profession as such,'" Mr. Upjohn said in an historical statement.

"In time, this society became the American Institute of Architects, with branches or chapters in every state of the Union as well as the island possessions.

"One of the first resolutions made was that the annual dinner of the society should be held on February 22nd of each year, and while this date was not adhered to, the custom of holding this annual dinner has continued unbroken."

The first playlet reproduced the first dinner held by the Institute after the signing of its constitution. This dinner was held in old Delmonico's, which was on the corner of South William and Beaver Streets. The cast consisted of the following:

Richard Upjohn, president
Hobart B. Upjohn
Calvert Vaux.....Edgar I. Williams
Charles Babcock, founder
Electus D. Litchfield
Leopold Eidlitz, founder
Julian Clarence Levi
Richard Morris Hunt, librarian
F. C. Hunt
Alexander J. David, trustee
Talbot F. Hamlin
J. W. Ritch, treasurer....Fritz Steffens

The second playlet re-enacted a lecture on the design of the building erected at the Centennial Exposition at Philadelphia in 1876, with Talbot Hamlin, Avery librarian at Columbia University, taking the part of Richard Morris Hunt.

The third playlet portrayed a discussion of the architectural plans for the World's Columbian Exposition, held in Chicago in 1893, with a cast impersonating members of the original design commission as follows:

Daniel H. Burnham.....Eric Gugler
Richard Morris Hunt.....F. C. Hunt
Charles Follen McKim
Harvey Stevenson
Louis Sullivan.....Harrison Gill
Robert Peabody.....William Platt

The fourth playlet was a dramatic sketch showing the actual process employed by architects today in securing work, with the following cast:

Architect .....J. Andre Fouilhoux
Secretary .....Trina Marshall
Client .....Lucian E. Smith
His Wife.....Alice Beadleston Lindh

Before the scenes there were prologues by Gerald Holmes, vice president of the Chapter, and music interludes written by Gerald Kaufman and rendered by Greville Rickard, Henry F. Bultitude, Richard Kimball, and James Blauvelt.

The entire program was in the hands of Wesley S. Bessell, chairman of the Chapter's committee on meetings and public information, assisted by Frederick Woodbridge, Henry Saylor, A. Lawrence Kocher, and J. T. Haneman.

THIS MONTH marks the 75th anniversary of the founding of the Pecora Paint Company of Philadelphia. Since its beginning during the darkest days of the Civil War it has grown under the direction of the Bowen family.

ANNOUNCEMENTS

SIR RAYMOND UNWIN, recently selected to receive his country's 1937 Gold Medal for distinction in the science of architecture, sailed for England on February 4th.

ROBERT H. ARMSTRONG, of Armstrong & Armstrong, New York, has been named chairman of the New York Chapter of the National Association of Real Estate Boards.

WALTER STABLER has been elected the first life member of the Real Estate Board of New York.

BENJAMIN J. RABIN was sworn in on February 1st to succeed Wendell P. Barker as chairman of the New York State Mortgage Commission. Mr. Rabin assisted in drafting the legislation which created the Mortgage Commission.

Do you want to interest NEW clients?

Here's a booklet just published that discusses the whys and wherefores of house planning—and sells the architect's services.

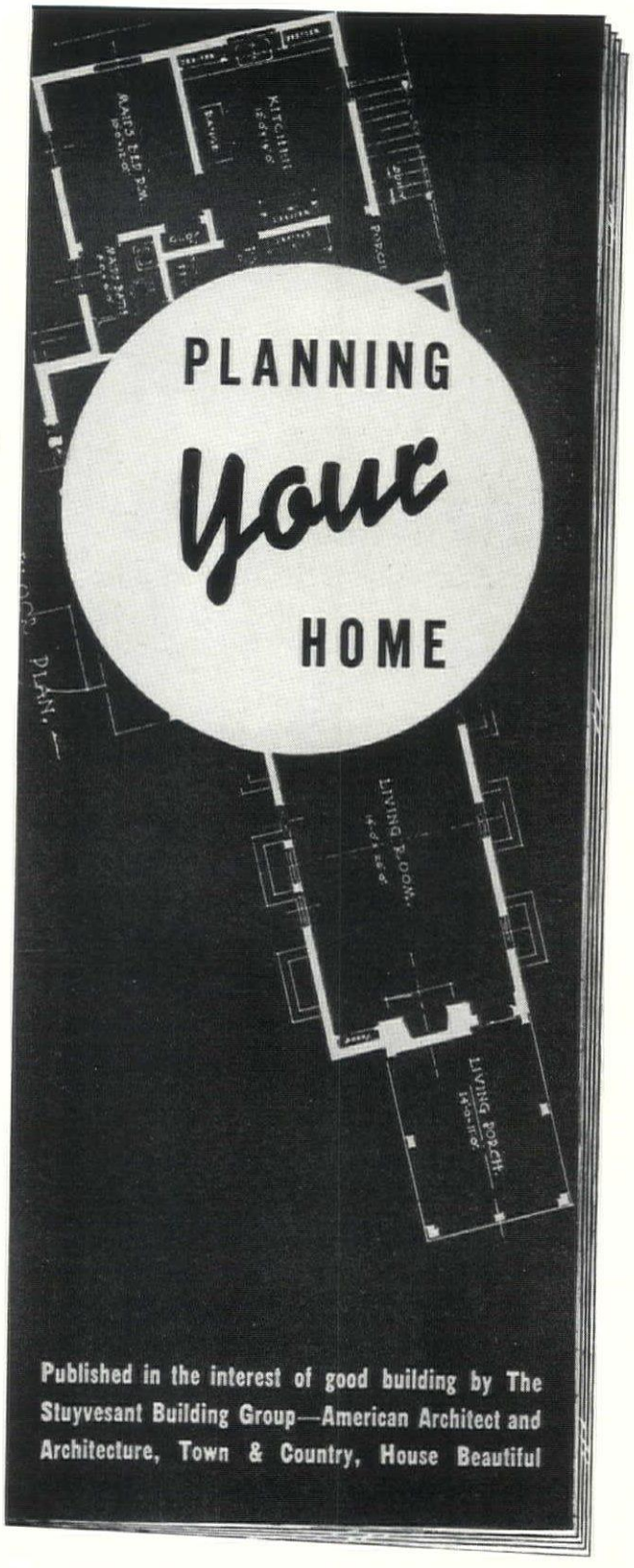
This new 16-page booklet (which slips inside a No. 10 envelope) discusses in a thoroughly informal way the co-operation of architect and client in the sales job of home building.

It is published by the Stuyvesant Building Group as a matter of service to architects who may want copies to send to prospective clients.

PLANNING YOUR HOME touches authoritatively yet lightly on the technical problems of planning that are met with in house design. In non-technical language it discusses orientation, flexibility, circulation, utility. The booklet emphasizes the architect's importance in the entire building program from first chat to final payment.

It supplies a very useful method of promotion for architects engaged in home building work. We shall be glad to send you a sample copy FREE on request. Additional copies (minimum 20) may be obtained at the rate of twenty for $1.

Simply fill out and clip the coupon below, pin to your letterhead and mail. A sample copy of PLANNING YOUR HOME will be sent you at once.



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INDEX TO ADVERTISERS

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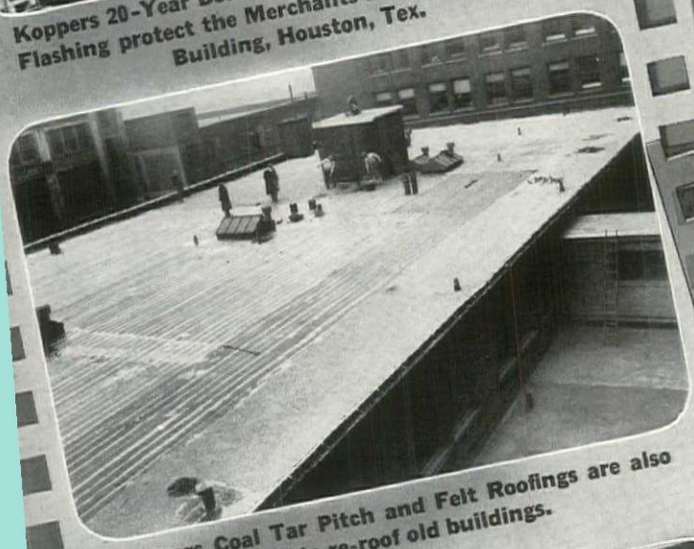
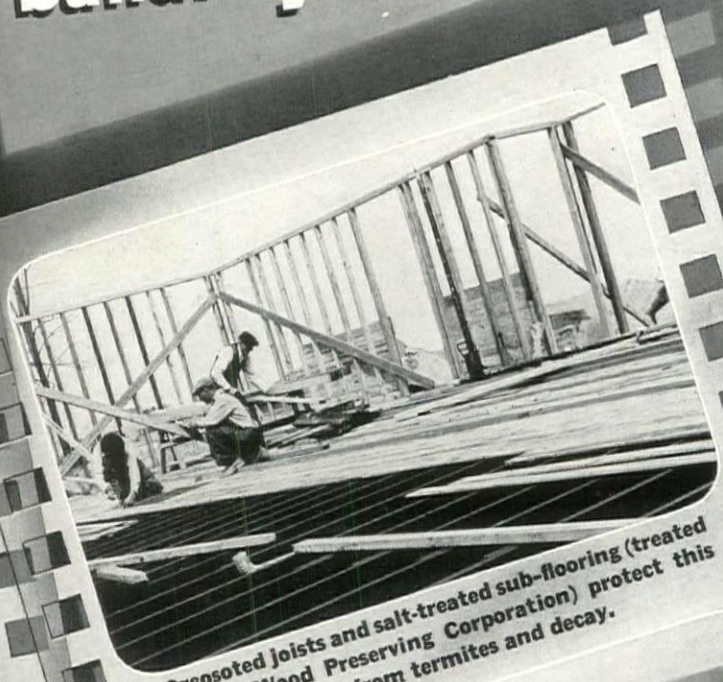
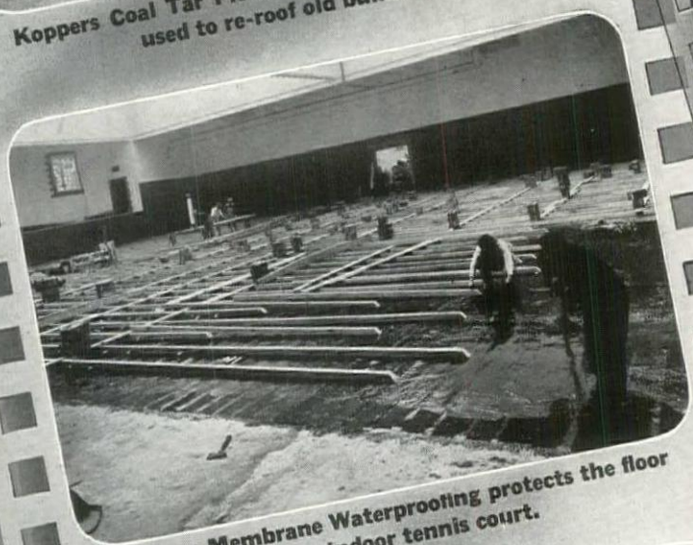


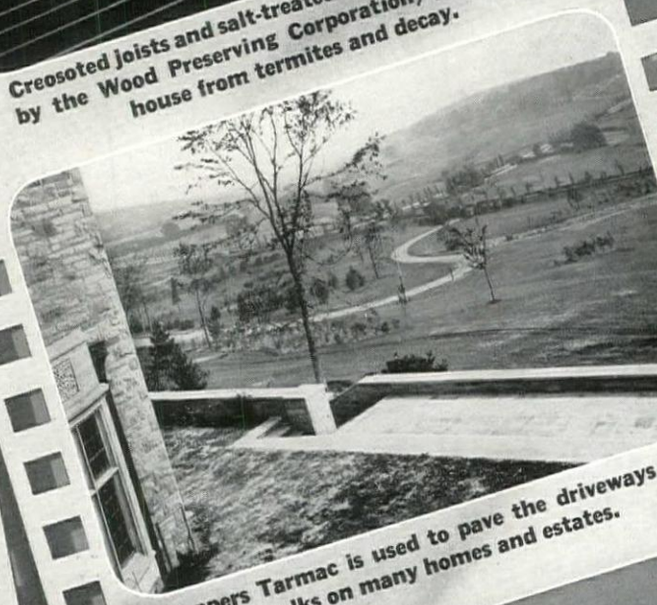
Koppers Coal Tar Pitch and Felt Roofings are also used to re-roof old buildings.



Creosoted joists and salt-treated sub-flooring (treated by the Wood Preserving Corporation) protect this house from termites and decay.



Koppers Membrane Waterproofing protects the floor of this indoor tennis court.



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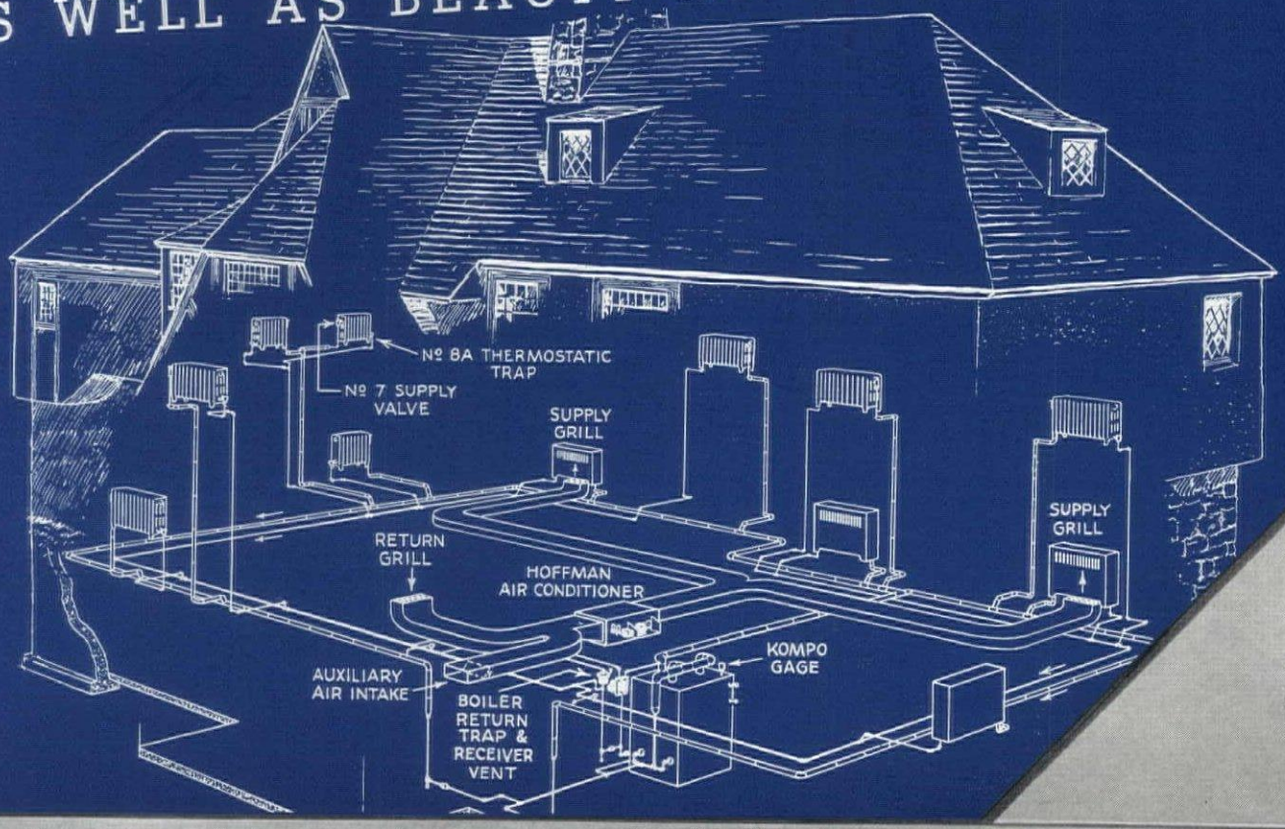

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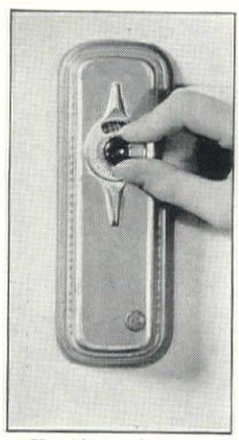

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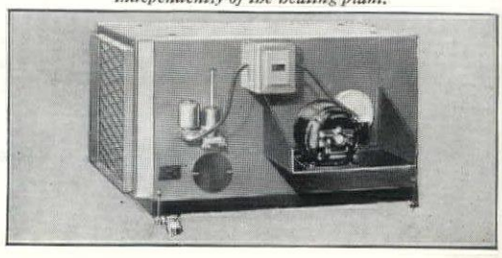

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