

# AMERICAN BUILDER

THE WORLD'S GREATEST BUILDING PAPER

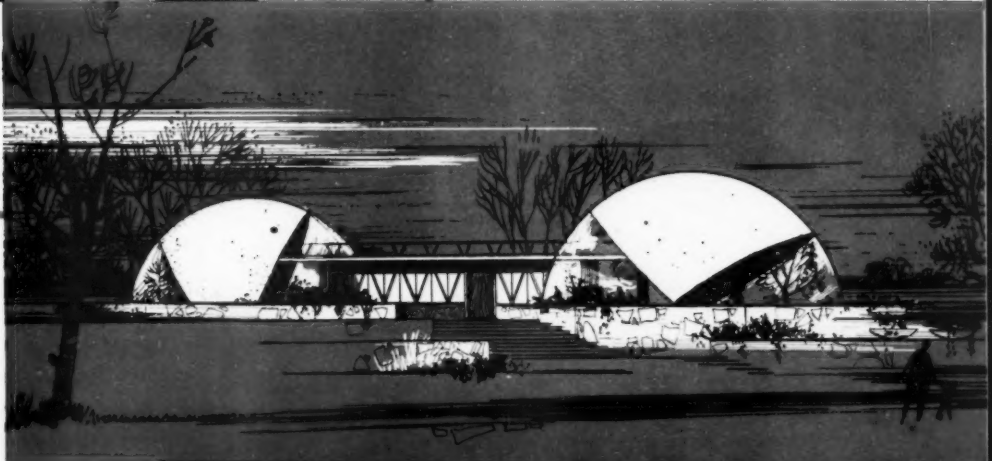
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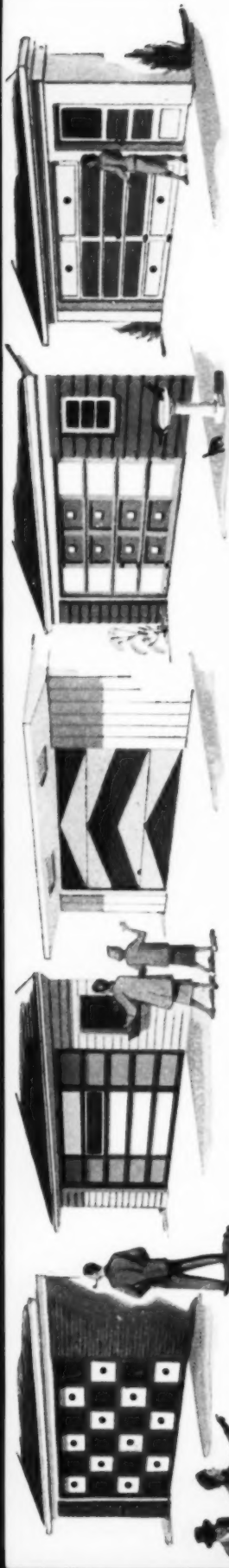
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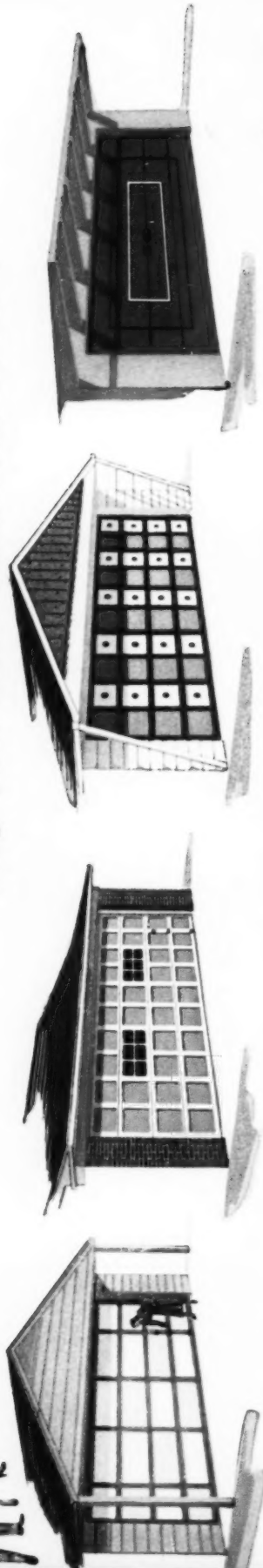
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*in flashback  
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1979



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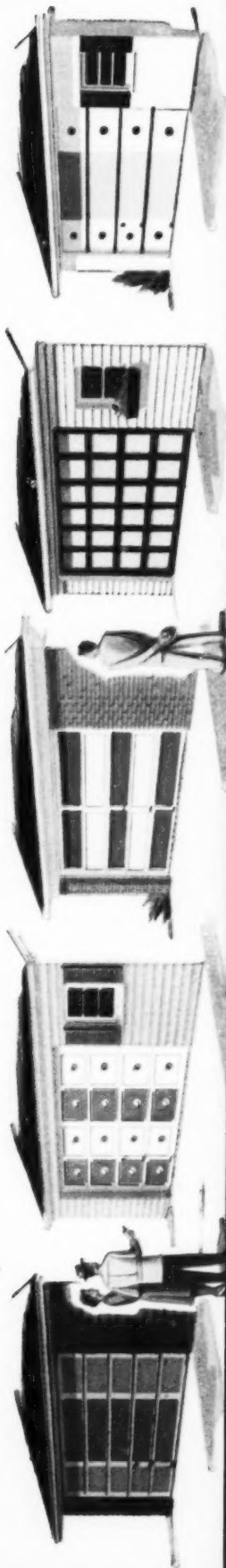
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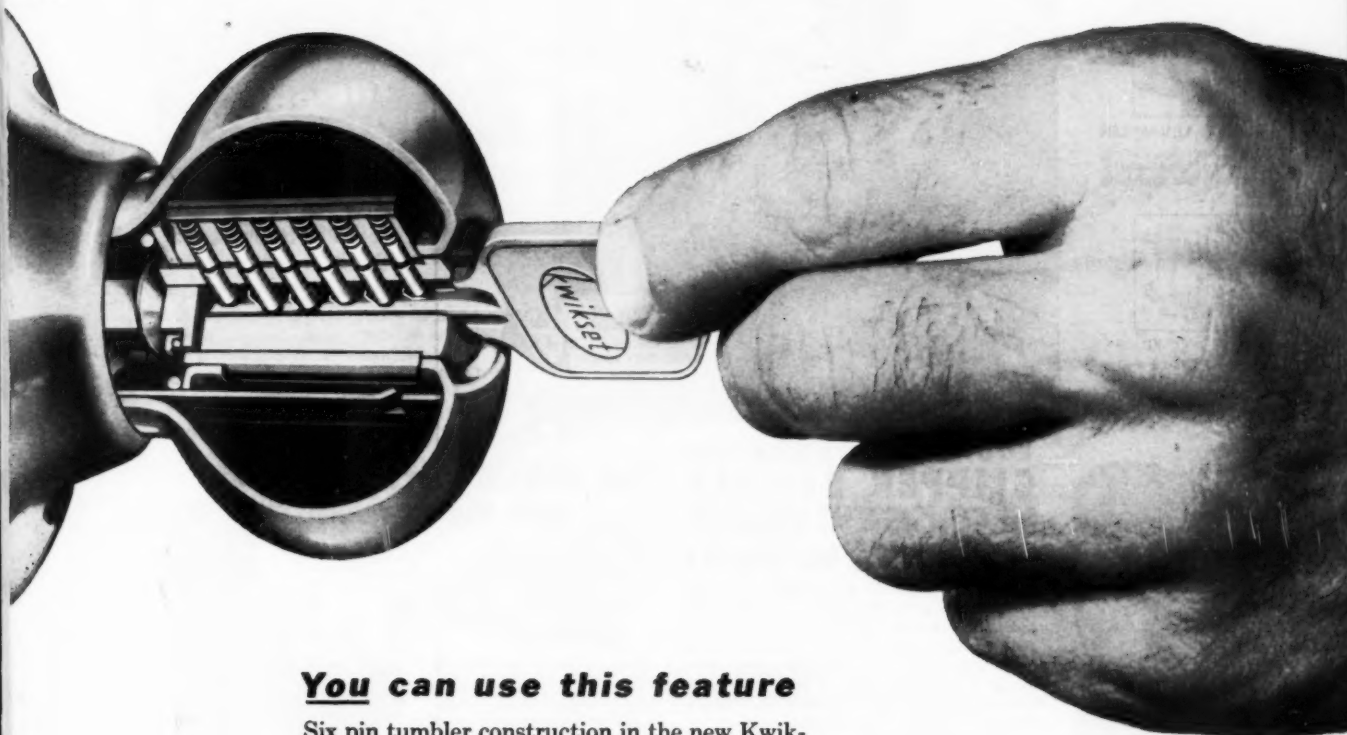
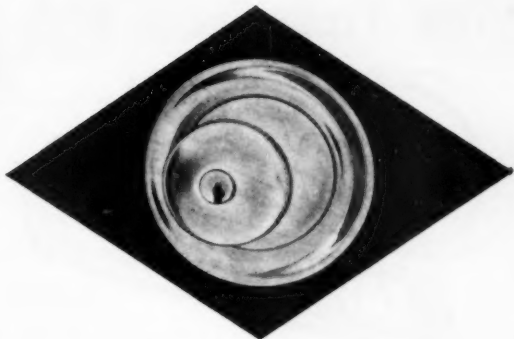




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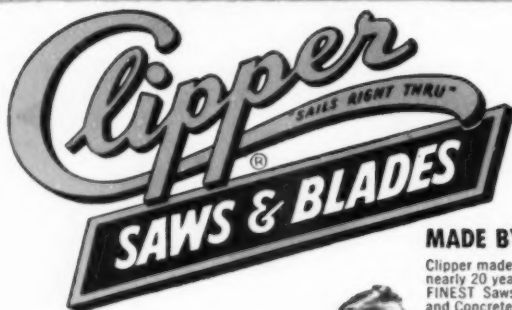


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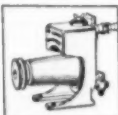
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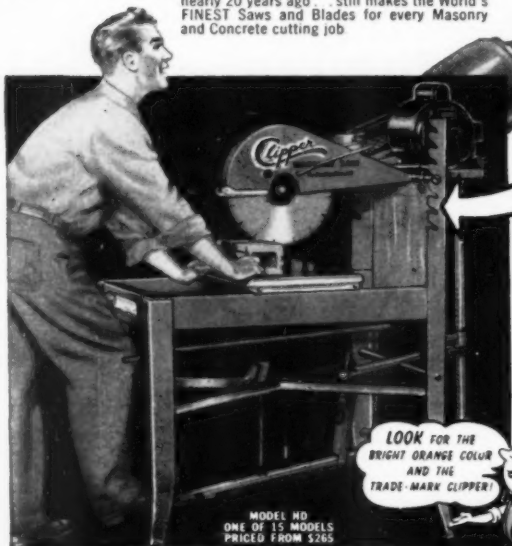
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AMERICAN BUILDER

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American Builder is published by the SIMMONS-BOARDMAN PUBLISHING CORPORATION, Emmett St., Bristol, Conn., with editorial and executive offices at 79 W. Monroe St., Chicago 3, Ill.; 30 Church St., New York 7, N.Y.; James G. Lyne, President; Samuel O. Dunn, Chairman Emeritus; C. J. Wageman, Vice President and Publisher; J. S. Crane, Vice President and Secretary; Fred A. Clark, Vice President and Business Manager; E. G. Gavin, Vice President and Editor; A. J. McGinnis, Executive Vice President and Treasurer; Bayne Sparks, Vice President; Robert G. Lewis, Vice President.

American Builder (originally "Carpentry and Building") with which are incorporated Building Age, National Builder, Permanent Builder, and the Builder's Journal, was founded Jan. 1, 1879. Names registered in U.S. patent office and Canadian registrar of trade mark.

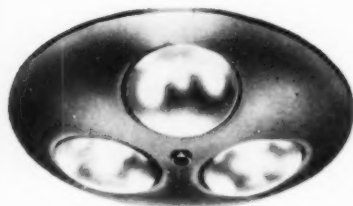
Address all subscriptions and correspondence concerning them to: Subscription Department, American Builder, Emmett St., Bristol, Conn. Changes of address should reach us three weeks in advance of next issue date. Send old address with the new, enclosing if possible your address label. The Post Office will not forward copies unless you provide extra postage. Duplicate copies cannot be sent. Circulation Department: Robert G. Lewis, Director of Circulation; Lawrence L. Cope, Circulation Manager; Field Staff: C. L. Conley, John Simonson, M. A. Spector, Earl Spohn, Dick Whittington, Guy Hill, George Heinrich, John B. Heinrich.

Published monthly by Simmons-Boardman Publishing Corporation, Emmett St., Bristol, Connecticut. Editorial and Executive Offices, 79 W. Monroe St., Chicago 3, Illinois, and 30 Church Street, New York 7, New York.

Subscription price: United States, Possessions and Canada, 1 year, \$3.50; 3 years, \$7.00. Foreign countries: 1 year, \$12.00; 3 years, \$25.00. Single copies, 75 cents; April issue, \$2.00; 75th Anniversary issue, August 1954, \$1.00. Entered as second-class matter July 20, 1950, at the Post Office of Bristol, Connecticut, under the act of March 3, 1879. Copyright 1954 with all rights reserved. SIMMONS-BOARDMAN PUBLISHING CORP.

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at the flick  
of a switch



MODEL 5003



MODEL 5501

with  
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### COMPARE THESE FEATURES

#### INSTANT HEAT—

Genuine infra-red lamps warm a person with deep penetrating rays instantly — no waiting for air to heat or circulate.

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Because it is installed in the ceiling — children cannot touch the heater and there is no possibility of odors, fumes, flame or draft.

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No other heater is as easy to clean as the Pryne Ceiling Heater. Nothing to remove — merely dust with a rag or mop. No reflector to clean — no fan to service.

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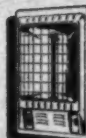
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## JUBILEE EDITORIAL

# **We Are Proud of Our 75 Years of Service to Light Construction**

**T**HIS is *American Builder's* diamond jubilee issue. It marks three-quarters of a century of continuous service and leadership in the light construction industry.

The present management, part of the long line of distinguished publishers and editors, here pay tribute to their predecessors who built the magazine's envied reputation; guided it through wars; nursed it through major business depressions; and met the challenge of transformation from an agrarian to an industrial economy. To build and maintain leadership through 75 years of kaleidoscopic economic, political and technologic advancement and change requires vision, understanding and courage. These are the ingredients of editorial integrity. The possession of these ingredients by *American Builder's* successive management cadres and staffs have made possible this 75th milestone, and the enviable opportunity to use it for a brief appraisal of the past and a considered prediction of the future.

*American Builder* always has prided itself on a unique ability to temper vision with the hard facts of reality, to keep its eyes on the stars and its feet squarely on the ground, and thus secure its position of respected leadership.

Typical of this ability is a departure from the traditional anniversary theme—looking back. We do look back, but only briefly and for the purpose of analyzing trends of the past and present which are determining the patterns of the future. Mostly, we look forward, dedicating this 75th anniversary

issue to 100 years of building progress—25 future years, based on the experience of 75 past years.

Poring over the old volumes of *American Builder* and the historic building magazines which are a part of our progress reveals a vital, living story of the growth of the light construction industry. For the story of *American Builder* is the story of the life and times, the growth and struggle, of builders and their industry.

Clearly recorded in these pages is the emerging of home building and light construction from scattered handicraft operations to well organized, mass production techniques. From home production measured in thousands to an annual volume exceeding a million. From ugly, poorly lighted, badly or unheated factories to the contemporary production palaces. From the store that made retail purchasing a labor to the modern merchandising emporium and sparkling shopping center. From the pioneer farm to the present scientifically planned and equipped agricultural plant. From column after column of cold type with an occasional illustration to the present highly illustrated, open planning with color technique—an invitation to read, and an assurance of quick and complete understanding. From dull and sometimes comic advertising to the expert presentation of highly informative copy and layout. These are but a few highlights of the drama of change revealed in the volumes of *American Builder*.

And through all of this *American Builder* has con-

(Continued on page 7)

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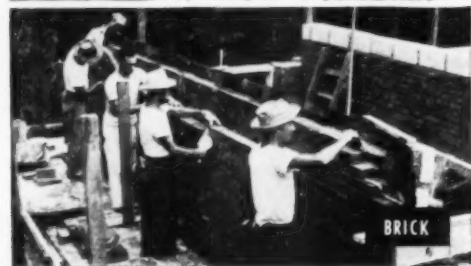
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*The country over, attractive masonry structures reflect the quality of Lone Star Masonry Cement in the hands of skilled artisans who insist on this all-purpose mortar for economy in quality construction.*

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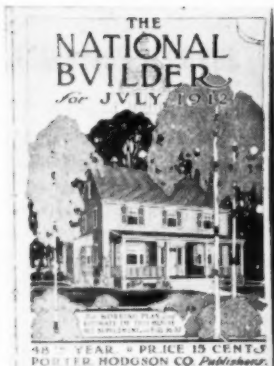


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AMERICAN BUILDER



## JUBILEE EDITORIAL

... "AMERICAN BUILDER constantly championed every worthwhile cause, been in the forefront of every major trend and development, supplied the spark of inspiration that raised standards and stimulated progress." . . . . .

(Continued from page 5)

stantly championed every worthwhile cause, been in the forefront of every major trend and development, supplied the spark of inspiration that has raised standards and stimulated progress.

### Champion of Every Worthwhile Cause

Here are a few of the causes and campaigns in which *American Builder* has led and is leading in behalf of builders and the light construction industry.

1. *Cost saving methods*—continuous since 1879.
2. *Better home design and equipment*—continuous since 1879.
3. "Own a Home Savings Club"—1919.
4. *Good builder-dealer relations*—Sound building material distribution methods—1905; currently leading the way to re-establish economic distribution methods in step with a changing industry.
5. Recognized need for *accurate home building statistics in 1923*—continues to press the case.
6. *Organization of residential builders*—Need recognized in 1923. Played prominent part in organization of NAHB, 1940.
7. *Campaign for establishment of FHA*—1933-1934.
8. *Importance of builders in creating jobs and prosperity*—February 1934.
9. "More House for Your Money" campaign—1936-1938. Generally credited with being major single factor in reviving market for new homes following depression.
10. "A Home is the Best Security"—1940.
11. "Low Cost of Good Construction"—1941.
12. *Private enterprise program* to build one million homes a year—1943.
13. *Forefront in fight* against socialization of home building industry—1943-1950.
14. *Creation of National Home Week*—1948.
15. *First comprehensive study* and report on modular design—1952.
16. *United industry studies* of panelized construction and improved construction and distribution techniques—1954.
17. *Campaign on behalf of FHA*—1954. Editorial and articles in *American Builder*. Releases to 2,200 newspapers telling public what FHA is, what it does, why it must be kept strong.

### A Brief History of American Builder

David Williams founded *Carpentry and Building* at 83 Reade Street in New York City in 1879—a period when momentous things were happening. Thomas Edison announced invention of the electric light; the first commercial telephone exchange had opened the year before. Striking developments in steel, concrete, central heating were about to occur. Williams declared he would seek success by making his publication "of indispensable utility" to its readers. The subscription price was 10¢.

David Williams' policy of service to readers carried the publication, through years of growth and absorption of other journals, to undreamed of heights. In 1910 the name was changed to *Building Age*, which later expanded to include the *Permanent Builder*, *Builders' Journal* and *National Builder*. By 1924 the circulation had risen to 60,000.

In Chicago in 1905, William A. Radford established *American Carpenter and Builder*, which soon became a lusty, vigorous competitor. In succeeding years, this younger journal absorbed *Woodworkers' Review*, *Home Building*, and *Building Developer*. Its circulation soared above that of *Building Age*. In October, 1930, the two publications were merged to form the present *American Builder*.

### Mirrored Changes in Tools, Equipment

During these years the magazine reflected the remarkable changes in building methods, materials and design. In 1890 carpenters' hand tools began to be supplemented by hand and foot power tools. The issues of these days were full of glowing descriptions of these novel contraptions—many of which were covered with ornate designs reflecting the ornate Victorian architecture of the day.

With the end of the Victorian era in 1900, further changes were mirrored. Power machinery came into use, the house design pages were replete with miniature versions of English manor houses, Normandy farm houses and Italian villas.

The decade of the twenties saw *American Builder* featuring many apartment buildings of the type of that booming era. The rise of the building developer and the speculative builder was shown. In 1926, *American Builder* printed an April issue of 670 pages.

(Continued on page 8)

Another First  
for  
MITTINGERS  
**Triple Seal**  
**SILENT GLIDE**  
The Only Sash  
Balance That  
Stops Window  
Operation Noise



Completely seals  
against weather at  
these important  
points. ●

The springs of the Silent Glide Sash Balance operate in an aluminum tube that's lined with heavy rayon velour. This new, quiet balance is combined with Triple Seal's famous 1-piece metal jamb covers that give complete seal against the weather, yet permit windows to move up and down at a touch . . . quietly!

### Save Time and Labor In Installation

Everything needed for one window comes in one package. There's no on-the-job material loss. Triple Seal Silent Glide Sash Balances and Metal Weatherstripping can be applied easier because all fastening points are clearly marked. The tough, aluminum tube that houses the spring balance resists construction damage. No replacement loss before the job is finished!

WRITE FOR COMPLETE DETAILS

**The Weatherproof Products Corp.,  
Waldo Sta. P. O. Box 8498, Kansas City, Mo.**

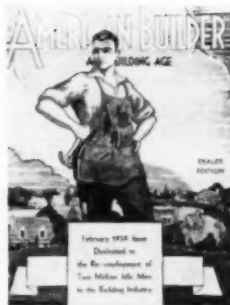
Gentlemen: Tell me more about Silent Glide Sash Balances and Triple Seal Metal Weatherstripping.

I am a builder  dealer  interested in on-the-job installation  mill-assembled window units

Name.....

Address.....

City..... State.....



## JUBILEE EDITORIAL

. . . "The depression years saw the rise of a new type of crusade by the publication—a drive (for FHA) in behalf of a whole industry." . . . . .

(Continued from page 7)

The depression years again are faithfully mirrored in the magazine. Circulation dropped, and advertising almost disappeared. The April, 1933 issue had a folio of 60 pages.

From the beginning *American Builder* fought for the rights, the benefits and the needs of specific groups of its readers. The depression years saw the rise of a new type of crusade by the publication—a drive in behalf of a whole industry.

### Campaign for FHA

In 1933 building was at a standstill due to lack of mortgage financing. *American Builder* launched its first nation-wide campaign with a series of articles and special issues urging legislation for government credit to revive building. A notable editorial in December, 1933 was entitled "Home Loans for the Forgotten Man." In February, 1934, an entire issue "Dedicated to the Re-employment of Two Million Idle Men in the Building Industry" was published. The articles, statistics, charts and dates were reprinted in 480 newspapers with 13 million circulation. Copies were sent to legislators and government officials, were used and referred to in congressional hearings.

*American Builder* had long campaigned for more complete building statistics; its efforts were redoubled, and eventually funds were appropriated to permit the gathering of building permit data that has greatly improved—but not fully perfected—an accurate system of measuring housing starts.

The campaign for mortgage financing and FHA showed the power one publication could wield in a cause in behalf of a whole industry. Through press releases, speeches, industry group cooperation and editorial leadership, a new force was unleashed.

### Builder Organization—(1928-1940)

As early as 1890, *American Builder* reported the activities of a National Home Builders' Association, which had headquarters in Boston. Through the years it urged builders to organize in local associations. From 1928 on, it campaigned for a representative national body. In May, 1940, the lead editorial "Home Builders Should Organize" was widely quoted and distributed to local groups. Editor Bernard L. Johnson, and eastern editor Joseph B. Mason took an active part in meetings of the early rival groups of builders, and helped bring them together in the first truly national gathering in Cleveland in



1943. Thus came about the present *National Association of Home Builders*.

#### **More House for Your Money—(1937)**

A veritable "sit down" strike of home buyers existed in 1937 because of a false impression that house building costs were "too high." The "*More House for Your Money*" campaign was pushed energetically by *American Builder* in 1937 and 1938. A series of advertisements and promotions were published in hundreds of newspapers, effectively telling the story of the good values in homes being delivered by builders. The theme was taken up by convention speakers, editorial writers, industry leaders, and a marked change in public attitude toward home buying took place.

#### **"Build Now for Security"—(1940)**

With war clouds overhanging the nation, home buyers were holding back because of fear and uncertainty. This campaign pointed out that "*the best safeguard against an uncertain future is a home of your own.*" It reiterated to them that "*a home of your own is the best security.*" pointed out the advantages of home ownership over renting, the protection home ownership gives against inflation. How right these editorials were is happily confirmed by those people who bought homes at \$8,000 to \$10,000 in 1940 and today find them valued at \$18,000 to \$25,000.

#### **"Private Enterprise Program for a Million Homes a Year"—(1943)**

This was a truly prophetic editorial program. In 1943, there was fear that private enterprise might not emerge from the governmental dictation of war controls. A million homes a year seemed a vastly daring goal. *American Builder* outlined a 10-point program in May, 1943, which had as its cornerstone liberalization of home financing terms.

The program culminated in a special "War to Peace" issue that October. Most of the program points were achieved, and the million homes a year became a reality in 1949.

#### **National Home Week—(1948)**

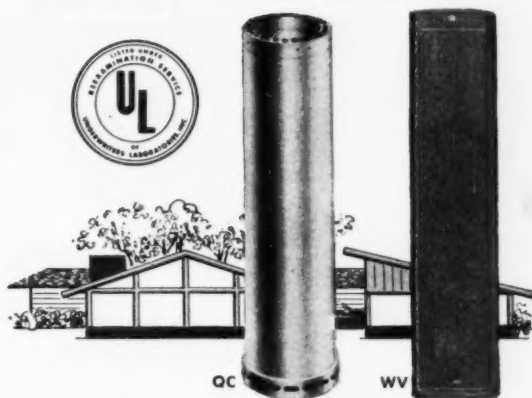
This nation-wide merchandising program was conceived by Editor Edward G. Gavin and advocated by him not only in the editorial pages of *American Builder* but from speakers' platforms across the land. It became an official promotion of the National Association of Home Builders and has since become a truly national institution. In 1953 some 8,000 models and demonstration homes were opened during National Home Week and were visited by 10 million persons.

We have seen how David Williams' journal of 1879 has grown with its industry, and been the constant mirror of its changing needs and problems. It will continue to try at all times to be of *indispensable utility* to its readers, and to the light construction industry in the years ahead.

AUGUST 1954

put safe, up to date  
gas venting  
in your homes

specify **METALBESTOS**  
—the modern venting system



#### **A COMPLETE LINE OF TYPE B VENTS**

Approved by Underwriters' Laboratories. Correctly designed for use with all approved gas appliances requiring Type B vents. (Not for use with oil-burning appliances or gas-fired incinerators.)

**QC METALBESTOS**  
Round Vent—for standard venting applications where space is not restricted.

**WV METALBESTOS**  
Oval Vent—specially designed for in-the-wall venting.

Complete line of fittings available for both round and oval systems.

correctly designed The first double-wall, insulated venting system — thin inner pipe heats quickly for proper venting — air space and outer pipe conserves vent gas heat, prevents overheating of adjacent construction.

safe, strong, durable Sturdy outer jacket to protect vent from damage . . . safe, gastight couplers that won't pull apart . . . aluminum inner pipe for maximum corrosion resistance. Metalbestos vents last the lifetime of the house, eliminate costly repairs or replacement.

easy to install Lightweight, easily handled pipe — special couplers for rapid assembly — no cement, mastic or special tools needed.



**TYPE B-W**  
**INSTALLATION KIT**  
Simplifies venting of recessed wall heaters—fits inside 2 x 4 walls without furring out. Contains all fittings and directions needed to make safe, officially correct installation. Designed for use with WV oval pipe.

Choose Metalbestos for the best job at the lowest cost.

Stocked by principal jobbers in large cities. Factory warehouses in Atlanta, Dallas, Philadelphia, Kansas City, Chicago, New Orleans.





**G**OOD PUBLIC RELATIONS consists of doing a good job—and getting credit for it. If the building industry functioned in a vacuum, no matter how good a job we did the public wouldn't necessarily know about it.

NAHB, through its Public Relations Department, creates better public understanding of home building and helps win more friends for the entire industry.

Via radio, television, newspapers, magazines, pictures, bulletins and special events, NAHB carries the story of the home builder and his accomplishments to the American public.

*National Home Week* and the *Parade of Homes* are special features which regularly capture the imagination of millions and *stimulate the desire to own homes*. The *Trade Secrets House* brought thousands of families a glimpse of the pleasures of modern home ownership; it was a technical triumph and good public relations at work.

Every time you sell a good home, you win a family of friends. When NAHB, through your local Association, spreads the good word, friends are multiplied. This is the kind of service that makes NAHB a profitable partner for you. It helps you sell homes; it helps establish you as a respected member of your community. To avoid building in a vacuum, join NAHB today. Membership is available to qualified builders and associates through their local Association. Contact your local HBA. If none has been formed in your area, write to the Membership Department for complete details.

**NATIONAL ASSOCIATION OF HOME BUILDERS**  
1028 Connecticut Avenue, N.W., Washington 6, D.C.



**WHAT'S NAHB?** An aggressive group of more than 29,000 home builders, contractors and sub-contractors, material suppliers, mortgage lenders, realtors, architects, building material manufacturers, all dedicated to a strong industry, free from unnecessary controls. Organized on national, state and community levels, it provides an effective means of voicing collective opinions on local and national matters. Through membership in your local Association, you automatically become a member of the National group.

**ACTIVITIES OF NAHB.** It represents you on Capitol Hill and before federal legislative groups; provides data on up-to-date design and construction techniques, mortgage finance information; engages in housing research; promotes National Home Week and the Parade of Homes; informs the public of industry activities through press, magazine, radio and TV; sponsors alum clearance programs, "trade secrets" meetings, annual conventions and expositions; your local association speaks for you at City Hall, at local FHA and VA offices.

NAHB provides these information services:

- *Washington Letter*—keeps NAHB members posted on trends that will influence operations; issued about three times monthly in concise, factual form.
- *Correlator*—monthly publication for members only, packed with Association news and information.
- *Housing . . . U. S. A.*—NAHB and Simmons-Boardman Publishing Co., publishers of American Builder magazine, combined forces to produce this interesting, informative, profusely illustrated volume on the merchant builder and the housing industry.
- *Special Bulletins* on new developments issued as circumstances warrant.
- *Technical Services Department* conducts continuing research to "build a better house with less money and fewer headaches"; examines new materials, construction techniques, land-planning methods. The Trade Secrets House was a product of this service available only to NAHB members.

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Telephone # Adams 3-4495  
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122 Melba St., Milford, Conn.  
Telephone # Locust 2-1607

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Telephone # Republic 7-1174

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130 W. Randolph St., Chicago 1, Ill.  
Telephone # Franklin 2-9740  
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1812 W. Forest, Decatur, Ill.  
Telephone # 3-4451  
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Telephone # WA-1387  
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Telephone # 2-1264  
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**NOTE: Only Telephone Numbers listed that were available.**



# Metals are the Best Insulators

## Against Heat, Cold, and Vapor in Building Spaces

The surfaces of ordinary IRON have about 4 times the reflectivity against heat rays that the surfaces of asbestos, asphalt paper, brick, rockwool, plaster, wood and other ordinary building materials have. Brass, gold, silver and ALUMINUM surfaces have about TEN TIMES the reflectivity against heat rays that these non-metallic materials have. Aluminum surfaces, for example, have a 97% reflectivity for RADIATION whereas the surfaces of most building materials, including ordinary insulations, have a reflectivity of only 10%.

RADIATION (heat rays) is responsible for 65% to 80% of all heat flow sideways in building spaces; 55% to 75% upwards; and 93% downwards.

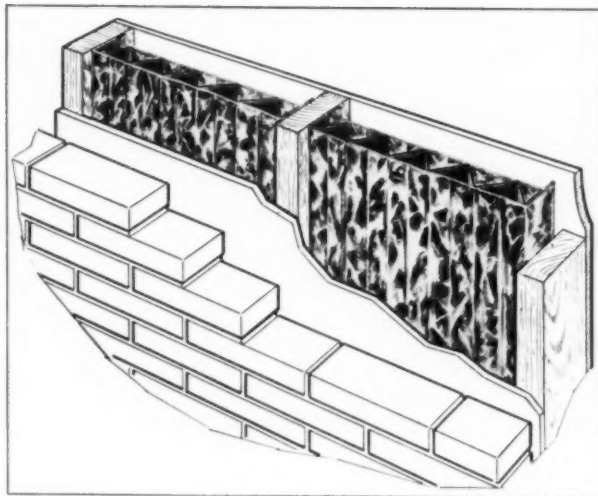
Air space has low density, therefore heat flow by CONDUCTION through the spaces inside building walls, roofs, attics or floors is slight. CONVECTION can account for 15% to 30% heat flow sideways in such spaces, and up to 45% upwards. There is NO convection downwards.

### AN EXCELLENT "INSULATING BLANKET"

Multiple sheets of metal, spaced apart, make an excellent barrier to heat and vapor flow in any direction. In Multiple Accordion Aluminum, as it is installed in one simple operation, tough metallic sheets are automatically expanded and spaced by fiber separators. It becomes a full-depth, edge-to-edge "insulating blanket" with alternating layers of aluminum, fiber and low density reflective air spaces. Both the fibrous and metallic sheets retard convection.

Such an insulating blanket is widely known and specified as Infra Multiple Aluminum Insulation. More than 210 million square feet are in use today.

Infra's continuous metal sheets, up to 750 feet long, have zero permeability to water vapor. Infiltration under flat stapled flanges is slight. Condensation



formation on or within this type of insulation is minimized by the scientific construction of multiple layers of accordion aluminum, fiber, and air spaces.

### FREE! RADIATION TABLE AND ASHVE BOOKLET

Check coupon to get useful Table of the heat ray reflectivity of a long list of materials.

The American Society of Heating and Ventilating Engineers has published an interesting booklet: "Insulating Effect of Successive Air Spaces. Bounded by Bright Metallic Surfaces." Ask for a FREE copy by checking coupon.

### COST OF INFRA INSULATION INSTALLED in new construction between wood joists, material with labor,

Type 6-S under 9½¢ sq ft.

Type 4-S under 7½¢ sq ft.

INFRA INSULATION INC.  
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 Please send FREE ASHVE booklet. (Ins. Effect, etc.)  
 Heat ray reflectivity table.  
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# Buildercast

- LOCAL NEWS
- FORECASTS
- NEW TRENDS

NORTHERN area



KANSAS CITY BUILDER SURVEY indicates 20 per cent more homes will be built this year than in 1953. Kansas City Star queried local home builder association members, received replies from 39 (24 per cent of the builder membership) that they planned to complete 3,071 units in 1954, compared with 2,452 built last year.

Only unanimous agreement was that today's buyers are more selective in searching for better quality and design, larger rooms, more gadgets.

Consensus of opinion pointed to a probable rise of 3 to 5 per cent during the next six months in lumber and materials costs. Other indications were an abundance of materials, decreasing quality and supply of labor, adequate financing, little danger of early saturation of the market.

IN ST. LOUIS, members of the local home builder association report an unusually high number of shoppers for new homes are already home owners who must sell or trade-in their property to obtain a needed, larger home. This was attributed to the growing size of families.

SURVEY OF PROSPECTIVE BUYERS conducted by Butler University and the Indianapolis Times revealed that most persons wanted a "modern" or ranch-type one-story house with garage and that two out of three desired some form of summer cooling.

Other preferences of central Indiana residents were found to be brick or stone construction, casement windows, basement, fenced lot, patio, living room in front, forced air heating fueled by oil, a "living" kitchen, three bedrooms, one and one-half bathrooms and separate dining room.

Of those interviewed, 60 per cent

planned to build or buy within the next three years and half of them already owned their lot; 27 per cent were considering a price range of \$15,100 to \$20,000, 24 per cent a range of \$20,100 to \$30,000 and 20 per cent a range of \$12,600 to \$15,000.

MICHIGAN STATE SUPREME COURT has ruled unanimously that unions cannot ban the use of paint rollers and ordered a lower court to reinstate an injunction forbidding the painters' union to insist on an anti-roller clause in contracts.

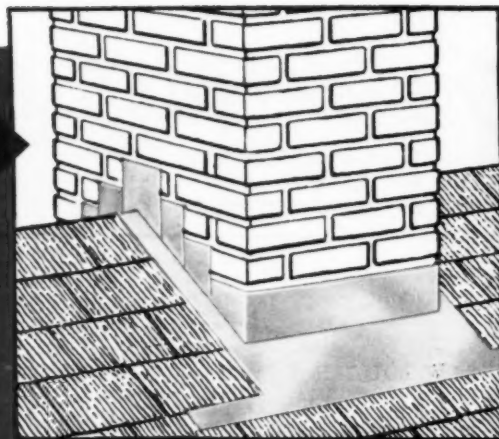
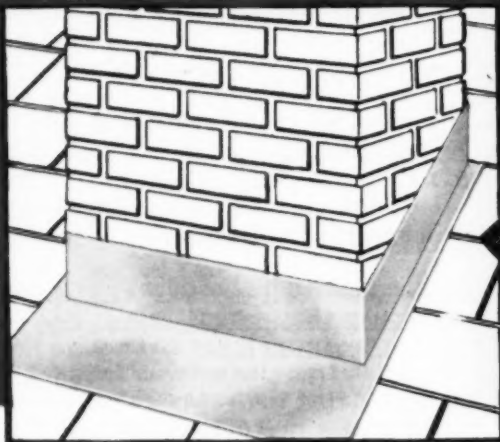
The decision, according to George Foster, spokesman for Detroit area contractors, will permit them to quote prices up to 30 per cent lower than possible before the decision was announced.

LOOK FOR HEAVY RUN OF HOUSING STARTS in second half of 1954. First six months established a construction contract awards total for 37 states east of the Rockies of \$9 1/4 billion, according to the F. W. Dodge Corp., a 17 per cent gain over the same period last year. But the big story is that nearly \$4 billion of this total was for new residential work, a 22 per cent gain. Most of this activity should be reflected in the next few months, since the figures represent awards for future business.

Dodge said the period narrowly missed topping the total for the last six months of 1953, biggest half-year in its 63-year history.

Non-residential awards during the first six months of 1954 amounted to \$3.4 billion, a 15 per cent improvement, while heavy engineering increased 10 per cent, to \$1.86 billion. Total awards for June alone were \$1.73 billion, a record for the month.

**TRUE  
YESTERDAY**



**TRUE  
TOMORROW**

## **FOLLANSBEE SEAMLESS TERNE METAL**

**Provides positive weathersealing protection**

When you use Follansbee Terne for valleys and flashings, you get all the quality of 100 years' experience, and all the important advancements made over these years. There's no limit to the weathersealing applications where you can specify Terne Metal.

For instance, by using Terne in 50 foot seamless rolls, the problem of making step-up flashings is simplified. Instead, you have one continuous piece of Terne. It's not necessary to follow the brick mortar line and use overlapping pieces of metal.

The continuous chimney flashing eliminates most of the seams, enhancing the appearance of both roof and chimney, as well as making extremely flexible and versatile joints at this critical roof spot. More positive weathersealing is provided, and the elimination of seams cuts labor costs noticeably.

Follansbee Terne provides the same positive protection for all weathersealing points. For gutters, coping, eaves troughs, windows, gravel stops, valleys . . . Terne is ideal.

**CHECK THESE PERTINENT FACTS  
ON FOLLANSBEE TERNE METAL**

Very ductile  
High tensile strength  
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Coating won't flake or peel  
Easiest to solder of all metals

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Cold Rolled Strip

Seamless Terne Roll Roofing



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### Home Builders of Illinois Form State Association

Approximately 200 builders and others associated with the home building industry attended an all-day conference June 18 at Springfield, Ill., and organized formally the Home Builders Association of Illinois. Before the sessions concluded, over 50 memberships had been received and, during the next four weeks, the total approached the 2,000 mark.

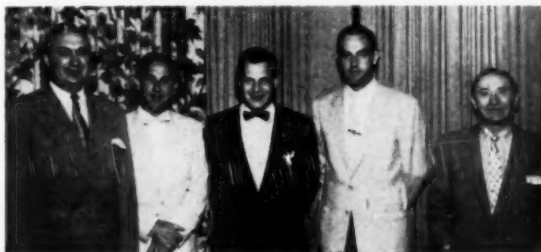
Cecil Madaus, president of the Home Builders Association of Decatur, was elected president. Other officers named were Ralph J. Finitzo, Chicago, first vice president; Scott Weller, Champaign, second vice president; Theodore Ingrassia, Rockford, secretary, and J. O. Summers, treasurer. John F. McCarthy, legal counsel to the Chicago Metropolitan Home Builders Association, was chosen to act as counsel.

The conference comprised a morning panel on merchandising, a similar afternoon session on financing and new legislation, and a dinner meeting at which John D. McCarthy, secretary of the Illinois Lumber & Material Dealers Association, Springfield, acted as toastmaster. Edward G. Gavin, editor of *American Builder*, was the principal speaker, his topic being "Obsolescence selling."

Officials participating in the panel sessions included Layard Thorpe, chief loan guaranty officer of the VA Illinois office; H. H. Nooner, FHA director, Springfield; Carl Weber, president, Illinois Savings & Loan League, and John R. Worthman, NAHB regional vice president.

Directors meeting in mid-July appointed an executive committee comprising the officers; Earl Padfield, newly elected president of the reorganized Springfield Home Builders Association, and Frank O'Connor, Chicago Title & Trust Co. The next meeting will be held in November at the Pere Marquette Hotel, Peoria.

Temporary offices were opened at 1812 West Forest Avenue, Decatur.



First officers of Home Builders Association of Illinois: (from left) Theodore Ingrassia, Rockford, secretary; J. O. Summers, Macomb, treasurer; Cecil Madaus, Decatur, president; Scott Weller, Champaign, second vice president, and Ralph Finitzo, Chicago, first vice president



Offering congratulations to Cecil Madaus (third from left) after election as president of new group are: (from left) Garrett Winter, *American Builder* news editor; John R. Downs, executive vice president, Chicago Metropolitan HBA; Vernon Forgue, administrative assistant to Governor Stratton; John F. McCarthy, legal counsel to Chicago Metropolitan HBA; Edward G. Gavin, editor, *American Builder*; John D. McCarthy, secretary, Illinois Lumber & Material Dealers Assn.; George Arquilla Jr., president, Chicago Metropolitan HBA, and John R. Worthman of Fort Wayne, Ind., NAHB regional vice president

### Long Island Presents Radio-TV 'Homerama'

The Long Island Home Builders Institute co-operated with the National Broadcasting Company in producing a four-day "homerama" over its New York radio and television stations July 22-25. Embracing 16 broadcasts and 11 telecasts for a total time of 18 hours, the programs served as a salute to the builders' 1954 Parade of Homes, which continues until Sept. 12.

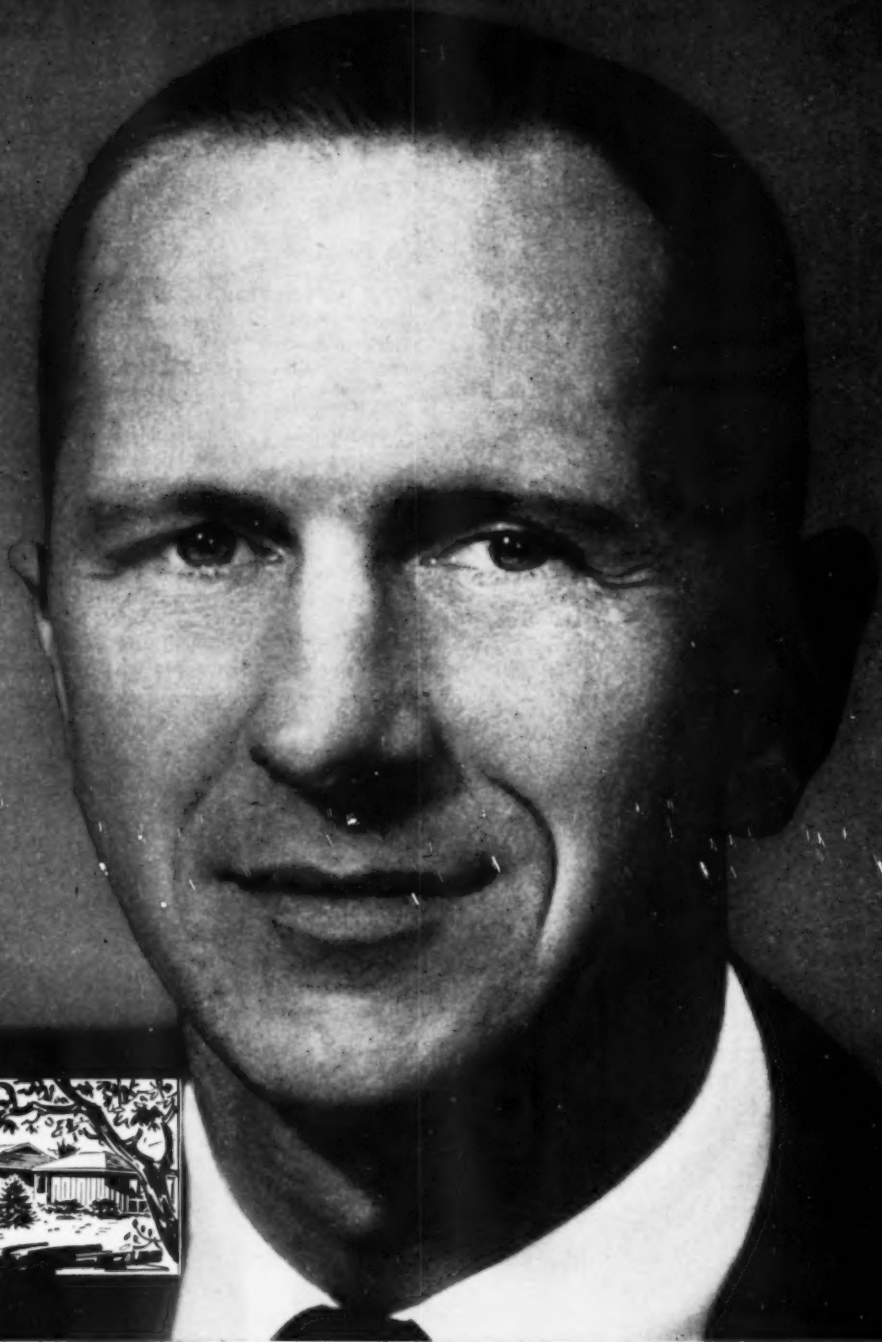
Well known entertainers, including Steve Allen, Herb Sheldon, Faye and Skitch Henderson, Tex McCrary, Jinx Falkenburg, Kay Armen and Ben Grauer, told the Long Island story, aided by guests and script material supplied by the institute. Among the features were panels on selecting a home and lot, and remodeling.

### Changeover at Boston



Ray Johnson (left) of Natick, Mass., new president of the Home Builders Association of Greater Boston, with Alfred L. Roberts, retiring leader

M. L. BARTLING, JR., Prominent Knoxville, Tenn., Builder



**"PRESTIGE SELLS HOUSES,** and the use of name brands by a builder creates prestige. A builder—like anyone else—is judged by the company he keeps. When he keeps company with name brands, he gains added respect—and sales. I find that today's careful home buyer is especially impressed by name products advertised in *The Saturday Evening Post*. That's why, in 1953, I used 38 Post-advertised products in my homes." (*Manufacturers of building materials, equipment and fixtures place more advertising dollars in the Post than in any other consumer magazine.*)

The Saturday Evening  
**POST**

—gets to the heart of America

AMERICAN BUILDER



## NORTHERN NEWS

### Rochester Is Host to New York State Directors



Following spring meeting at Rochester, June 4-5, directors of New York State Home Builders Association assemble for tour of General Motors Delco Appliance Division

#### Roamin' the North—

New York State Building Code Commission has just published a second edition of its residential construction manual, a 308-page illustrated handbook showing how to apply performance requirements of the state code. Two subjects given more attention than in the first edition are fire-resistance ratings for structural elements and assemblies and detailed tables on maximum allowable spans of rafters, and of floor and ceiling joists. . . . HBA of Mahoning Valley is now established in its new offices at 3119 Market Street, Youngstown, Ohio. . . . Lawrence Badgley is first president of Southwestern Michigan Builders Association, recently organized at Benton Harbor, Mich. . . .

HBA of Hartford County held a display of members' houses during recent six-day centennial celebration of West Hartford, Conn. Clayton Johnson, exec. V.P., heads committee planning first regional convention for New England Council of Home Builders at Hartford's new Statler Hotel, Oct. 23-25. . . . Wallace E. Reid and Hamilton H. Paterson have begun 106 two-family colonials in Birmingham, a Detroit suburb. . . .

#### Marylanders Hear Governor—

Suburban Maryland Builders' Assn. held its first conference day June 17. Highlight was 9 A.M. keynote address by Governor Theodore R. McKeldin. . . . Bernard Weinberg of Maple Shade, N.J., has succeeded Harold D. Sarshik as head of Home Builders League of South Jersey. . . . Larry Neville, exec. secy. of HBA of Greater St. Louis reached into the South for a new assistant: Miss Elizabeth B. Mack of Little

Rock, Ark. . . . Allan T. Flint has resigned as secy.-mgr. of Southwestern Lumbermen's Assn., Kansas City.

Formation of Clay Products Assn. of Kansas with an office in Wichita is announced by Harold E. Long, secy.-mgr. . . . Lake County HBA received its charter June 10 from A. W. King, NAHB regional vice president, at group's first annual banquet in Willoughby, Ohio. Group is headed by Jack Silver. . . . Another June charter recipient was HBA of Southeastern Massachusetts, Fall River, led by Carlton D. Boardman. . . . Evansville, Ind., HBA awarded \$500 scholarship to high school student Rupert Condict for his prize-winning home design and president Bob Myers will build it as the area's 1954 "Home of the Year." . . .

#### Inducted



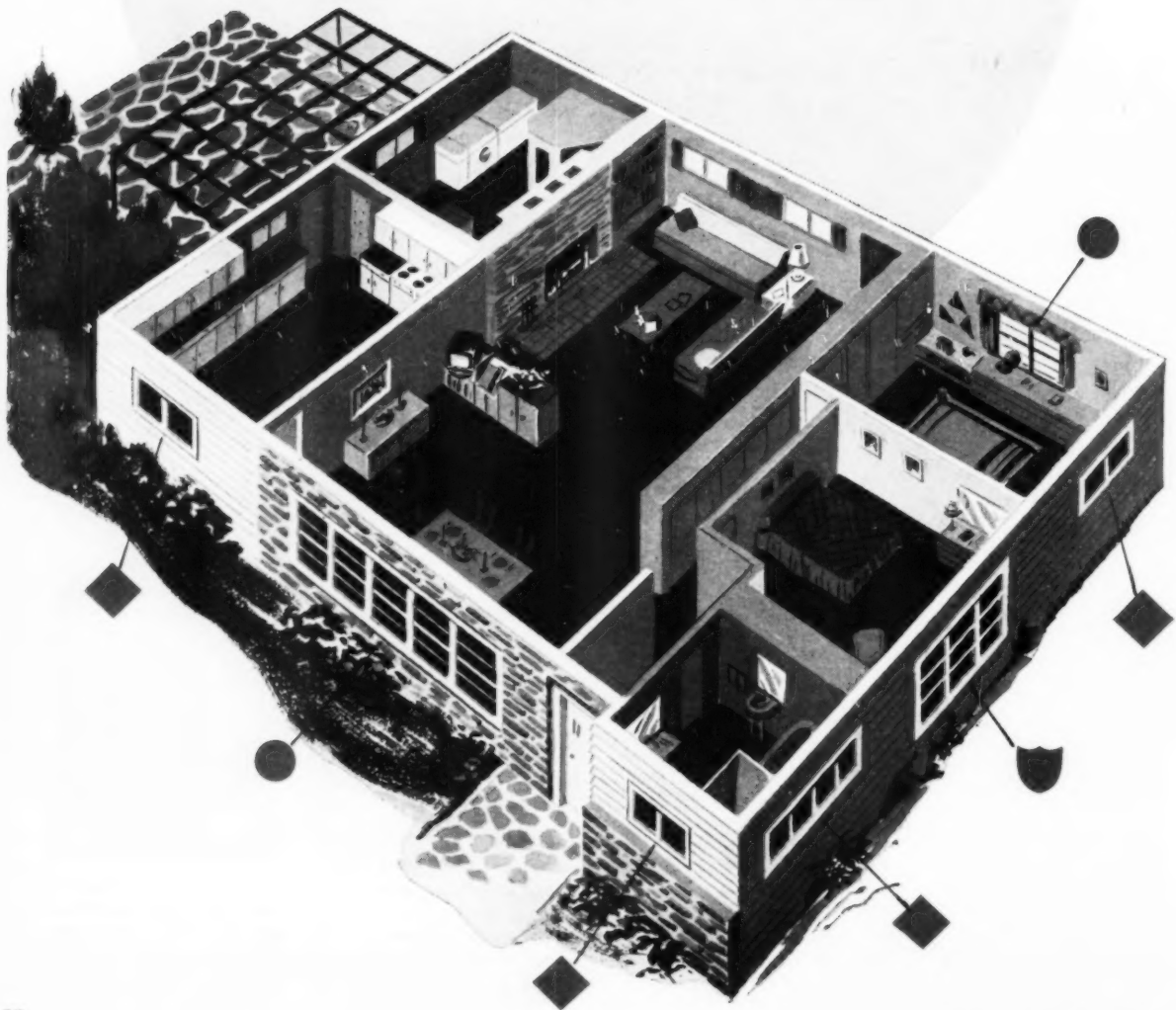
John H. Venderschaaf, retiring president of Sigma Lambda Chi, national collegiate honorary for building materials merchandising students, presents key to Phil H. Creden, public relations director of Edward Hines Lumber Co., at Michigan State College banquet in East Lansing

#### Four-County Group Receives Charter



Duso Home Builders Association receiving its charter June 22 from Albert E. Bartlett, Syracuse, NAHB regional vice president. In group, from left, are Frank Mulligan, president, Albany HBA; Bartlett; Leo P. Byrnes, Albany, New York State HBA secretary; Dominick Brancato, Poughkeepsie, Duso president; Elliott Weiner, Duso general counsel and secretary. Name is coined from first letters of four counties served: Dutchess, Ulster, Sullivan, Orange

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MAKE  
HOMES  
BETTER!**





## AMERICA'S FAVORITE DOUBLE-HUNG!

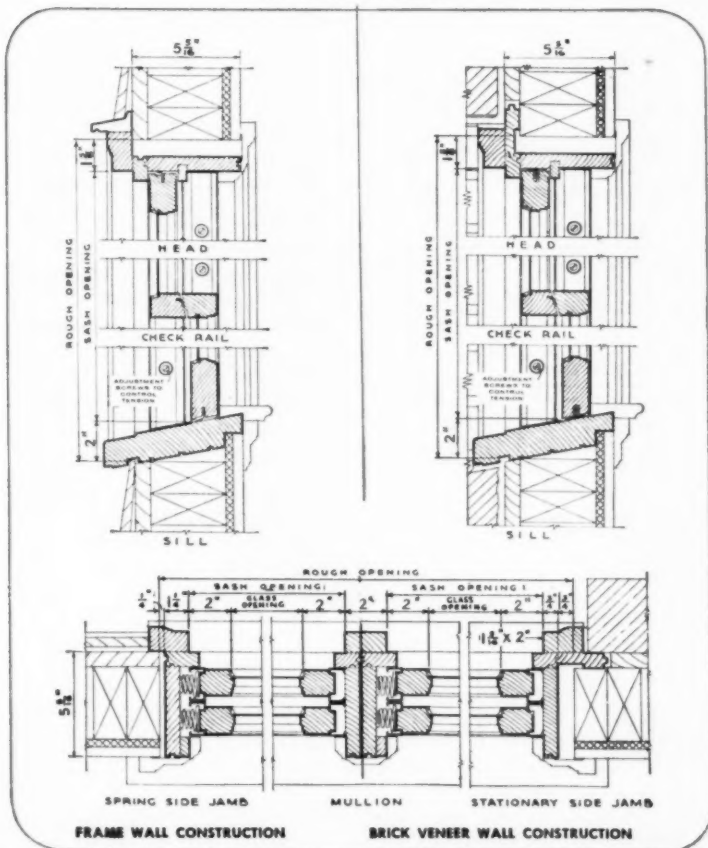
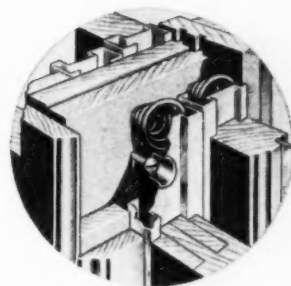


*press to left*

*swing out*

*remove*

TYPICAL DETAILS BELOW:



Many competitors have attempted to duplicate the patented construction of R.O.W. Removable Windows. None have been able to match the efficiency and quality of R.O.W. windows.

America's favorite window is available in the full range of styles and modular sizes.

**ROUGH OPENINGS**  
for frame construction  
should allow the following  
additions to 2-light glass  
dimensions:

	Width	Height
Single . . . add . . .	7"	10"
Mullion . . . add . . .	13"	10"
Triple . . . add . . .	19"	10"

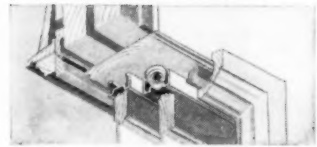
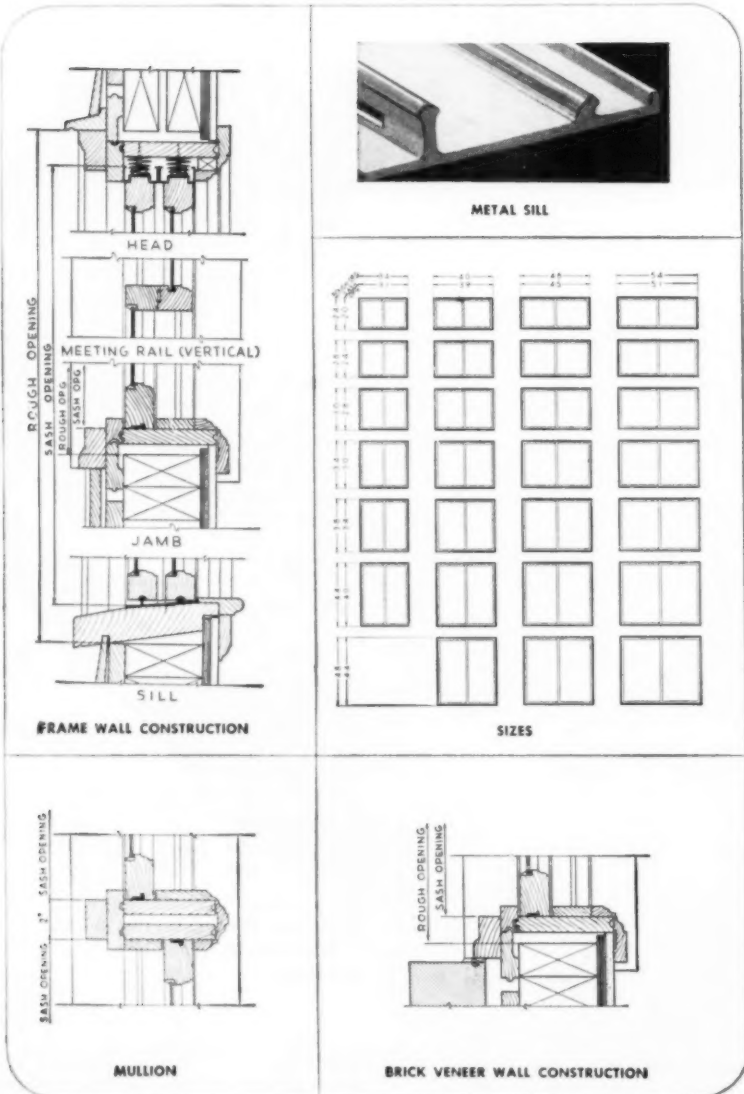
If overhead balances are used, add 2" more to the height. A false header must be installed.

R.O.W. is the registered trade-mark of the R.O.W. Sales Co.



## THE NEW GLIDING WINDOW!

TYPICAL DETAILS BELOW:



HEAD CONSTRUCTION

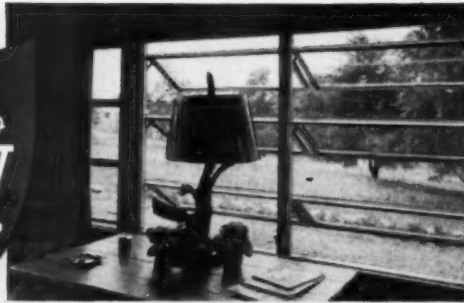
**R·O·W HIGH-LITE GLIDING WINDOWS** lift out from inside the house for easy cleaning or painting.

High-wall placement in bedrooms, baths and kitchens saves wall space and insures privacy. Larger sizes, in living areas, offer advantages of picture windows, plus a free choice between ventilation or weather protection.

Proper distribution of spring pressure above the head metals insures snug, all-weather fit and smooth sash operation.

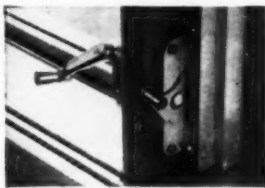
Extruded aluminum sill strips hold each sash in its own plane and permit ventilation control by adjustment of either sash or removal of both.



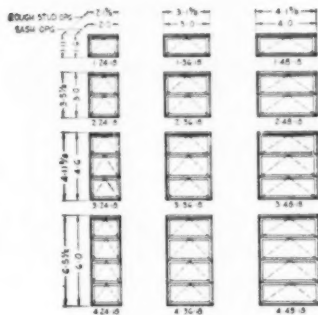


## THE RIGHT AWNING WINDOW!

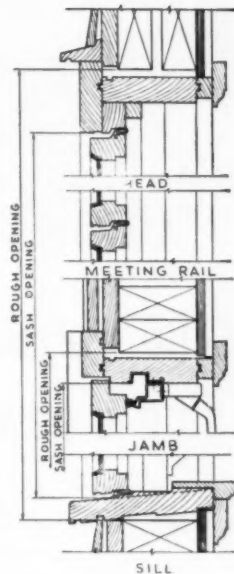
TYPICAL DETAILS BELOW:



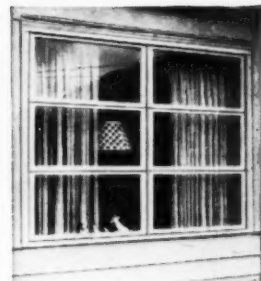
OPERATOR HANDLE



SIZES



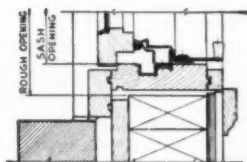
FRAME WALL CONSTRUCTION



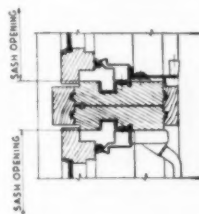
**R•O•W SURE-LOK AWNING WINDOWS** operate easily—close completely—with an automatic locking device.

Sturdy, concealed hardware assures weather-tight closing. Efficient closure is easy with **R•O•W SURE-LOK WINDOWS** because the new-type mechanism eliminates need for torque or strain.

They are designed to complement the long, low lines of contemporary architecture. Home owners find that they not only *look* good but are weather-tight and trouble-free. Homes with **R•O•W SURE-LOK WINDOWS** sell faster and stay sold longer.



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**Never  
needs  
waxing!**

## How important is the **type of flooring** in selling a new house?

**T**HE moment a prospective buyer walks into a new house, he sees only bare walls—and floor. Naturally, this invites his attention to construction details far more than if he were considering an occupied home, where furniture and living details catch his eye first.

A flooring of exceptional merit can do much to sell him.

For example, suppose he—and his wife—find the house equipped with flooring possessing the unique advantages of quality Goodyear All-Vinyl. This spells immediate *eye-appeal*—for Goodyear All-Vinyl comes in a stunning range of 18 decorator colors, a range unequaled on the market.

But far more important, it means *freedom from care*—for this top-quality All-Vinyl flooring *never needs waxing*, can take abuse and hard wear and still “stay young.”

To the prospect, this is an indication of the care and quality of materials used by the builder—a reflection of *your* good judgment.

And before long, the prospect is talking like a *buyer*—talking in terms of “*his*” new home!

**P.S.** The long life of Goodyear All-Vinyl makes value go up in the eyes of mortgage people too! So, before you plan another job, why not **WRITE FOR NEW CATALOG?** Address a postal card to: Goodyear, Flooring Department T-8321, Akron 16, Ohio.

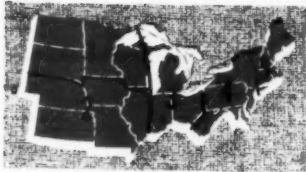
# GOOD YEAR *All-Vinyl* Flooring

FLOORS • WALLS • COUNTER TOPS — IN TILES AND 45"-WIDE ROLLS

We think you'll like THE GOODYEAR TELEVISION PLAYHOUSE—every other Sunday—NBC TV Network

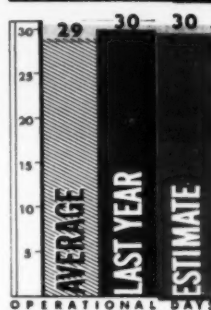
# building weather for August

An exclusive American Builder service prepared by Irving P. Krick, Ph.D., and Staff



Special climatic studies were made for selected cities in each area to determine AVERAGE and LAST YEAR Operational Days. ESTIMATES are generally applicable to each area. Precipitation and temperatures extreme enough to stop outside work have been forecast as number of NON-operational days. Naturally, inside work may on occasion proceed even through the cold and wet spells shown.

**NORTH:** All of the North region except the New England area should enjoy better than average working weather during August 1954.



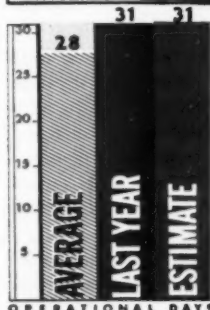
Indiana and Ohio builders may expect better than average construction weather to prevail in August, 1954. In Michigan, however, less favorable conditions appear likely to be experienced. Temperatures will average warmer than usual for the month throughout all three states with two important hot spells in prospect. Rainfall amounts will show considerable variance with wet weather being observed in the north and dry weather in the south. August of 1953 had a similar monthly temperature and precipitation distribution in Area 3.



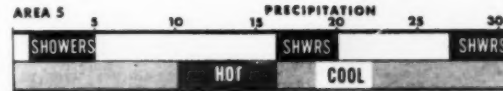
Warmer than usual average temperatures were observed last year in spite of cool and rainy weather during the first week to ten days. In contrast, the last week of August was characterized by very hot weather. Rainfall was generally deficient in the Dakotas and excessive in eastern Minnesota and in Wisconsin. The weather for August of this year will be quite similar to that of last August. Warmer than usual temperatures again will prevail with rainfall distributed in the pattern previously described.



Heat wave weather was recorded during the last week of August, 1953, although monthly average temperatures were at near seasonal levels. Precipitation totals were normal or less than normal over much of Area 4. Consequently, good working weather was generally recorded. For August of 1954, temperatures will range from near normal in New York to above normal in western Pennsylvania and West Virginia. Rainfall totals will not exceed average August values. Operational days will equal last August's accumulation.



With above normal temperatures and below normal precipitation amounts in prospect during August, 1954, Area 2 may anticipate better than average working weather. Several shower periods are anticipated but interruptions in work schedules should be only temporary and of a local nature. Thus, every day should be operational. Last year in August, temperatures averaged near normal in this five-state area. The very dry weather that accompanied this regime resulted in a completely operational month.



New England's weather will be less favorable than usual for outdoor construction during August, 1954. Above normal rainfall accompanied by below seasonal temperatures will prove detrimental although precipitation occurring in excessive amounts will be the principal restricting element. A good period for carrying on extended operations is in prospect shortly before mid-month. Last year in August, extremely variable weather conditions were recorded in Area 5. Much of the region enjoyed above average working conditions, however.



East Side—



## Cleveland's 'idea houses' for new building

The 1954 "Idea Homes" in Cleveland, on these pages, were sponsored by the Builders Exchange, Inc., to impart suggestions for new housing or modernization work. The ideas are in design, use of new products or materials, time savers or adaptation of a common material to a new or unusual use.

The East Side house was built in Cleveland Heights by James Restifo of Restifo & Son, from plans by Nick Restifo, his son.

Its carved wood entrance is flanked by two large glass areas, opens onto a wide foyer which is screened lightly from the living room by wrought iron framework.

Four rooms have a deep coved ceiling, a curved pattern in the breakfast room matching the asphalt tile floor design.

Living room has a fireplace framed in smoked glass. It is L-shaped with dining area which has double doors opening onto a year-round porch equipped with glass jalousie walls.

The porch also has direct access from the kitchen. Latter features built-in electric oven with convenient shelf arrangement for hot dishes, built-in range top with electric griddle.

Ceramic tile floors and walls are in both bathrooms. One has a shower stall with marble seat, overhead light and adjustable shower heads at three heights. It also has a double medicine cabinet with winged doors to make a three-way mirror and with safety-catch compartments for storage of special medicines.

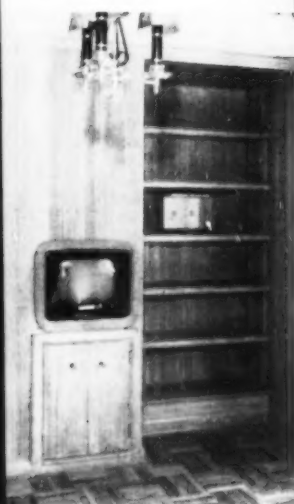
Wood ceiling beams support porch roof of green plastic and glass fibre. Built-in bar of driftwood, work counter, sink and fireplace feature basement recreation room.



Entrance combines natural cedar and white painted siding, door with green trim around centered brass knob, stone planters

Den has television built-in on sliding platform which can be pulled out of wall opening and adjusted for height and distance. Record and book storage is also built in

Kitchen has deep coved white ceiling with trim painted to match color of tiled walls. Built-in oven has hot dish shelf above







—West Side

## highlight design features or modernization

The West Side house, in suburban Westlake, was built by George L. Postlethwait. Kleine, Latimer & Lesko were the architects.

An "activities" room takes the place of living-dining rooms and is located between kitchen, in front, and a rear patio. Adzed fir beams support a wood ceiling. Double glass doors to the patio are part of a shadow-box window wall of double-glazed sash.

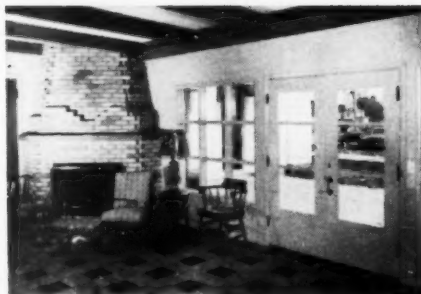
Kitchen features a front wall of brick in which are located a built-in charcoal steak grill, counter-top electric range, two electric ovens. An electric griddle is recessed in the counter between kitchen and breakfast room. Sink and knotty pine cabinets face the activities room with a glass wall screening the dishwashing operations from view.

A four-way bathroom section is designed to permit use of facilities by all children preparing for school at one time. The sections separate a square bathtub, stall shower, two toilets and three lavatories set in two vanities.

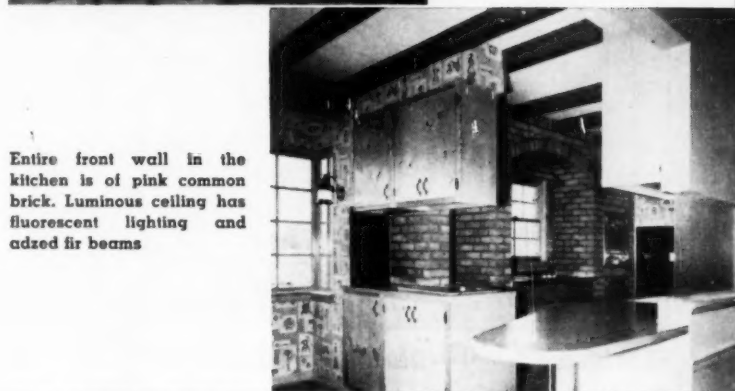
The house also has a drawing room or library, adjacent to the front hallway, with fireplace, glass-covered built-in bookshelves and recessed lighting.

Built-in desk, with lighting and bookshelves above, and a room-width double closet are in the den. Basement, centered under a small portion of house, has heavily reinforced concrete ceiling for use as a bomb shelter. Corner spotlights on the roof and above barbecue pit provide night lighting for the patio. Perimeter warm air system provides heating and cooling.

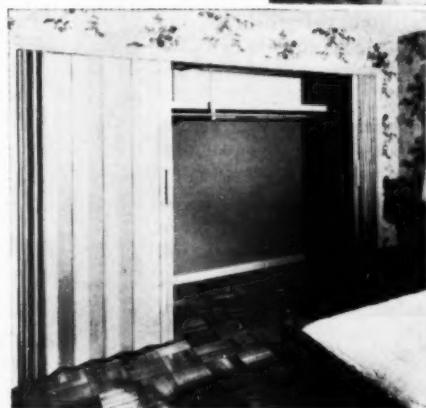
Sponsorship of the idea houses is an annual undertaking of the Builders Exchange for a two-week display open to the public. It is attended by thousands each year.



Corner fireplace in activities room shares use of chimney with a corner barbecue pit on patio



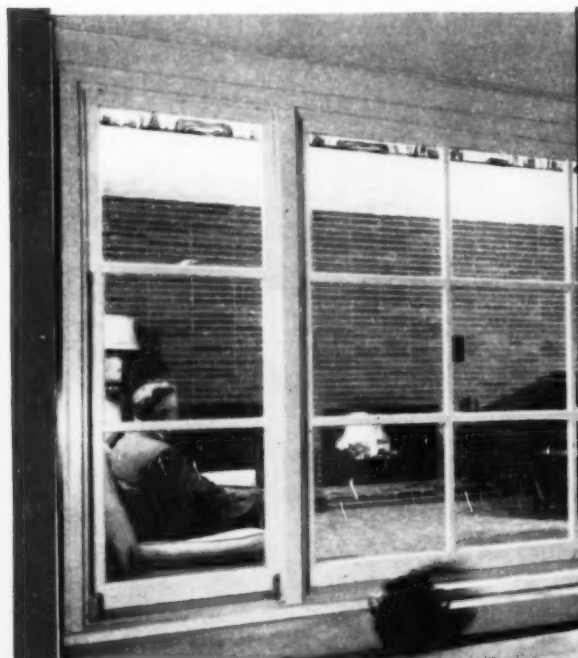
Entire front wall in the kitchen is of pink common brick. Luminous ceiling has fluorescent lighting and adzed fir beams



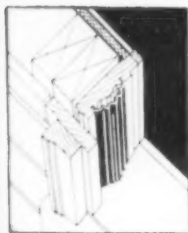
Closet in master bedroom is 12 feet long, has two wood folding doors. Room has door to patio



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—Precision manufactured jambs and sills. Comes knocked down with all weatherstrip factory applied.

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The most complete line of job-tested windows for the home!



Versatile **BILT-WELL** Awning Units



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—Designed for multiple application as awning, hopper, fixed or casement windows.

—Completely assembled, furnished with all sash hardware installed except locking handle. Storm and screen panels available.

—Economical...quick and simple to install...foolproof operation...easy to maintain.

The most complete line of job-tested windows for the home!

In these days of rising operating costs and keener competition, far-sighted builders are becoming increasingly aware of the importance of selecting quality materials made by reliable manufacturers.

That's why more and more builders are specifying the full line of BILT-WELL woodwork for every job. They know they can depend on getting the same high quality of materials and workmanship...the same high degree of customer acceptance...the same labor-saving installation features...and the same 100% guarantee of product per-

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Relieve yourself of the headaches of unknown products, of poorly matching woodwork, of wasted man-hours spent in installation, of unmet delivery dates and unnecessary replacement costs...look for the BILT-WELL trademark whenever you buy windows, doors, shutters, entrances, kitchen cabinets or any other millwork. It's your guarantee of quality and dependability!

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**WOOD WORK**  
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Manufacturers of the BILT-WELL Line of Outstanding Woodwork...**BILT-WELL WINDOW UNITS**—Awning, Double Hung, Casement, Basement, Storm and Screen, Gable, Sash & Louvers...**BILT-WELL CABINET UNITS**—Kitchen, Wardrobe, Multi-Purpose, Corner China, Mantels...**BILT-WELL DOORS**—Interior, Exterior, Combination, Garage, Screen, Flush, Entrances.

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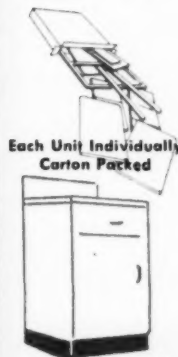


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- Double weatherstripped for weather-tight protection.
- Can be used in combination with BILT-WELL picture units.
- Patented extension hinges hold frame rigid and swing sash out and away for easy cleaning.
- Shipped K. D., semi-assembled, with all hardware. Available with dual-glazed panel.



### Multiple Purpose BILT-WELL Cabinet Units



- Modern, continuous-line design styled to harmonize with modern or contemporary settings.
- Over fifty different types and sizes to meet storage needs anywhere in the household.
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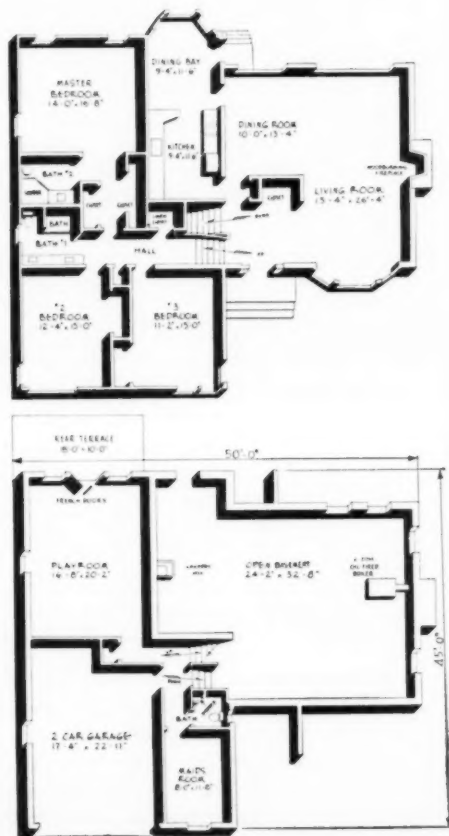
Roslyn, N. Y.—

## large split-level calls for separate master suite

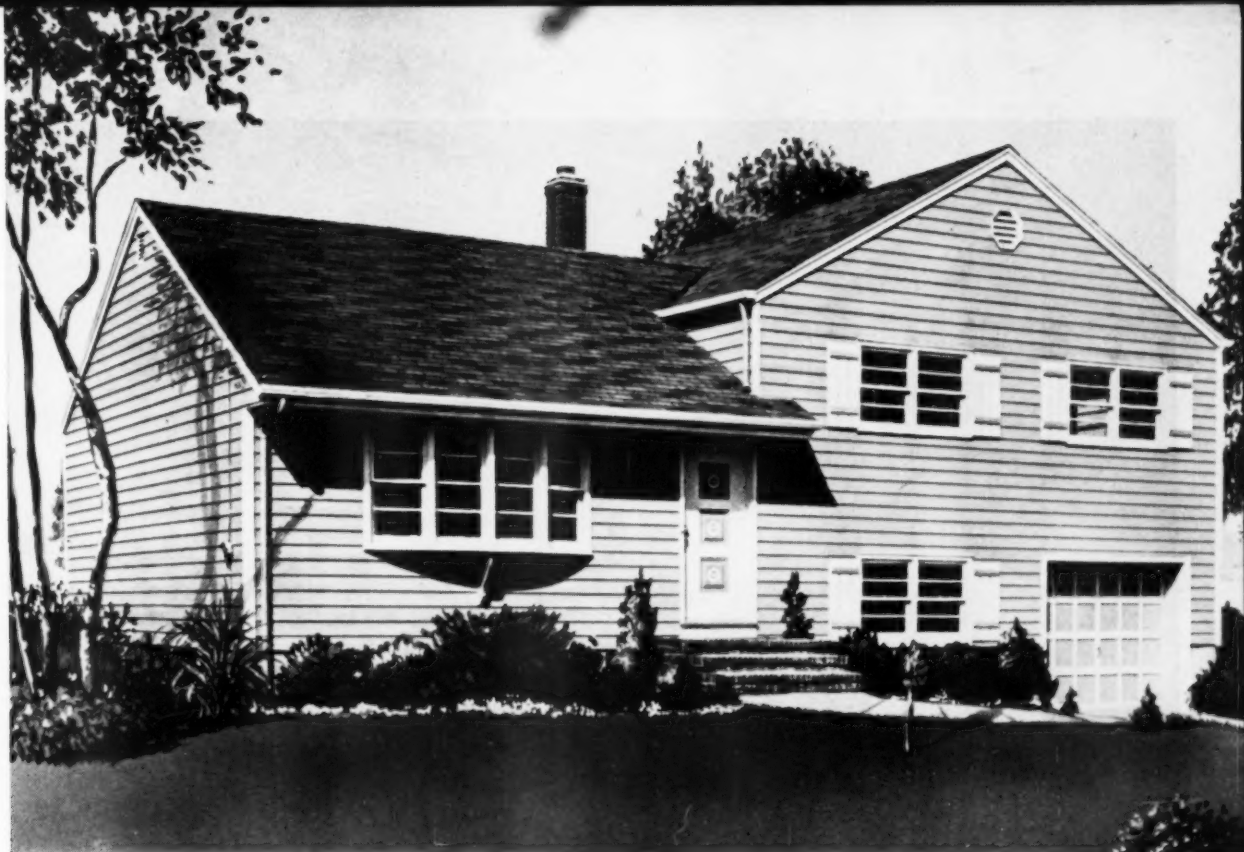
Special attention was given to the bedroom area of this 2,275-square foot split-level house, model for 75 such units in Northwood-at-Roslyn, latest Long Island development of Sam and Julius Guterman Associates.

Each of the three upper level bedrooms are 15 feet or more long, contain closets at least six feet wide. Separate master bedroom suite includes its own foyer with 14½ feet of fitted and wardrobe closet space and separate bathroom with corner, glass-enclosed stall shower. Main bathroom has full wall vanity with double lavatory and medicine cabinet arrangement. A fourth bedroom with bath, designed as maid's quarters, is on the grade level adjoining a two-car garage. The 16x20-foot recreation room has French doors opening onto a large rear terrace. Basement level is fitted for laundry facilities and has a two-zone, oil heat system operating from separate thermostatic controls.

Stanley Klein was the architect for this 3½-room, three-bath house. The price of \$28,990 includes a one-third acre plot; Hotpoint built-in oven and range and an automatic dishwasher.







—Fair Lawn, N. J.

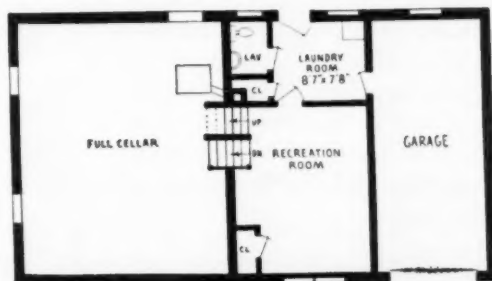
## designed for compact, multi-level living

This three-bedroom house in Fair Lawn, N. J., built by Friedman Homes (Harry Friedman), utilizes a series of short flights of stairs in a central location to cut down hall space and tie seven rooms together in a compact arrangement.

It is one of a group of 12 split-level units in the \$19,500 range, designed by Percy Simon. Three bedrooms and bath occupy the highest of four levels, while the lowest is a large open basement with gas-fired forced warm air furnace.

Grade level includes a 12½x16-foot finished recreation room with adjoining powder room. Section partitioned off for laundry use has separate exit to rear yard. Garage is 26 feet long, the full depth of the house, and has an entrance into the laundry room.

The kitchen has rear exit, a sliding door to living room to conserve space, a dining room entrance, a built-in snack bar to set off the breakfast area, and natural birch cabinets.





Pioneer Cooperative Apartments, Chicago, Illinois. Architects: George Fred Keck and William Keck, Chicago. Contractor: Perry Construction Company, Chicago. Windows: Lupton Steel Residence Casements, Fixed Windows and Architectural Projected Windows.

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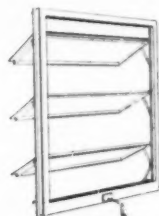
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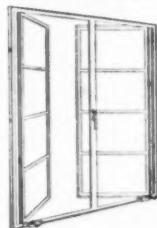
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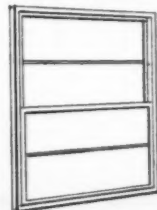
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machinery has resulted in these  
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other types of wood work.

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## aluminum WINDOWS



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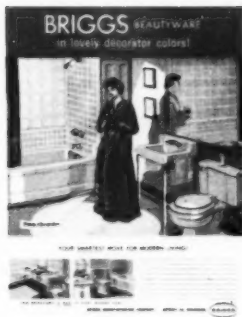


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More often than not, it's the *extras* that make the sale. One important feature that will help sell *your* homes faster is an extra bathroom of Briggs Beautyware. Home buyers know the second bathroom offers a world of convenience no other home improvement can match. They'll be delighted when you tell them how little this modern luxury adds to their monthly mortgage payments.

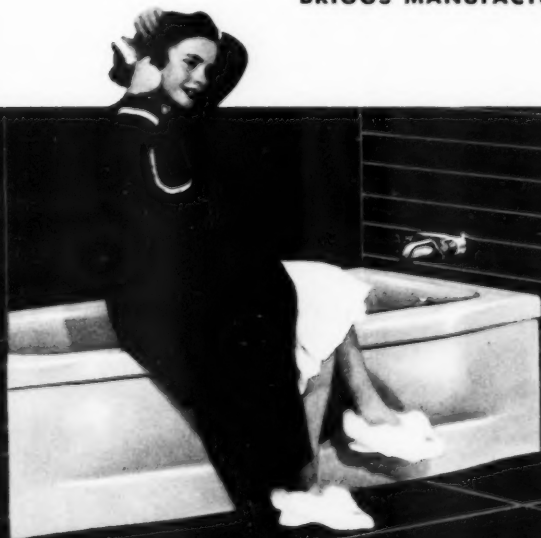
And, be sure the people who buy your homes are *completely* satisfied. For *both* bathrooms, specify hand-

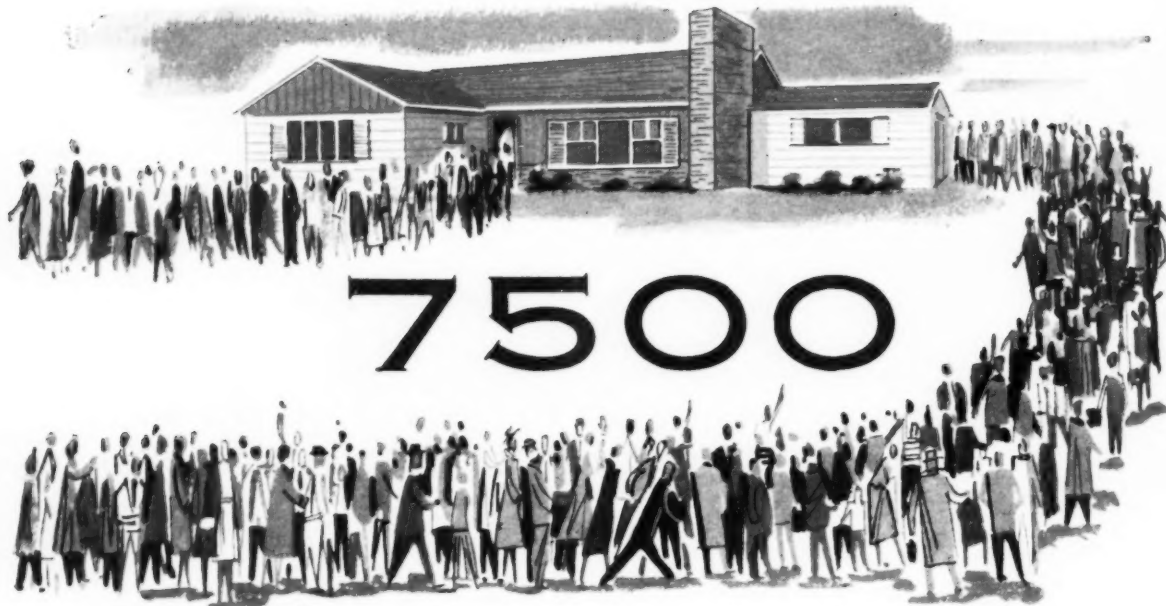
some, colorful Briggs Beautyware! You already know of the high quality of every trouble-free Briggs fixture. It doesn't take users long to find how dependable this popular plumbing ware is. Year after year, Briggs Beautyware *keeps* its fresh, new look—because *all* Briggs Beautyware is acid-resistant with non-fading decorator colors!

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A feature attraction  was year 'round air

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Result:  50 sales in 90 days... a profitable

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home. Specifically, Mr. Di Felice ... and home buyers ... liked

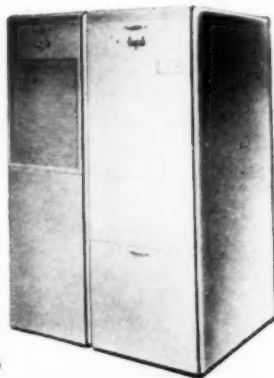
these unique features of the Bryant "Command-Aire" system ...

- • • A new low price—makes "Command-Aire" conditioning a practical feature in moderately priced homes.
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- • • Independent heating and cooling units—assure proper delivery of air for both heating and cooling ... provide better dehumidification control ... eliminate overload on furnace blower.
- • • Cooling initially—or later—The "Command-Aire" furnace member can be installed first, and the cooling "Twin" offered later ... whichever is most convenient for the buyer.
- • • A unique Bryant warranty eliminates service headaches.

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\*Mr. Di Felice's homes, offered in 3 and 5-bedroom styles, are located at Bob White Farm, a 200-acre tract of scenic land in Montgomery County near King of Prussia, Pa.



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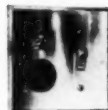
7714-I  
Clock Outlet



7869 Duplex  
Weatherproof  
Outlet



7681  
Porcelain  
Receptacle



5349 Comb  
Switch-Pilot Light  
Gr. Outlet



4029  
Door Switch



1711  
Louvre Light  
6408  
Brass Plate



5262  
Grounded  
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DL-500-F  
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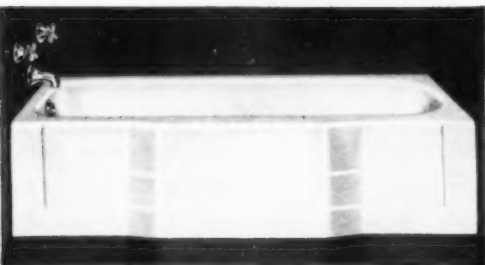
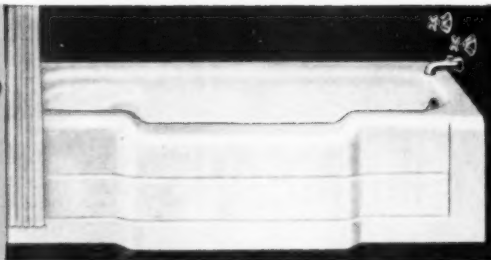
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**SIZE: 5½'**

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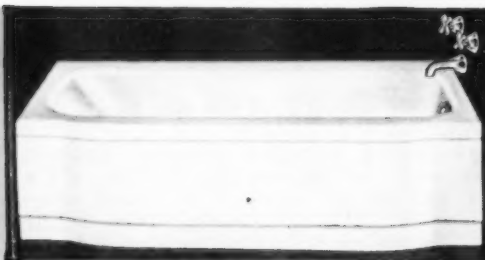
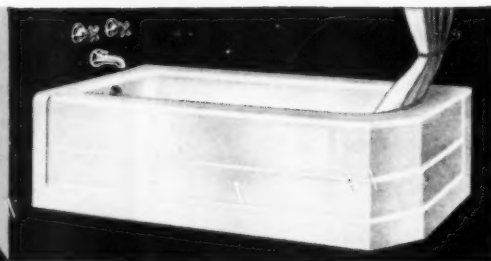
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# Housing Bill Passage Is Delayed

## But Conferees Approve \$20,000 Mortgage With 95 Per Cent Loan on First \$9,000 of Value

The omnibus housing bill's progress through Congress slowed down a bit around mid-June, so talk of "late July or early August" came into predictions as to the date of final enactment.

The Senate had passed its amended version of the House-approved bill on June 3, but the Senate-House conference committee did not hold its first meeting until June 28. And it did not really get under way with the reconciling work until after the July 4 holiday. Since then and up until press time, its action has been one of liberalization of the present law, while adding many safeguards.

Conferees set higher maximum mortgage limits in agreement with the request of President Eisenhower and the original House bill: \$20,000 for one and two-family houses, compared with \$16,000 at present; \$27,500 for three-family buildings and \$35,000 for those housing four families.

To ease down payments, the conferees would allow FHA to insure up to 95 per cent of the first \$9,000 of house value, plus 75 per cent of the balance. This would permit a \$450 down payment for a \$9,000 house, \$700 for a \$10,000 unit, \$1,950 for \$15,000, \$2,700 for \$18,000, or \$3,200 for \$20,000. The President would be empowered to move the \$9,000 dividing line to \$10,000 if he felt economic conditions made this advisable.

### To Require Certification

Despite industry opposition to a warranty provision, the conference committee adopted a Senate measure requiring certification that a house be constructed in conformity with plans and specifications. The less severe House proposal had called for a warranty that a structure be in "substantial" conformity with plans and specifications.

Meanwhile, failure to get the bill through before June 30 necessitated enactment of stop-gap legislation to extend one month those provisions of present housing laws which otherwise would have expired on that date. It

was embodied in a joint Senate-House resolution signed by President Eisenhower on June 29.

Provisions extended include those authorizing the Federal National Mortgage Association to make advance commitments to purchase mortgages on Wherry-act, defense, military and disaster housing; and those covering the GI direct-loan program.

As expected, the Senate included many restrictions designed to be safeguards against practices revealed by the investigations of Federal Housing Administration operations which got under way after the bill had passed the House but before it was reported to the Senate. The condemned practices were "mortgaging out" to gain "windfall" profits on large-scale rental housing financed under Section 608, and high-pressure activities of so-called "dynamiters" selling home improvements and repairs that were financed under Title I's repair and modernization program.

Senate and House proposals with respect to this program were first to be dealt with by the conference committee. The conferees accepted the Senate proposal to retain the present \$2,500 limit on the amount of such loans and the present maximum term of three years. The House proposed increases to \$3,000 and five years.

### Some Safeguards Accepted

The conferees also accepted, in whole or in part, some of the Senate version's safeguards. The agreement's provisions included:

1. Modification of the insurance arrangement to leave participating lenders uninsured with respect to 10 per cent of each individual while leaving the government's maximum liability at 90 per cent of the participant's whole portfolio. Present arrangements leave participants unin-

sured only as to 10 per cent of their total portfolio.

2. Exclusion of lenders from participation unless they are subject to some government supervision or expressly approved by FHA.

3. Limitation of loans to those which improve the basic livability or utility of the property. This was calculated to establish a legal barrier against use of repair and improvement loans to finance such things as barbecue pits, swimming pools and like "fringe" items which were already on the "ineligible" list set up June 14 by Acting Housing Commissioner Norman P. Mason.

4. Prohibition against use of Title I loans on new homes until they have been occupied for six months.

5. Limitation of multiple loans on the same structure to a total of \$2,500.

The Senate Banking Committee had said that these limitations were intended to restrict operation of improvement and repair programs as compared with previous operations. "FHA," the report added, "must recognize that it has responsibility to the borrower. . . . If abuses are to be curtailed, FHA must assume a more

(Continued on page 40)

## June Building Outlay Holds to Record Pace

Dollar volume of new construction remained on its record level through June, when total outlays reached \$3.3 billion. The total for the first six months of this year was at a peak of \$16.6 billion.

That was 2 per cent above the \$16.3 billion reported for 1953's first six months. June's increase over the same 1953 month was 3 per cent, while its rise above May was 7 per cent.

Private spending for residential building totaled \$1,148 million in June, up 6 per cent from May's \$1,082 million. The increase above June 1953 was 2 per cent.

## Mason Streamlines FHA Procedure As Investigations Continue

Acting Commissioner Norman P. Mason of the Federal Housing Administration has made organizational changes in FHA's top policy-making structure in an undertaking to "streamline its liaison with the 75 FHA field offices." He has also written into FHA regulations additional safeguards calculated to prevent practices of the "mortgaging out" and "dynamiting" variety.

Meanwhile, the investigations inspired by exposures of such practices are continuing. They include the Housing and Home Finance Agency's own probe, under the direction of its deputy administrator, William F. McKenna; the Senate Banking Committee's inquiry, sparked by Committee Chairman Capehart, which began public hearings in Washington with the testimony of McKenna, and the investigation which Senator Byrd has launched as chairman of the Joint Committee on Reduction of Nonessential Federal Expenditures.

### Nine Regional Hearings

Senator Capehart announced that regional hearings would be held, following adjournment of Congress late in July or early August, in New York, Cleveland, Columbus, Chicago, Los Angeles, Detroit, Baltimore, Philadelphia and Dallas.

Administrator Albert M. Cole of HHFA made public an interim report on that phase of the McKenna investigation which went into "windfall" profits resulting from "mortgaging out" of large-scale rental housing projects financed under Section 608. The report showed that 200 named corporations interested in 70 projects realized total "windfall" profits of \$39.5 million, \$31.8 million of which was distributed to stockholders. The paid-in capital stock of the corporations aggregated \$4.1 million.

Acting Commissioner Mason's streamlining plan for FHA established offices of four assistant commissioners—for technical standards, programs, operations, and administration. Also established were a public information section, a minority group housing section, and an office of director of examination and audit—all reporting directly to the commissioner.

No personnel appointments were made immediately. It was considered likely that Mason would use for that purpose some of the new Grade 16 positions (\$12,000 to \$12,800 per year) proposed in pending legislation.

Mason referred to his staff situation in a recent address, saying: "It is my

hope that I shall be able to bring qualified people from outside government into FHA. I want people who will be willing to work for the government not for pay alone but for the satisfaction of helping others improve their living conditions."

### New Objectives Listed

Objectives of the new organizational set-up are to avoid duplication of functions, to pinpoint responsibilities, and to provide a check on FHA operations independent of the operating and staff advisory channels.

The additional administrative safeguards instituted by Mason included his ruling, with respect to the multiple-family housing program, that sponsors' requests for permission to pay dividends from FHA insured loans and to effect changes in capital structure must receive prior approval by FHA and must be accompanied by up-to-date financial statements; his directive, with respect to Section 203's small rental housing program, which requires that applications for all groups of 12 or more homes to be offered for rent must be approved in Washington before they get FHA financing; and his ineligibility list which excluded barbecue pits, dog kennels and similar items from eligibility for financing under Title I's repair and modernization program.

### FHA Business Rising

Meanwhile, June figures showed that the month's total of Title I loans (150,000) was above the May total. Applications for mortgage insurance on more than 55,000 dwelling units were filed with FHA field offices in June. This was up 20 per cent from June, 1953. To FHA, the June volume indicated "industry approval of greater vigilance in seeing that the American home buying public is protected."

The interest rate on college housing loans for this year's second half will be 3¼ per cent. That rate, set by HHFA Administrator Cole, was ¼ per cent lower than the 3½ per cent rate in effect during the previous two six months periods.

President J. S. Baughman of the Federal National Mortgage Association reported that FNMA funds available for the purchase of additional mortgages increased by \$21 million in May. He noted that this was the first rise in FNMA's uncommitted funds in almost two years—since June 1952.

## VA Reports Big Spurt In Appraisal Requests

An increase of 90 percent above the same 1953 month was reflected in the total of 89,134 appraisal requests received by the Veterans Administration during May. And a rise of 73 per cent was reflected in VA's May total of 42,000 applications for home-loan guarantees.

The latter indicated that the spurt in appraisal activity since February was being felt. The 89,134 appraisal requests received during May involved 52,245 proposed new dwellings and 36,889 existing homes.

Calling attention to the fact that the so-called GI bill has been a law 10 years, VA noted that home loans have accounted for 90 per cent of all loans obtained by veterans under the bill. There have been 3.3 million home loans, aggregating \$22.8 billion.

"The average veteran," VA said, "used his GI loan to buy a substantial middle-priced home—neither a 'cracker box' nor a mansion. A recent VA survey disclosed that 60 per cent of the GI home buyers paid between \$10,000 and \$15,000; 30 per cent paid under \$10,000; eight per cent between \$15,000 and \$20,000, and two per cent over \$20,000."

## Television Network Turns Spotlight on Housing

A series of housing and building features is being televised each Thursday morning on "Home," over the National Broadcasting Company network



C. W. Smith

with the collaboration of the Southwest Research Institute. C. W. Smith, director of the institute's Housing Research Foundation, is conducting the programs, touching on such subjects as what's new in housing, community planning, how to plan a kitchen, etc.

## Federal Forecasters See \$36 Billion Year

Largely because of the high current level of new home building, federal government forecasters have made upward revisions of their previous estimates and now predict this year's expenditures for new construction will reach a record high of \$36 billion.

The estimates are those prepared jointly by the Department of Commerce's Building Materials and Construction Division and the Department of Labor's Bureau of Labor Statistics. The earlier forecast, issued last November, had put prospective 1954 outlays at \$34 billion. That would have been two per cent below 1953, whereas the \$36 billion anticipates a two per cent increase. The 1953 total was \$35.3 billion, the record to date.

As to privately-financed new dwelling units, the forecast estimated that \$10.7 would be spent on them in 1954. "Current indications," it said, "are that 1,080,000 new private nonfarm dwelling units will be started this year; it was anticipated earlier that there would be less than a million starts during 1954, on a seasonally-adjusted basis, private starts have been at an annual rate well above 1,100,000 units for the first third of the year. . . . Eased mortgage opportunities have been widely attributed to be one of the main springs of the 1954 strength in housing."

## PHMI Joins MBA to Study Prefab Home Financing

Prefabricated Home Manufacturers' Institute has established a mortgage financing committee to cooperate with a subcommittee of the Mortgage Bankers Association of America research committee in developing better facilities for financing factory-made house sales, according to Gen. John J. O'Brien, PHMI president. Chairman of the manufacturers' group is William B. F. Hall, president of General Industries, Inc., Fort Wayne, Ind.

## Early Forecasts for '55

An estimated housing production of 1,100,000 new units this year may swell to 1,300,000 next year, in the opinion of Joseph P. McMurray, economic consultant of the Senate Banking Committee.

Less optimistic, Miles L. Colcan, industry economist, anticipates that starts will range between 1,000,000 and 1,100,000 each year. He has voiced concern that if certain restrictions remain in the housing bill, the total volume will be hampered.

## Dickerman's Column:

### 70 Colleges to Offer Building Courses From 'Refreshers' to 4-Year Studies



John M. Dickerman, Executive Director,  
National Association of Home  
Builders of the United States

Economists and political leaders have long been aware of the major role that housing plays in the American business and social order. But until recently, there has been a marked failure on the part of our educators to recognize that the complexities of modern home building require a high degree of special training which they can best provide. Fortunately, this failure is now being corrected by a number of the nation's leading educational authorities.

When school resumes next month, home building will be on the curriculum of more than 70 colleges and universities across the country. Many will be brief "refresher" courses for persons already engaged in home building; others will offer intensive advanced schooling for experienced builders, and a growing few will provide complete four-year courses.

Indicative of this new educational interest in our industry is a conference scheduled by Michigan State College for this Fall to try to arrive at some conclusions as to the best method of providing home building instruction—for example, whether such courses should be given under the direction of the engineering or architectural faculties or as part of a business administration course.

The National Association of Home Builders is sponsoring one of the major educational projects now under way. Carrying forward a program launched last year, NAHB will conduct an advanced school for home builders at the University of Illinois in Urbana, Illinois, for ten days beginning November 1. The course will be open to 50 builders for a tuition fee of \$125, and applications will be accepted by NAHB on a "first-come-first-served" basis.

Dr. Leonard G. Haeger, director of NAHB's Research Institute, and Chris Christensen, associate director of the Institute, will serve on the faculty. The course will cover the entire technical field of home building, including construction techniques, design and planning, materials, market analysis, land acquisition, business management, labor relations and mortgage finance.

All of this is welcome evidence of a growing national interest in the home building industry which should be of real significance to every builder. It will help assure constantly rising standards of professional skill in our industry, with resultant benefit to all home buyers, and it will provide a constant pool of trained young men to further the progress that already has been made.

It indicates also a recognition that the home building industry, which only a generation ago was regarded as a handcraft, hammer-and-saw trade, has come of age and taken its rightful place among the great industries of America. For the past year, NAHB has maintained a separate Educational Department, under the chairmanship of a Long Island builder, Leonard Frank, which is devoted to disseminating throughout the American school system information about the activities and objectives of the home building industry.

The NAHB Research Institute is performing a similar, although naturally more specialized function within the industry itself, making available to builders everywhere all of the growing fund of knowledge that has been accumulated on the building and marketing of better homes.

## Steel Door Manufacturers Establish Institute

Establishment of the Steel Door Institute to set standards within the industry and to disseminate information concerning steel doors, has been announced by A. L. Munsell, sales manager of Truscon Steel Division, who was elected chairman. Donald Dawson of American Welding & Manufacturing Company was named vice chairman.

## FHA Helped All Buyers

"It is safe to say that practically every American family that acquired a home during the past two decades, whether through the FHA or GI program, or without Government insurance of any kind, has benefited to some degree from the mass financing pattern established by FHA."—From a statement by R. G. "Dick" Hughes, NAHB president, on FHA's 20th anniversary.



## New Starts Method Delays June Figures

Housing-start figures for June were the first to reflect the new estimating techniques adopted by the Bureau of Labor Statistics of the United States Department of Labor. The conversion work delayed publication of the June figures until after July 15, but the mid-month date was expected to be met with reports for subsequent months.

The revised estimating plan combines (1) a monthly reporting system expanded to include almost all building permit-issuing localities, with (2) field surveys of dwelling-unit starts in non-permit-issuing places.

Hereafter, the bureau plans to publish estimates of new housing activity by metropolitan and non-metropolitan areas, and to publish regional estimates as well as the national figure. The regions will be North East, North Central, South and West.

H. E. Riley, chief of the Bureau's Division of Construction Statistics, said there was hope of publishing state estimates, too. Arrangements have yet to be worked out. He anticipates the new method will show starts a little higher than the previous system. There will be no recalculation of the old series, however, because the old figures will be fairly comparable with the new.

## Housing Bill Delayed; \$20,000 Loan Approved

(Continued from page 37)

active role in administration and supervision of these home repair and improvement programs than it has in the past."

Highest hurdle ahead of the conferees was the expected hassle on public housing. The House version of the bill had no provision for public housing in addition to that now in the "pipeline."

As to FHA mortgages on existing houses, the House proposed to put the loan ratios on par with those on new housing. The Senate rejected the proposal, preferring the more restrictive present regulations applicable to existing housing.

Among other provisions which differed as between the two versions, or were in only one version, were the records auditing and cost disclosure provisions; provisions dealing with FNMA's future, and cost certification provisions applicable to rental housing.

## Valuable Addition to the Archives in Washington



Clyde J. Verkerke, (left) president of the Home Builders Association of Metropolitan Washington, presents a copy of "Housing, U.S.A." to Harry N. Peterson, chief librarian of public libraries in the District of Columbia. W. Evans Buchanan, chairman of the association's public relations committee, looks on. Written by the 14 past presidents of NAHB, this popular book is published by Simmons-Boardman, publishers of *American Builder*.

## FHA Looks Ahead Ten Years

FHA's major aim in the coming decade, declared Acting Commissioner Norman P. Mason in a statement issued to mark the agency's 20th anniversary, "will be to implement the policies announced by President Eisenhower. They are:

"1. To help the home folk of America to have desirable and adequate housing.

"2. To help them keep their homes in up-to-date condition, and

"3. To help them rehabilitate the many fine homes which, through past neglect, are a blight on our urban communities."

Among future plans, Mason listed:

1. Orientation of district directors in order that they may help the public, builders, lenders, realtors, building material dealers and others to understand how FHA can help them.

2. An improvement and refinement in the administrative pattern of FHA to delineate authority more clearly and make it more responsive.

3. Establishment of strong, active district offices in the field with close liaison with policy-making administrative departments in the central Washington office.

4. A two-phased inspection policy calling both for financial audits and for consultations with each employee to assure that he understands and is carrying out policy as outlined by his district director.

5. Addition of an independent programming assistant in the Washington office to study FHA programs con-

tinually and to attempt to find more effective and less costly methods of operations.

6. Adoption of a program on minority housing education of FHA personnel so that they may give every assistance to those trying to make open-occupancy housing available and calling also for safeguards to insure that FHA programs are available to all without regard to race, creed, color or national origin.

## Interest in Lu-Re-Co Prompts FHA Bulletin

As a result of inquiries from several of its local insuring offices regarding acceptability of Lu-Re-Co house designs, the Federal Housing Administration has just issued an engineering bulletin to all insuring offices.

H. R. Northup, executive vice president of the National Retail Lumber Dealers Association, reported that he had received a letter from Charles A. Bowser, director of the FHA Underwriting Division, which stated that the bulletin would "indicate the thinking of headquarters and will, in effect, eliminate any doubts regarding the structural acceptability of the special method of construction involved."

Bowser pointed out that FHA does not plan to approve specific housing plans but, rather, will approve a system of construction that can be applied to any or all house plans.



# BRIXMENT

## *Better Mortar for Blocks*



## WHY IS GOOD MORTAR IMPORTANT?

Because of their size and weight, concrete blocks require mortar with "body", plasticity and water-retaining capacity. Brixment meets all these requirements. It has the *body* necessary to support the weight of the unit and hold it up to the line. It has the *plasticity* necessary to prevent the mortar from falling off the long head joint, while the block is being placed in the wall. It has high *water-retaining capacity*, which gives the bricklayer more time to shift and adjust the block to its final position before the mortar stiffens.

It is the combination of these characteristics that makes Brixment the leading masonry cement for concrete block as well as for brick.



# WATER ONLY CAN GIVE A HOME ALL THESE SALES FEATURES



## SUNSHINE HEATING... WARM, DRAFTLESS FLOORS

B & G *Hydro-Flo* Forced Hot Water Heating provides controlled radiant heat—keeps homes at a uniform, comfortable temperature. It is particularly effective in homes with large windows or wide spread layouts.



## FUEL ECONOMY

Automatic modulation of the heat supply prevents fuel waste—keeps heating costs at rock bottom.



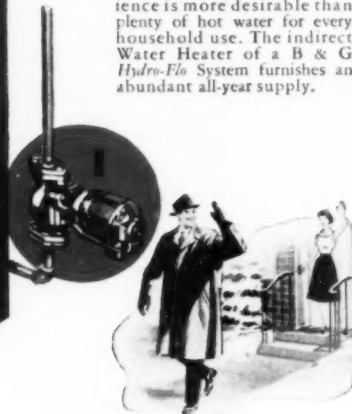
## SUMMER COOLING

The same room conditioning units and piping system can be used to heat the home in winter and cool it in summer.



## YEAR 'ROUND HOT WATER

Certainly no modern convenience is more desirable than plenty of hot water for every household use. The indirect Water Heater of a B & G *Hydro-Flo* System furnishes an abundant all-year supply.



## SNOW MELTING

Pipe coils can be installed under sidewalks and circulated with hot water from a *Hydro-Flo* System... melting snow as fast as it falls.

Water is the most effective medium known for delivering heat into a home or carrying heat away. It can be so accurately controlled that regardless of the weather, indoor temperature is always at the comfort level.

When you install a B & G *Hydro-Flo* Forced Hot Water System, you've laid the ground work for all the comforts and conveniences modern engineering has devised for more luxurious living. You've provided better heating... uniform temperature—warm floors—draftless rooms. You've assured fuel economy—the convenience of low-cost, all-year domestic hot water... and the owner can add snow-melting and summer cooling later, if his budget will not permit it now.

The basic units of a B & G *Hydro-Flo* Heating System are illustrated above. They can be installed on any hot water heating boiler.

1. **The B & G Booster.** A thermostatically controlled pump which circulates water through the system.
2. **The B & G Flo-Control Valve.** Helps maintain a uniform home temperature—prevents an over-ride in heat.
3. **The B & G Water Heater.** Produces an ever-ready supply of domestic hot water—winter and summer.

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You can't see the double seal applied to Careystone asbestos siding. But you *can* see what it does to provide real customer satisfaction! Just ask your Carey Dealer for a demonstration!

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Careystone Double-Sealed Asbestos Sid-

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Be sure and ask your Carey Dealer to show you new Careystone Double-Sealed Asbestos Siding. Or, write to us for complete information. Address Department AB-3.

**Colors:** *Pastel Green*  
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**AUGUST 1954**

**43**

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Prevents slamming of stairway on opening and closing; shuts stairway door tightly and eases stairway into open or shut position quietly and safely.

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The Precision stairway is actuated by cleverly engineered counterweights which close the stairway tight every time. No springs to weaken with constant use, no adjustments are necessary.

### LIFE-TIME ROLLER BEARINGS

Factory-packed, life-time roller bearings increase ease of operation of the Precision folding stairway to a point that makes operation practically effortless.

### RUGGED AND STRONG

All parts of the Precision folding stairway are secured by bolts and screws. The superior design assures long life plus dependable service under constant use.

### INSULATED DOOR PANEL

The door panel is insulated to keep out summer heat from the room below and to save fuel in winter by preventing loss of heat to the attic.

### FULL WIDTH SAFETY TREADS

Composition safety treads on each step protect step and assures a safe footing. Safety treads also add to appearance of stairway.

### FITS ANY CEILING HEIGHT

Graduations on runners facilitate cutting off for different ceiling heights, insure a saving on both installation time and cost.

2 STANDARD SIZES 8' 9" and 9' 9". For ceiling heights 7' 0" to 8' 9" use 8' 9". For ceiling heights 8' 9" to 9' 9" use 9' 9". Figure from finished floor to finished ceiling. Not Floor to Floor.

Frame is made to fit 26" by 54" opening in ceiling, also 30" by 54" (special) at extra cost.

Precision stairways are sold by more than 30,000 dealers in U. S., Canada and Alaska.

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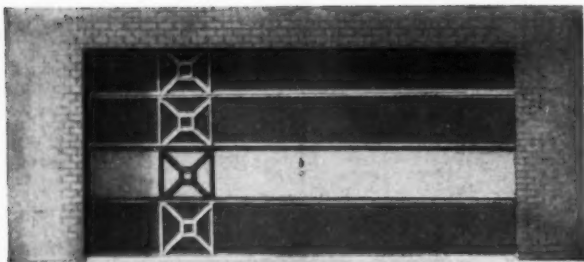
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Decorating a Calder door is easy . . . costs little. Simply arrange any of Calder's round, square or diamond rosettes and half-round strips into interesting patterns. (Invite your customer to do this himself.) Then fasten rosettes and strips to door and paint. Presto! A "custom" job without wasting time, money or material.

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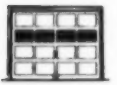
LEVELINE  
Wedge-Tight



PARALINE  
Wedge-Tight

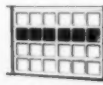


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When we started to work on the development of Roltite we knew it would be an uphill struggle — because at that time contact cements for plastic laminates were certainly held in low regard by most people in the trade. But we knew the need was there, so we kept working and testing for several years, and finally came up with the cement we believe was the answer.

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And today Midcontinent cements have almost completely taken over the plastic laminate contact cement field. Over 4 out every 5 gallons of contact cement for plastic laminates sold are made by Midcontinent!

The main reason, of course, for Roltite's popularity is that it does away with the need for those cumbersome clamps and presses once necessary. And it's so easy to work with almost anyone can use it. Roltite bonds immediately and permanently and it does so without requiring any heavy, sustained pressure.

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Dealers like to know Roltite has a guaranteed shelf life of one year without thickening appreciably. You know what that means to you if you've ever tried to use a thickened cement.

On the technical side we have some figures which will show you pretty conclusively why Roltite has been such a success in the field. For instance, in the laboratory a Roltite panel has been cycled for *over a year* on the seven-day plywood cycling test with no sign of failure (7 days at 100°F. with almost 100% humidity, then 7 days at 100°F. with almost zero humidity). If Roltite can stand such a severe test and for so long a time (it's still going) you can be sure it will hold up even on the toughest job.

Roltite has the highest initial bond strength of any cement of its kind — in one laboratory test it's still proving that an area of only one square inch bonded with Roltite will support a dead load of over 60 pounds indefinitely. Now what this test means to you is that with Roltite you can put down warped sheets, make seams, edge bond plastic laminates and be sure they will hold.

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If you're not handling Roltite now write to us today for the name of your nearest distributor. We'll also be glad to send you several free illustrated folders showing how very easy Roltite is to work with.

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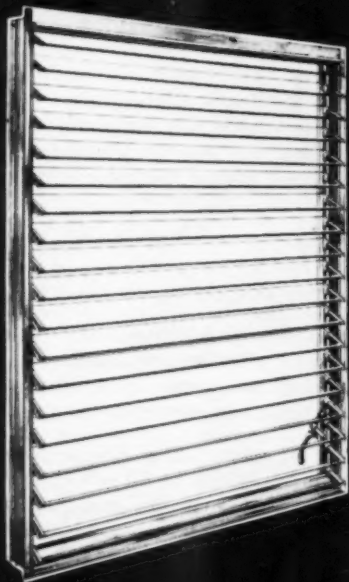
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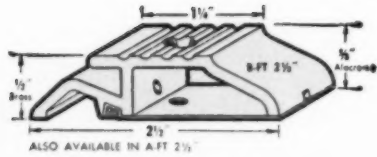
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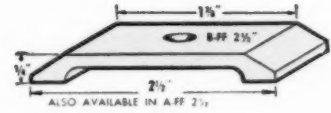
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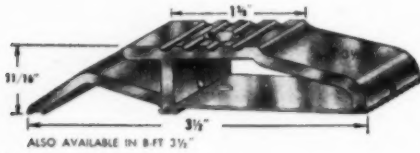
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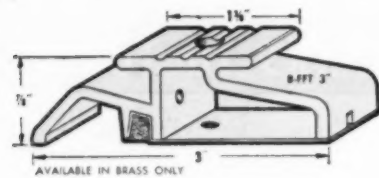
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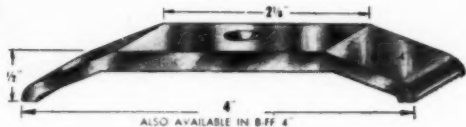
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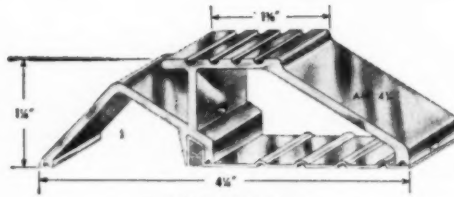
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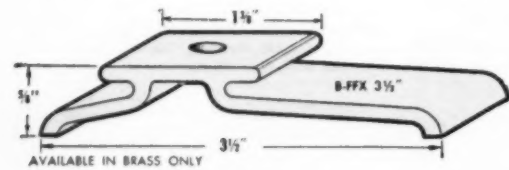
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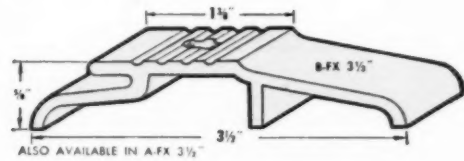
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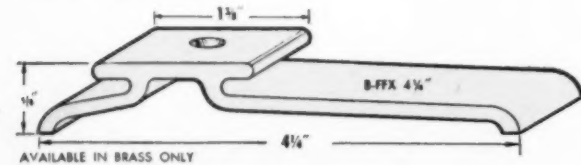
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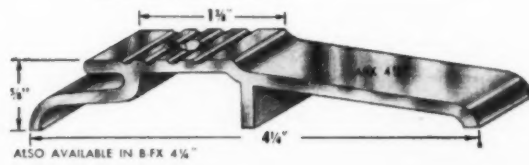
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Concealed hooks furnished unless exposed type specified!

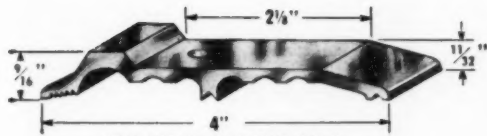
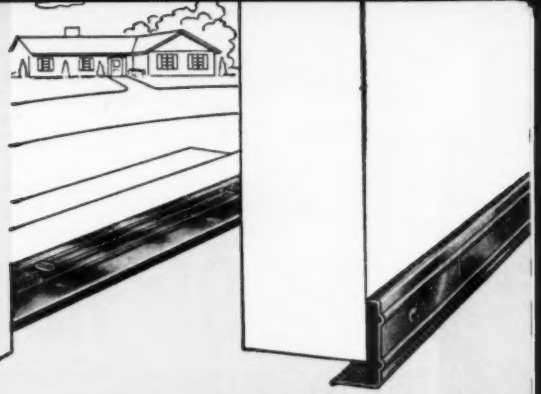


**MACKLANBURG-DUNCAN CO.**

OKLAHOMA CITY 1, OKLAHOMA

# THRESHOLDS

## Every Type Door



AVAILABLE IN ALACROME ONLY  
FOR SAFETY EXIT DOORS



ALSO AVAILABLE IN B.F.F.X. 4

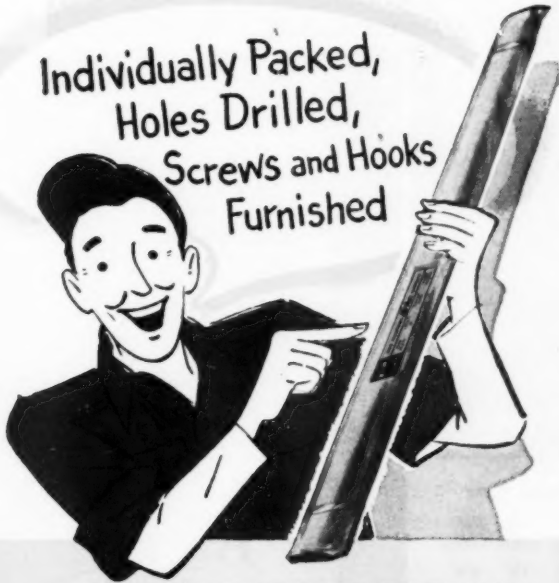


ALSO AVAILABLE IN B.F.F.X. 5



ALSO AVAILABLE IN B.F.F.X. 6

Individually Packed,  
Holes Drilled,  
Screws and Hooks  
Furnished



**ORDER DIRECT TODAY!**  
Your order will be shipped  
same day received!

### Exposed or Concealed Hooks Used in a Variety of Ways

Illustration shows exposed hook as used with Style F Thresholds.



EXPOSED HOOK  
for Styles F, FFX,  
FX, FFT and FT  
Thresholds. Brass  
or Alacrome.



CONCEALED  
HOOK No. 349  
Concealed Hook  
for Styles F, FFX,  
FX, FFT and FT  
Thresholds.



Illustration shows concealed hook as used with Style F Thresholds.

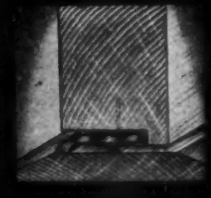
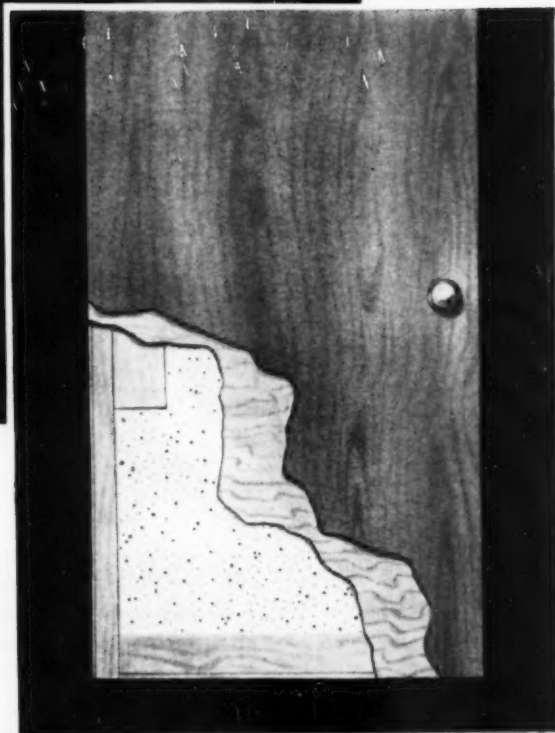
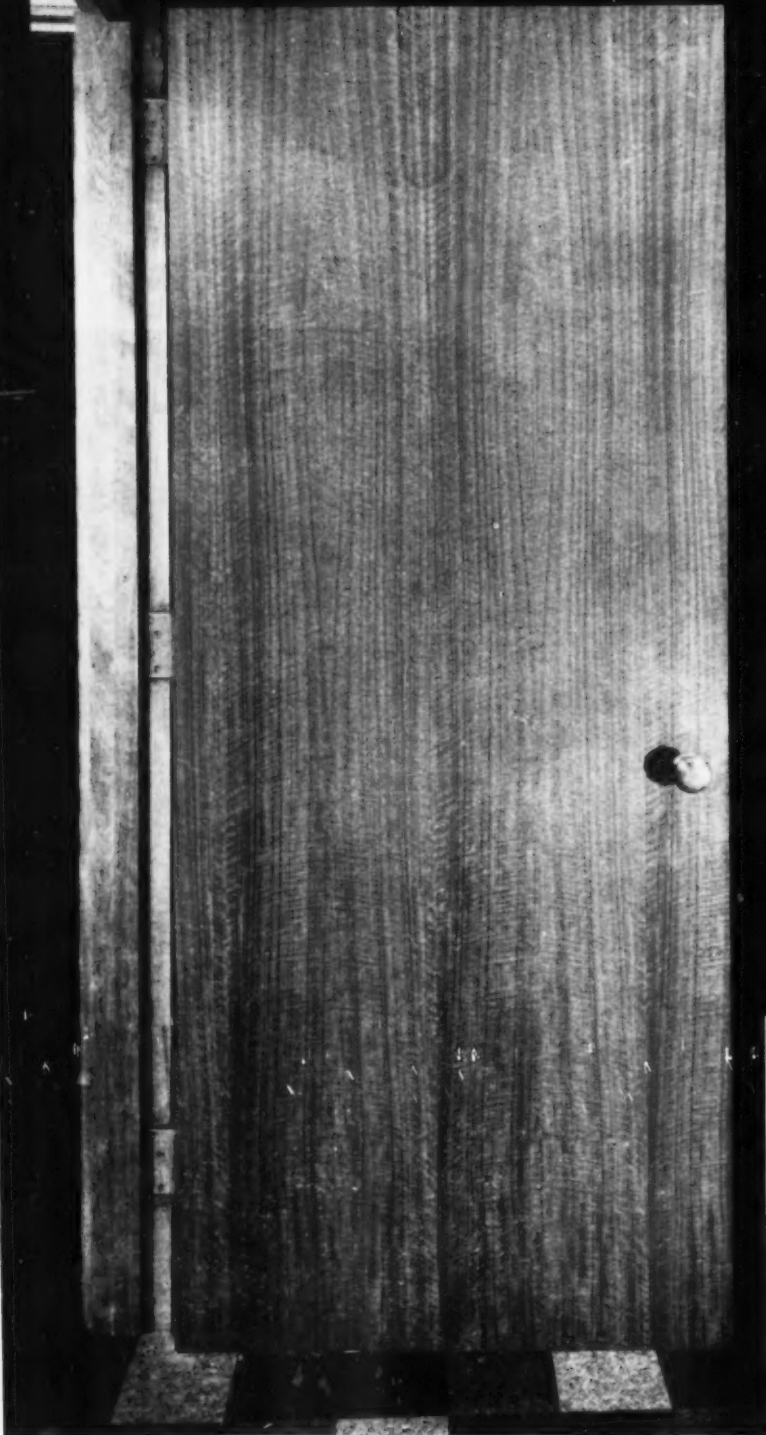


Illustration shows concealed hook as used with Style FX Thresholds.





**NO WONDER IT'S THE BEST—SEE HOW IT'S BUILT!**  
 Stay-Strate Doors have a special solid-core made of **WELDROK**—a strong, lightweight, incombustible core material designed to keep the door straight and true for the life of its installation. Weldrok helps Stay-Strate Doors resist decay, termites, fire and sound—has better insulation value, too!

Architects, builders, lumber dealers tell us Stay-Strate is the best door ever manufactured!

**STANDARD DOOR SIZES**

HEIGHT:	6'6"	6'8"	7'0"
	WIDTH	WIDTH	WIDTH
THICKNESS 1 3/4" (Doors with light and louver openings available on order)	2'0"	2'0"	2'0"
	2'2"	2'2"	2'4"
	2'4"	2'4"	2'6"
	2'6"	2'6"	2'8"
	2'8"	3'0"	
	3'0"	3'6"	
			4'0"



# Now! A GUARANTEE THAT PUTS AN END TO DOOR PROBLEMS

## WELDWOOD STAY-STRATE FLUSH DOOR

REGISTRATION  
NUMBER  
10338

UNITED STATES PLYWOOD CORPORATION unconditionally guarantees, if properly installed, this Weldwood "Stay-Strate" Door against warping, twisting, or manufacturing defects for the LIFE OF THE INSTALLATION. If any Weldwood "Stay-Strate" Door should fail to meet these standards, said door will be replaced without charge, including all labor costs of hanging and refinishing involved.



Individually  
registered

Weldwood Stay-Strate Doors\* are made and backed by the largest and best known manufacturing and distributing organization of its kind in the world, United States Plywood Corporation. As you can see, this unprecedented "Life-of-the-Installation" guarantee has no loopholes—and needs none!

Weldwood Stay-Strate Flush Doors have an individual beauty and reputation for durability that is all their own. That is why each Stay-Strate Door is proudly labeled with its own registered guarantee number. This guarantee is your

protection against the door warping, twisting or delaminating in any doorway—interior or exterior!

Weldwood Stay-Strate Doors save you money because they do put an end to annoying and costly door complaints. Stay-Strate Doors are available in a variety of stock sizes in handsome woods such as birch, oak, walnut, Korina® and other fine hardwoods. See the complete line of Weldwood doors at any of the 73 United States Plywood or U.S.-Mengel Plywoods distributing units in principal cities, or mail coupon.

### There are Weldwood doors for every other purpose too!

**FIRE DOORS.** When an installation calls for a labeled fire door—select the Weldwood Fire Door† bearing the Underwriters' Laboratories Label for Class "B" and "C" openings.

**STAVED LUMBER CORE DOORS.** The most dimensionally stable lumber core door on the market—fully guaranteed against delamination and other manufacturing defects for two years—twice as long as most lumber core doors. Free replacement does not include cost of finishing and cost of installation.

**HOLLOW CORE FLUSH DOORS.** Lightweight, durable—in a complete assortment of sizes and face veneers. 40% lighter than standard panel doors.

**BIRCH FACED CUPBOARD DOORS** made with core of Novoply. Wide range of sizes.

For complete specifications on Weldwood doors see our insert in Sweet's Architectural Files, or in American Lumberman, American Builder and Practical Builder directory issues.



**NOVOPLY SLIDING DOOR UNITS.** Precision built units are prepackaged, ready to install. Novoply is the flattest, most dimensionally stable wood panel made. Can be painted or stained any color. Also available with birch faces on Novoply. Units can be joined together to form extra large sliding storage walls. Available in 2 or 3 door units 6' 9½" or 8' high, in widths from 2' to 8'. Includes all hardware necessary.

\*Trade Mark  
†U. S. Pat. No. 2593050



# Weldwood®

UNITED STATES PLYWOOD CORPORATION

World's Largest Plywood Organization

55 West 44th Street, New York 36, N. Y.

U. S.-Mengel Plywoods, Inc., Louisville, Kentucky

In Canada, Weldwood Plywood Ltd., Woodstock and Ontario

United States Plywood Corporation  
55 West 44th Street, New York 36, N. Y.

AB-8-54

Please send me complete information on Weldwood doors.

NAME.....

ADDRESS.....

CITY.....STATE.....

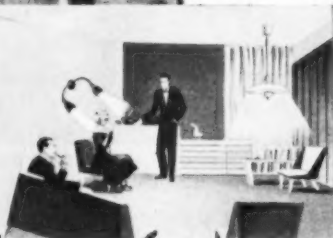


Inspiration-Lighting  
by  
**MOE Light**

## Most Effective Sales Closer you can use...

It's amazing how *Inspiration-Lighting* sells. By merely flicking switches, you demonstrate the livability and beauty of your houses. Your prospects can visualize glamorous, lovely rooms—rather than a stark, barren empty house. Created by Peggy Clark, Broadway lighting expert, *Inspiration-Lighting* is publicized through national advertising to your home buyer. It's one of the most wanted features in housing today.

New  
Lighting  
Beauty  
"Sells"  
Every  
Room...



Living areas take on many moods—bright and gay, or soft and subdued.



Dining areas can be intimately cozy or formal for entertaining.



Bedrooms are quiet and restful, yet well illuminated for make-up and dressing.

### SO MUCH ADDED VALUE . . . SO LITTLE COST

The Moe Light fixtures with which you achieve *Inspiration-Lighting* are surprisingly low in cost. As a result, you add hundreds of dollars of value to your house with an investment of only a few extra dollars. Why not call your Distributor today and investigate Moe Light *Inspiration-Lighting*.



**MOE LIGHT**

FORT ATKINSON, WIS.

Division of THOMAS INDUSTRIES, INC.

Plants at Fort Atkinson and Sheboygan, Wisconsin, Princeton, Kentucky and Los Angeles, California



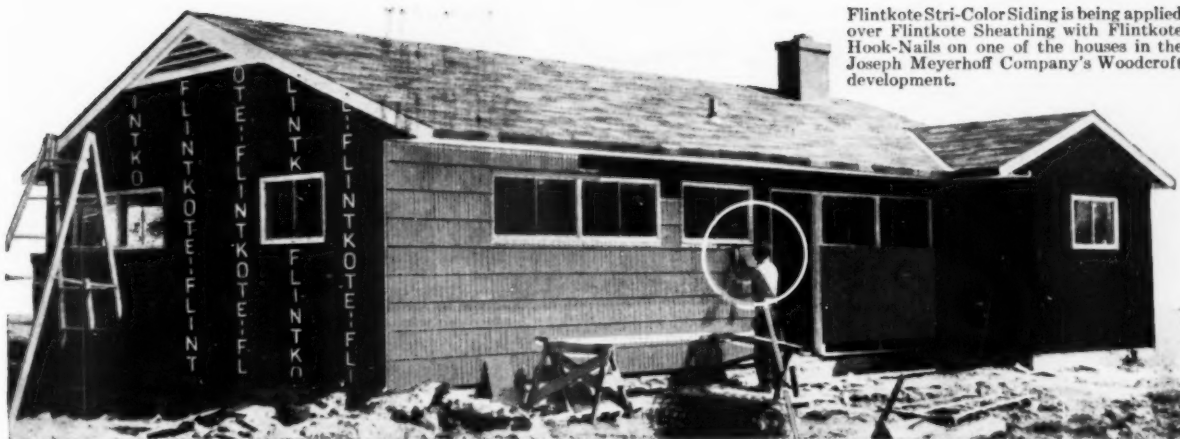
**MOE LIGHT**, Dept. AB-854 Ft. Atkinson, Wis.  
(Division of Thomas Industries)

I am enclosing \$1.00 for my copy of "Your Home and Inspiration-Lighting." I understand that I may return the book to Moe Light within 10 days for a full refund if I am not completely satisfied.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_



Flintkote Stri-Color Siding is being applied over Flintkote Sheathing with Flintkote Hook-Nails on one of the houses in the Joseph Meyerhoff Company's Woodcroft development.

## Big Baltimore Builder Brings Better Quality and Economy to Basic Style Homes with **FLINTKOTE** Sheathing, Siding and Hook-Nails

The Joseph Meyerhoff organization of Baltimore, Maryland . . . headed by Joseph Meyerhoff, a past president of the NAHB, and his son, Harvey M. Meyerhoff . . . has built a lot of houses during the past 30 years. *Thousands* of them!

In this particular development the company is building 320 new homes of four basic styles . . . all of which will be completed in 1954.

Beauty, quality, economy and speed of construction are all assured in this new subdivision through the use of Flintkote Sheathing, Siding and Hook-Nails.

Flintkote Stalwart\* Insulation Sheathing Board, both *impregnated and coated*, has great

structural strength and moisture resistance. This rigid sheathing, with high racking strength and high insulation value, gives a combination of economic factors designed to please both builders and future homeowners.

Beautiful Flintkote Stri-Color Asbestos-Cement Sidings . . . with the famous water-repellent, stain-resistant DURA-SHIELD\* Finish . . . make these houses very attractive. These handsome, fireproof sidings, in a range of solid and pastel colors, harmonize with other modern siding materials simplifying the styling of either a single house or of a development.

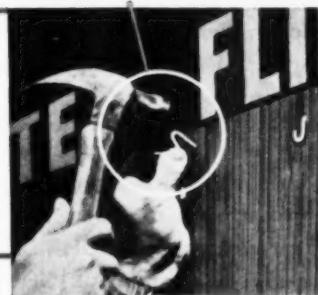
It will pay you, too, in many ways, to use Flintkote Building Products. Write us for a free catalog.

\*A Trade Mark of The Flintkote Company

"The Flintkote Hook-Nail is the most practical asbestos-cement nail fastener on the market today," said Mr. Vernon Smick, President of the Vernon H. Smick Company of Baltimore, applicator

of this new Joseph Meyerhoff Company development.

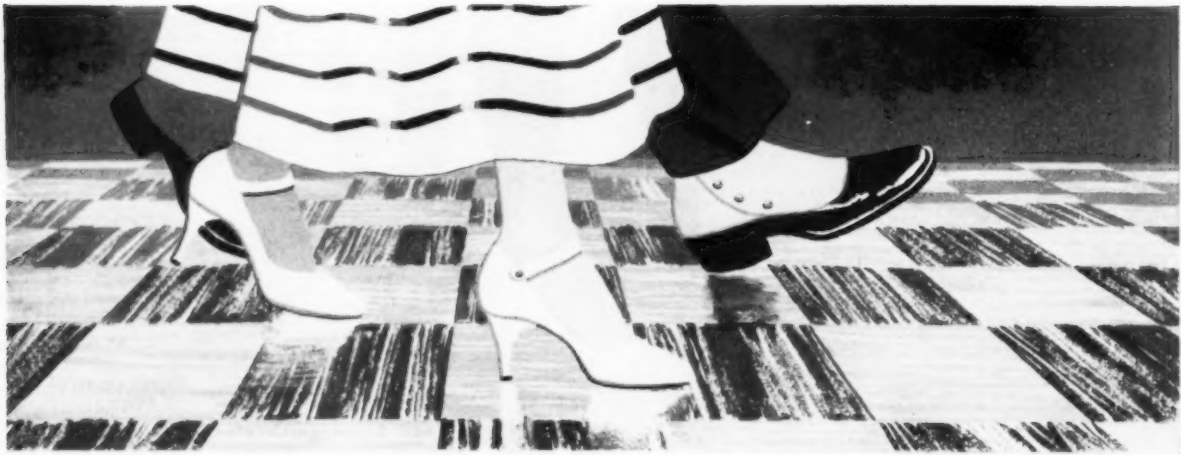
It is a cinch to drive Flintkote Hook-Nails. Application is fast, good alignment is assured. And the siding *stays put*.



THE FLINTKOTE COMPANY, Building Materials Division,  
30 Rockefeller Plaza, New York 20, New York.

# FLINTKOTE... *the extra years of service cost no more!*





**TODAY... as in 1922...**  
**floors of Wright Rubber Tile**  
**give carefree, wearfree service**



Millions upon millions of square feet of Wright Rubber Tile have been laid throughout America in the past 32 years. And many of the earliest floors are still giving good service to this day.

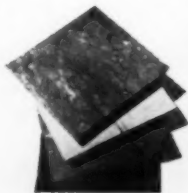
No wonder . . . Wright is incomparable in quality . . . famous for its rich, thoroughly integrated colors. It is, moreover, the only rubber tile available in two degrees of hardness: soft WRIGHTTEX . . . resilient, quiet and non-slip—heavy-duty WRIGHTFLOR . . . dense, corrosion-resistant and easy to clean.

Suit the floor to the job . . . both WRIGHTTEX and

WRIGHTFLOR are beautiful and serviceable for years and years.

Ask to see, *and touch*, Wright Rubber Tile. Forty beautiful colors . . . marbled or plain . . . in 1/8", 3/32" and 3/16" thickness.

WRIGHTTEX WRIGHTFLOR ECONOTILE VINYL TILE



**WRIGHT**  
**RUBBER TILE**

*The 100 Year Floor!*

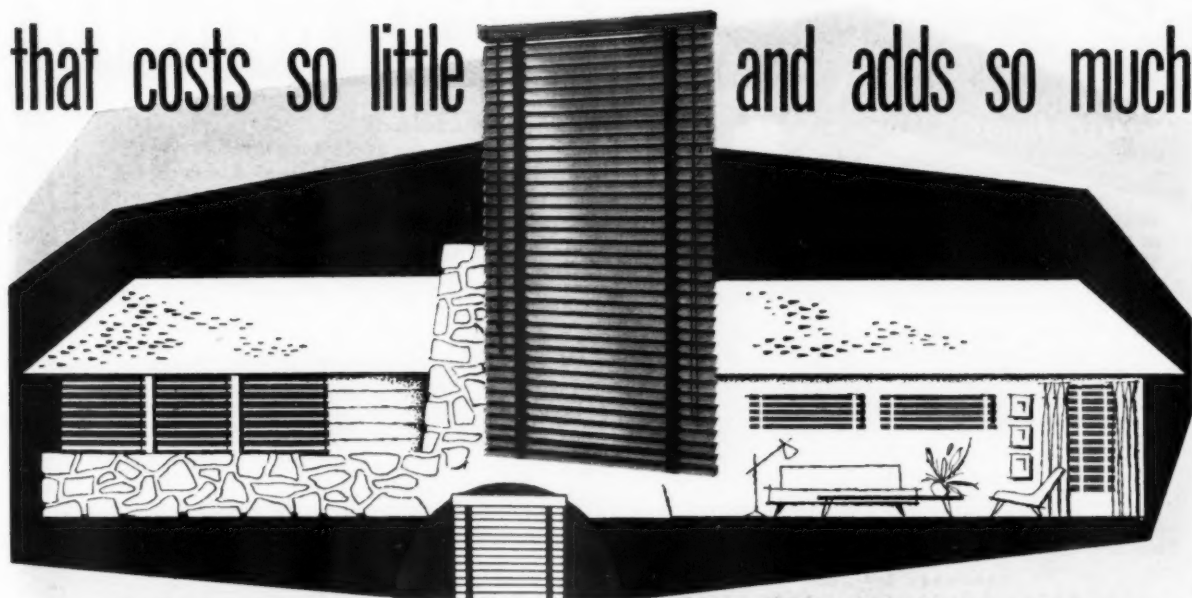
5104

AMERICAN BUILDER



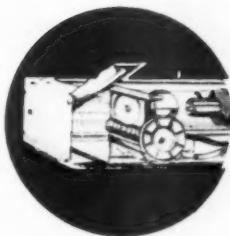
# Add the extra . . .

## that costs so little and adds so much



### custom-made **ROLLA-HEAD** venetian blinds

**Rolla-Head has self-equalizing filter—** one-piece head rail with built in adjustability; all metal from top to bottom; galvanized and honderized; fool-proof operating mechanism.



**Exclusive Rolla-Tex plastic tape—** without question the finest money can buy. Smart textured moire' self-pattern; available in 12 highly favored decorator colors to please modern and traditional tastes.



Write for free booklet with actual slat samples of the 14 Rolla-Head colors finished in lustrous DuPont baked enamel.

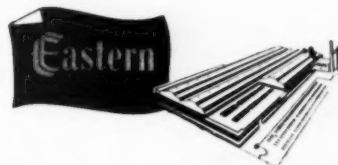


**help you sell more homes . . .  
invite your buyers to move right in!**

We don't have to tell you what you already know . . . to sell homes you must merchandise! Today's home buyer demands *features!* Rolla-Head venetian blinds give your homes a big extra plus in sales appeal . . . immediately make it more attractive, more finished looking! Rolla-Head is America's largest selling custom-made venetian blind and, the only blind to offer you decorator-designed Rolla-Tex plastic tape!

*For complete data see Eastern's 16-page catalog in the 1954 Sweet's File. For complete satisfaction . . . specify Rolla-Head.*

Custom-made by independent venetian blind manufacturers everywhere.



### Eastern Machine Products Co.

GENERAL OFFICES & PLANT: 1601 Wicomico St., Balto. 30, Md.  
NEW YORK: 771 3rd Avenue, Brooklyn  
ATLANTA: 1486 Lakewood Avenue, S. E.  
PITTSBURGH: 208 Corey Avenue, Braddock  
CANADA: Eastern Machine Products, Ltd.,  
TORONTO, MONTREAL, VANCOUVER

**MAGNETIC**  
*Leco* **LATCH**

506-10

**FOR WOOD OR  
METAL CABINETS**



only  
**49¢**  
list!

Now... America's largest-selling magnetic latch at this amazingly low price! Positive, lifetime power... modern, trouble-free design... priced to produce steady, high-volume sales, satisfied customers. On every count, Leco-Latch is *right* for you, whether you're selling or building! It's the catch that never misses.

**CONTRACTORS**—Write today for descriptive literature and the name of your nearest distributor.

**DEALERS**—Ask your distributor about the sensational Leco-Latch INTRODUCTORY PACK with FREE counter merchandising display.

**DISTRIBUTORS**—Write for Leco-Latch sample, literature and discount information.

HARDWARE DIVISION  
**LABORATORY EQUIPMENT CORPORATION**  
100 HILLTOP ROAD, ST. JOSEPH, MICHIGAN

**REVOLUTIONARY**  
*Leco-Lon*  
**LATCH**

506-4

**OF SUPER-TOUGH NYLON**

The newest and greatest development in low-cost cupboard and cabinet latches! Leco-Lon is formed of rugged Nylon, is virtually indestructible. In laboratory tests, latch has been open and shut well over 100,000 times without wear or adjustment. Leco-Lon Latches can be dyed permanently to any desired color in a few minutes.

only  
**12¢**  
list!

**COLORFUL  
display carton**

Compelling red-and-white Leco-Lon self-merchandising carton. Shows latches in assortment of color possibilities. A stimulating point-of-sale promotion.



Write for  
**FREE  
LECO-LON  
sample and  
LITERATURE!**

HARDWARE DIVISION  
**LABORATORY EQUIPMENT CORPORATION**  
100 HILLTOP ROAD, ST. JOSEPH, MICHIGAN  
Canadian Licensee: K.N. Crowder and Company, Ltd., 104 Jarvis St., Toronto, Ont.

*An Important Raynor  
Letter to*

**EVERY BUILDER**

Dear Mr. Builder:

The beauty of the Raynor residential five section garage door, illustrated in this ad, is typical of the full door value found in every phase and model of the Raynor complete line of Wood Sectional Overhead Doors.

By building a door to fit every type of residential, commercial, and industrial door opening, Raynor Mfg. Co. is capable of fulfilling your entire overhead door requirements.

We most cordially invite you to check your telephone directory or write direct for the name of the Raynor dealer nearest you and he will gladly supply full details on Raynor Wood Sectional Overhead Doors.

Yours truly,

*E. W. Goddard*

E. W. Goddard, Sales Mgr.

P. S.—The entire Raynor line is equipped with Patented Graduated Seal for complete weather protection and ease of operation.



Raynor residential five section garage door

**RAYNOR**  
**MANUFACTURING CO.**  
DIXON, ILLINOIS

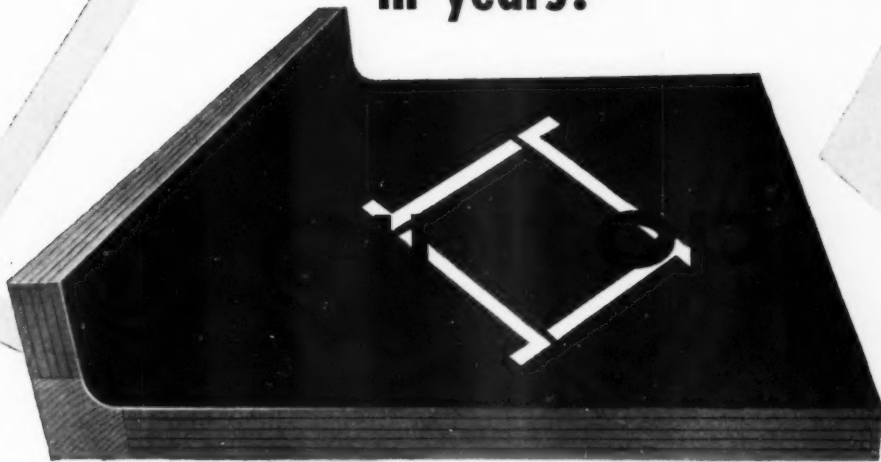
SEE OUR  
CATALOG IN  
SWEETS

Builders of a Complete Line of Wood Sectional Overhead Doors

**AMERICAN BUILDER**

# NEW MICARTA® UNITOP...

## Biggest kitchen development in years!



The completely new MICARTA Unitop is one of the most significant developments in kitchen counter history. This is a beautifully constructed, one-piece top of  $\frac{1}{4}$ " MICARTA mounted on  $\frac{3}{4}$ " Weldwood® Plywood, which combines top and backsplash without joints or molding of any kind. Made in three standard lengths plus an interchangeable left or right-hand corner unit, MICARTA Unitops make it simple and economical to provide for practically any installation—whether straight-line, L-shaped, or U-shaped.

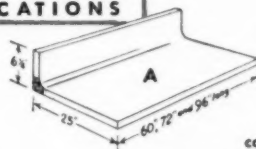
For builders and contractors there is a sure-fire appeal in the ease of installation and flexibility of application. For housekeepers there is the complete freedom from cleaning troubles.

Look into Unitop's wide range of colors and patterns for bright, new sales appeal in your homes. Intrigue more prospects with this excitingly different counter top design.

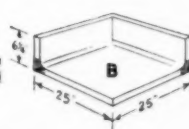
Ask your lumber dealer about Unitop or call your nearest United States Plywood Corporation representative. Or simply use the coupon below.

J-06563-A

### SPECIFICATIONS

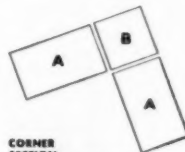


STANDARD UNITOPS



CORNER SECTION

For right or left-hand use. Both edges are factory-trimmed for precision joining.



CORNER SECTION AND STANDARD LENGTHS

View shows standard lengths suited to corner section

Westinghouse  
  
**micarta®**

distributed by UNITED STATES PLYWOOD CORPORATION  
 largest plywood organization in the world  
 and U.S. — MENGEL PLYWOODS - INC.

UNITED STATES PLYWOOD CORPORATION  
 55 West 44th Street, New York 36, N. Y.

Please send full information on your  
 MICARTA Unitop plan.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

AB-B-54

# BAYLEY *Quality* Steel or Aluminum Windows

available in  
commodity sizes  
through leading  
Building Material  
Dealers

BAYLEY "First's":

**BAYLEY SHARES HONORS  
WITH AMERICAN BUILDER**

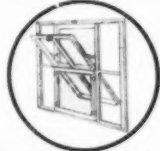
**Celebrating 75 progressive years  
of service to Building Industry**



Guard or Detention Windows



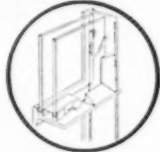
Interlocked Joint



Screened Pivoted Window



Glazing Spring



Double Glazing

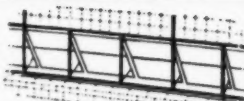


Mastic Surround

Building Industry advancement, as keynoted in this Diamond Jubilee issue of American Builder, is especially reflected in today's Bayley Steel and Aluminum Windows. During the past 75 Years, in serving the building industry, Bayley originated many of the most worthwhile design features now incorporated in modern efficient metal windows. Having also introduced straight-line methods in window production Bayley has been able to make available through leading Building Material Dealers—for all classes of building construction—these quality feature-packed steel or aluminum windows in commodity sizes. When requiring windows, and if you want the most efficient, time-proved carefree window that can be bought, ask your dealer for Bayley Windows. Or write Bayley for catalog and the name of the nearest dealer.



PROJECTED PIVOTED



RIBBON



GUARD PSYCHIATRIC

**THE WILLIAM BAYLEY COMPANY**

Springfield, Ohio

District Sales Offices:

Springfield

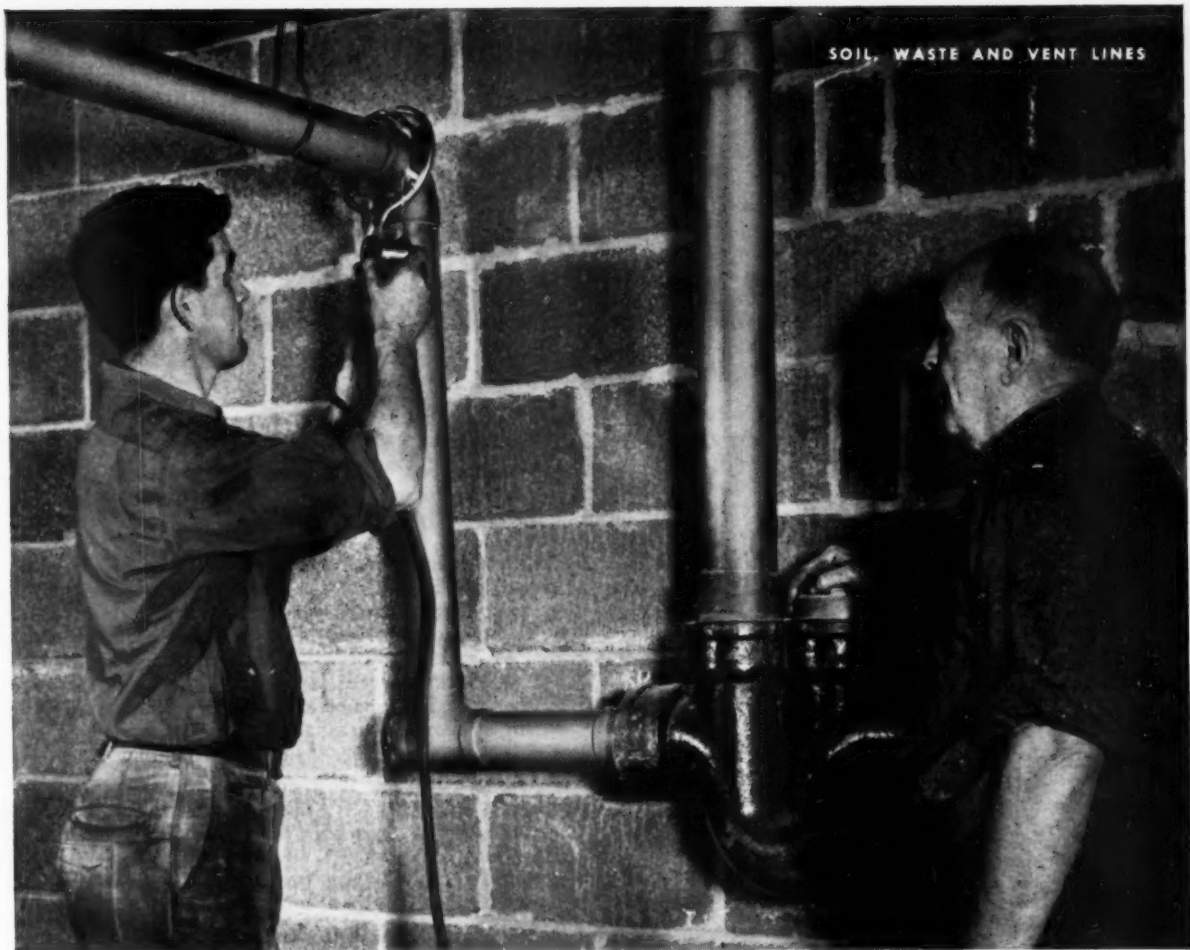
Chicago 2

New York 17

Washington 16

AMERICAN BUILDER





JIM LOWE, PLUMBING CONTRACTOR, watches while son Ed makes last joint with circular torch on a 3" Type M Copper Tube soil line.

## "I use COPPER for a better, faster job—at lower cost"

Jim Lowe is talking about copper tubes and fittings for soil, waste and vent systems. Mr. Lowe has been in the plumbing business for 52 years and is a Past President of the Connecticut State Association of Master Plumbers. Jim goes on to say, "I've always been sold on copper's *quality*. Now I'm just as sold on its *economy*. And so are my customers. My figures prove the final cost

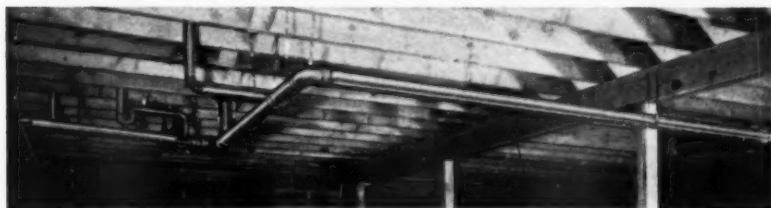
of a job is *less* in copper. Yes, material costs are slightly higher, but a big one-third saving in installation costs more than makes up for it.

"Copper tubes weigh about  $\frac{1}{4}$  as much as ferrous pipes. That's important—for faster handling, assembling and hanging. Copper tubes come in long, 20-foot lengths, too. You need fewer joints. And quick solder-type

connections can be made in tight places. Where 3" vent stacks are permitted, they will fit inside a 4" stud. And remember—copper's reputation for quality and long life adds sales value to any building."

ANACONDA Copper Tubes and Fittings made to standards of highest quality are sold only through recognized wholesalers. *The American Brass Company, Waterbury 20, Conn. In Canada: Anaconda American Brass Ltd., New Toronto, Ont.*

5316



THIS 16' length of tube (foreground) points up one of ANACONDA Copper Tube's many time-saving advantages.

for copper tubes see your

**ANACONDA**®

distributor

Is "look-alike" styling slowing your sales?

# Vary the Front Door Hardware with



Don't risk lost sales because of a style detail. Vary the front door hardware! Give each door its own distinctive look of charm and grace. It's both easy and economical with Corbin locks and trim hardware. You can alternate three Corbin lines of locks to achieve varying effects. Yet *all* the cylinders can be keyed into ONE unified locking system . . . keyed alike or master keyed.

For example, use Corbin *Defender* or *Guardian* Cylindrical locks on the back doors and interior doors for greatest economy . . . use a Montgomery Sectional Handle Mortise type lock set on one front door . . . a Plymouth on another . . . King size roses in 5 designs and 2 sizes allow you to continue with interesting variations of cylindrical locks.

See your CORBIN dealer today!

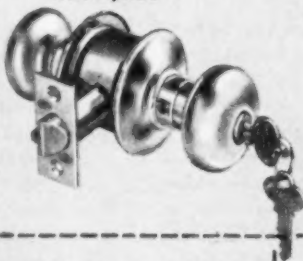
### CORBIN *Guardian*

Cylindrical Lock Sets  
Residential-duty . . .  
lowest priced



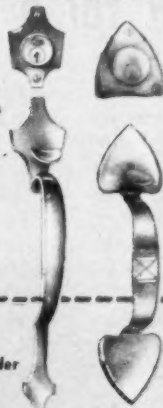
### CORBIN *Defender*

Cylindrical Lock Sets  
Standard Duty . . .  
medium priced



### MONTGOMERY — PLYMOUTH

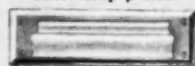
Sectional  
Handle designs  
for use with  
mortise type  
locks



### ACCESSORY FRONT DOOR HARDWARE

123 House  
numbers

Letter drop plates



Door knockers

Push  
Buttons



### AUXILIARY FRONT DOOR HANDLE



for use  
with  
Guardian  
Locks

### KING SIZE ROSES



for use  
with  
Defender  
Locks

### NEW DESIGNS



Crestwood



Windsor



### P & F. CORBIN Division

The American Hardware  
Corporation  
New Britain, Connecticut

# ON and OFF the RECORD

**THINGS TO COME** in utility rooms or utility sections of kitchens may be determined by a reported trend on the part of some builders to stack a clothes drier above a washer.

**REPORTS ARE** that it works and appeals to housewives. Could be that we may expect a factory-produced unit with drier above the washer.

**AND SPEAKING** of things to come, suburbia on its present grand scale was made possible by the automobile. Is it unreasonable to predict that with the imminent development of low-cost personalized air transportation, possibly a foolproof helicopter, suburbia may easily have a 200-mile or even a 500-mile radius?

**THAT IS NOT** as improbable as the currently accepted 50-mile or more suburban radius would have seemed as late as 1913.

**THERE IS A** definite shortage of land for development builder operations in the accepted commuting suburban radius of most large cities.

**PERHAPS IT IS NOT** too early for builders to begin thinking about acquiring land a hundred miles or more away from the heart of a large city for housing developments to be sold to daily commuters.

**WITH PROPER** edge-of-city or downtown roof top landing facilities, daily air commuting to and from a hundred or more miles away by one- or two-passenger, privately-owned planes, or air taxi, is already possible. Maybe costly, but still quite possible.

**ANOTHER TEN YEARS,** or maybe even five, may see a demand for mile-remote but time-convenient air-served developments.

**TWENTY-FIVE YEARS** quite reasonably can see people commuting daily by air to and from as far as 500 miles.

**LONG RANGE PLANNING** for 20 to 35 years hence should embrace

acquiring land in the Sierras and Rockies for people who work in west coast cities; in Maine and the Great Smokies for people who work in New York, Chicago, New Orleans.

**THIS DOESN'T MEAN** the disintegration of the cities or depopulation of present suburban towns, any more than the development of present day suburbia spelled the doom of city living. It does mean that with a new and tremendously fast air age ahead many of the added millions of people can and will be housed in places now deemed to be ridiculously remote.

**TWENTY-FIVE YEARS AGO** the prophets of doom were pointing to the declining rate of growth of large cities, and freely predicting their end. They said the automobile and paved roads were responsible.

**TODAY,** the cities are bigger and busier than ever. The major problem is not how to get and keep people in them. It is how to get the hundreds of thousands around the cities, in and out of them. It's a problem of more and wider highways.

**THE SAME THING** will be true of the air age. The cities will grow still bigger. The problem will be one of air traffic control and landing facilities.

**AND WHILE WE ARE** on the subject, what about the work week? We work a given number of hours a day and a given number of days a week because we inherited the practice from our agrarian economy in which work periods are dictated by daylight in a 24-hour cycle and the clemency of seasonal weather.

**COULD BE** that the present 40-hour, five-day week will shrink to a 30-hour, three-day week, possibly with three-day shifts.

**LONGER DISTANCES,** 500 or 1,000 miles each way to and from work, may dictate that kind of change.

(Continued on page 66)

Adds quality without extra cost

**CORBIN**

**ALUMINUM TRIM HARDWARE**

**STRONG!  
RUST-PROOF!  
LOW COST!**

Now it costs no more to give your customers trim hardware with handsome finish, superior strength, better quality. Corbin Pressure-Cast Aluminum Hardware **WON'T RUST** — keeps its smooth beauty for years. Never needs painting. Phone your Corbin dealer now.



SASH FASTENERS



COAT HOOKS



SASH LIFTS



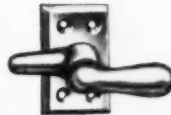
STAIR RAIL BRACKETS



DOOR STOPS



CASEMENT FASTENERS



**P.&F. CORBIN Division**  
The American Hardware Corporation  
New Britain, Connecticut

# Aluminum SLIDING DOORS & WINDOWS



## BUILDERS

Panaview offers the widest range of stock sizes permitting maximum flexibility of design for all types of construction.

Heavy gauge extruded aluminum of highest quality . . . never needs painting.

*100% weather-proofed.*

All window sash can be lifted out for easy cleaning and maintenance.

All hardware is flush allowing doors to by-pass one another.

Nylon rollers in windows for ease of operation.

*. . . and remember . . . the best costs no more!*

- Write for FREE catalog, giving complete technical data on Panaview aluminum sliding doors and windows

## PANAVIEW

ALUMINUM SLIDING DOORS AND WINDOWS

13424 Raymer Street, North Hollywood, California





**GIVE EVERY JOB** *The Quality Touch* **OF CHASE COPPER**

Copper adds  
extra value  
to any home!

Once a radiant heating system is installed, it's there to *stay*—buried in the ceiling or floor. Your reputation depends on how good a job it is.

*That's* why it's so important to use Chase *quality-controlled* Copper Tube for every radiant heating job. With Chase Copper Tube, you needn't worry about leaks or corrosion—and Chase Copper Tube simply *cannot* clog with rust! You're sure of a system that will give even, uniform heat... a system that will add value to *any* home.

To be sure of quality, make sure it's Chase!

**Chase**   
**BRASS & COPPER CO.**

WATERBURY 20, CONNECTICUT • SUBSIDIARY OF KENNECOTT COPPER CORPORATION

*The Nation's Headquarters for Brass & Copper*

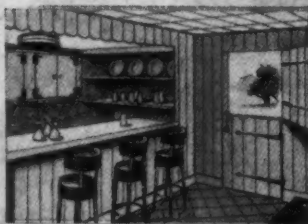
Albany†	Chicago	Denver†	Kansas City, Mo.	Newark	Pittsburgh	San Francisco
Atlanta	Cincinnati	Detroit	Los Angeles	New Orleans	Providence	Seattle
Baltimore	Cleveland	Houston	Milwaukee	New York	Rochester†	Waterbury
Boston	Dallas	Indianapolis	Minneapolis	Philadelphia	St. Louis	(sales office only)



## Forged Iron hardware by MCKINNEY

*a heritage from the past recreated in the  
finest craftsmanship of the present*

A complete line of matching hardware for the home in eight different period patterns — faithful reproductions of authentic historic designs in three finishes — Dull Black, Swedish (relieved) Iron and Olde Copper.



# MCKINNEY

Quality Hinges Since 1865

MCKINNEY MANUFACTURING COMPANY  
1718 Liverpool Street, Pittsburgh 23, Pa.



## On and Off the Record

*(Continued from page 63)*

**AND WHAT ABOUT HOUSE DESIGN?** With ever more leisure time and with thousands of homes located at presently unthinkable distances from employment, the home likely will become more and more the focal point for the family's entire living pattern.

**OR WILL IT BE JUST** a base from which the ever-gadding family operates? Chances are that people, being what they are, the home will become more important.

**AND WHAT** will the air age, the radar age, the electronic age, and some things not yet dreamed of do to design?

**IT'S A GUESS,** but there is no guess about the speed of change and its breathtaking acceleration.

**AND THERE IS NO GUESS** about the need for builders to keep informed about change as they never have before.

**THE HOMES** of any era are an accurate reflection of a pattern of living. The homes of the future will have to reflect living patterns just as accurately as those of the past. That means rapid changes in design, location and construction techniques. It means rapid change in thinking.

**EARL SMITH** and his operations were featured in one of the June issues of the Saturday Evening Post. Smith is a champion of change, based on an understanding of the needs of the time.

**ON THE SUBJECT** of the Saturday Evening Post, Wood Conversion Company used an advertising page in a July issue to tell the public how to use Title I safely.

**GO TO YOUR LUMBER DEALER,** urges the advertisement. He is a permanent part of your community, can advise you soundly, and can direct you to local contractors who have solid reputations for honest workmanship.

**THE ADVERTISEMENT** is an intelligent and compelling piece of good common sense in which the company and its products are subordinated to the main theme—the soundness of FHA insured Title I.

Choose the floor that's **NATURALLY** beautiful!

# *Bruce Ranch Plank*

*Hardwood Floor*

**It's already pegged and finished!**

Long a favorite with architects and interior decorators, pegged oak floors are now priced for homes in all brackets. The lower cost is made possible because Bruce Ranch Plank is pegged and finished at the factory and laid like regular strip flooring. There's no finishing on the job; installation is simple.

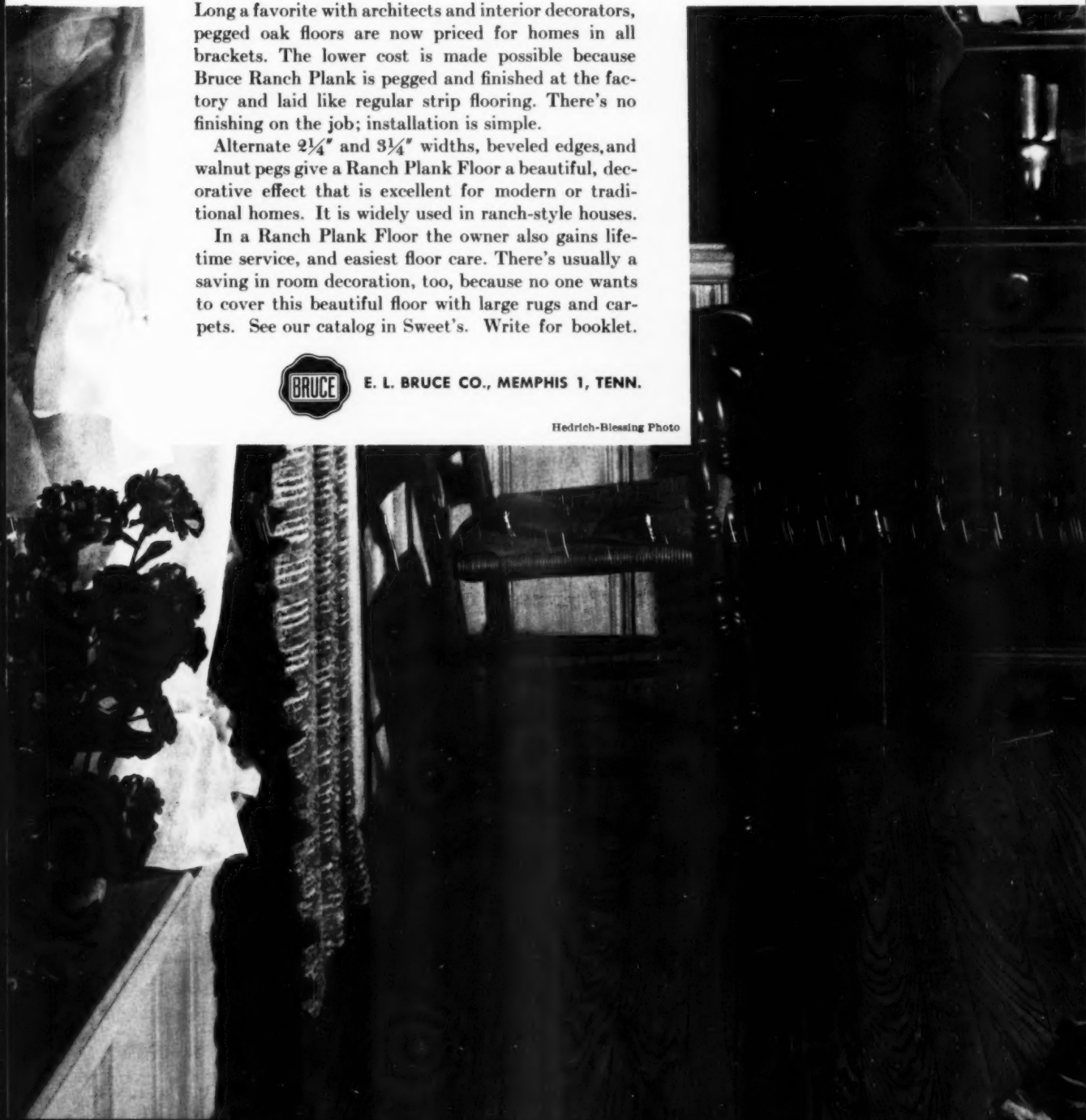
Alternate  $\frac{2}{4}$ " and  $\frac{3}{4}$ " widths, beveled edges, and walnut pegs give a Ranch Plank Floor a beautiful, decorative effect that is excellent for modern or traditional homes. It is widely used in ranch-style houses.

In a Ranch Plank Floor the owner also gains lifetime service, and easiest floor care. There's usually a saving in room decoration, too, because no one wants to cover this beautiful floor with large rugs and carpets. See our catalog in Sweet's. Write for booklet.



E. L. BRUCE CO., MEMPHIS 1, TENN.

Hedrich-Blessing Photo



the newest look in bathrooms is...

# POMONA TILE



Pomona's real clay tile colors never fade or become dull.

The newest look in real clay tile is now available at Pomona Tile's modern factories in California and Kansas... At the California plant Perma-glaze trim is now being made to match most of the Perma-glaze floor and deck tile colors — sparkling new shades have been added to the line... While the Kansas factory is now offering a greater range of colors and, for the first time, a complete line of Rolled-edge trim with stretcher angles to match. See your favorite Pomona Tile Contractor for samples or send for free catalog containing actual tile samples. (This offer good only in west and mid-western states.)



SEND FOR FREE BOOKLET!

**POMONA TILE MANUFACTURING COMPANY**  
629 No. La Brea, Los Angeles 36, Calif.

Gentlemen:  
I do want to see pictures and samples of Pomona Tile's complete line. Please rush a catalog to me right away.

NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_

## **POMONA TILE MANUFACTURING COMPANY**

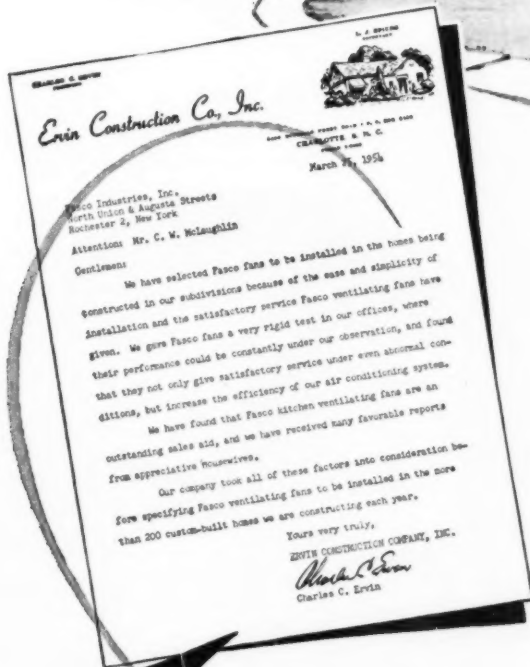
HOME OFFICES: 629 North La Brea Avenue • Los Angeles, California  
SEATTLE • SAN FRANCISCO • LONG BEACH • POMONA • NORTH HOLLYWOOD • PHOENIX • SALT LAKE CITY • KANSAS CITY, MO. • ARKANSAS CITY, KAN. • F. E. Biegert Co., Dist. for DENVER & DALLAS  
Lingerie: courtesy I. Magnin & Co. • Accessories: courtesy Barker Bros., Inc.





Charles C. Ervin, President  
Ervin Construction Co., Inc.  
Charlotte, North Carolina

Typical of Ervin's 200  
Custom-Built Homes

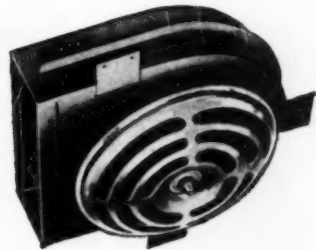


## HERE'S WHY THIS SOUTHERN BUILDER SPECIFIES...

# FASCO VENTILATING FANS

- Ease and Simplicity of Installation
- Satisfactory Service Under Even Abnormal Conditions
- Increases the Efficiency of Air Conditioning
- Outstanding Sales Aid
- Receives many favorable reports from appreciative housewives

MODEL 728  
CEIL-N-WALL  
VENTILATING FAN



This Fasco Ventilating Fan is adaptable for a wide range of installations—inside wall above stove—thru cabinets—in ceiling. Housing 3 1/4" thick. Engineered for most difficult type of exhausting—by pressure thru ducts. 7" Turbo-Radial Impeller develops pressures unobtainable by ordinary fan blades. 325 C.F.M.

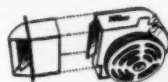


18 Augusta Street • Rochester 2, New York

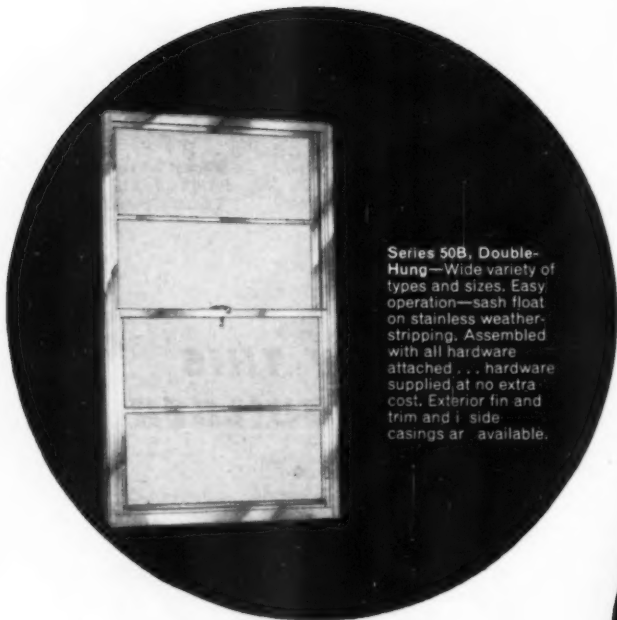
MANUFACTURERS OF THE ONE COMPLETE LINE OF VENTILATING FANS

AUGUST 1954

**SPECIFY FASCO** FOR EVERY VENTILATING FAN INSTALLATION



# You can't build



**Series 50B, Double-Hung**—Wide variety of types and sizes. Easy operation—sash float on stainless weatherstripping. Assembled with all hardware attached . . . hardware supplied at no extra cost. Exterior fin and trim and inside casings are available.



**Aluminum 3-in-1 Windows . . .**  
Prime - Storm Screen  
Exclusive Aluminum Double-hung Window with combination unit.

**Storm Windows** available for residential windows.

Screens available for all Ceco Aluminum Windows.

**Aluminum Projected Windows.** Full range of types and sizes to choose from—hardware supplied at no extra cost.



**Aluminum Residence Casements**—Easy to install—available with inside-outside steel trim, inside casings. Maximum rigidity—corners electrically welded—sections are full 1" deep, have full  $\frac{3}{4}$ " web. Hardware is included at no extra cost.



# with finer **ALUMINUM WINDOWS** than **Ceco-Sterling...**

## **Wide Selection—Pioneer Engineering—Exclusive Features— Quality Production Methods**

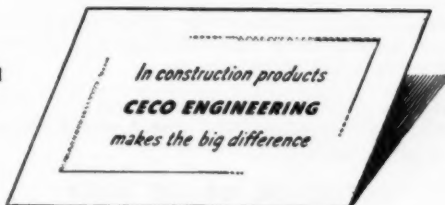
With infinite care quality is guarded all the way in Ceco-Sterling Aluminum Windows. Ceco Window Experts bring you designs with exclusive features developed through years of research . . . Ceco controls quality from raw material to finished product these 5 ways:

- 1** We make our own extrusions . . . tolerances are controlled.
- 2** Exclusive aircraft-type welding assures the strongest projected and casement windows on the market.
- 3** Stainless steel weatherstripping in double-hung windows assures a superior weatherseal. Double-contact weathering provides a tight seal on projected and casement windows.
- 4** Interlocking mullions of double-hung types mean maximum rigidity. Installation is simplified.
- 5** Quality hardware is standard with every window.

Ceco offers Aluminum Windows as companion products to its broad Steel Window line, forming the world's largest line-up of metal windows. Now from one source you can choose the right window to fit your design needs. So call on Ceco for Aluminum or Steel Windows. Our Experts will help you plan the best installation of the window you select—will help you save, too. See Sweet's File for details and address — write Ceco general offices for illustrated literature.

### **CECO STEEL PRODUCTS CORPORATION**

Offices, warehouses and fabricating plants in principal cities  
General Offices: 5601W. 26th Street, Chicago 50, Illinois



THIS IS THE NEW



AMWELD®

DOOR



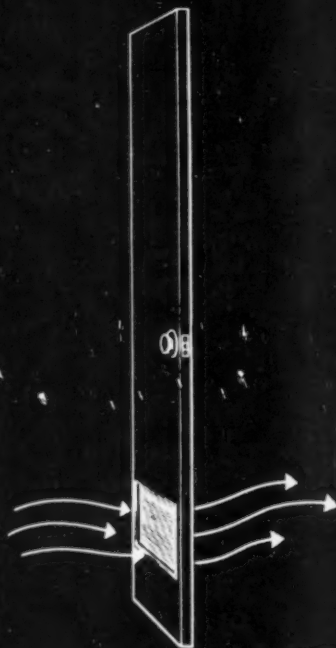
A new door designed for use with central air conditioning or perimeter warm air heating. Equipped with a neat grille at bottom of panel, it eliminates need for return ducts or unsightly gap at bottom of door. Since the door allows free circulation of air between rooms, it permits closed door privacy without upsetting the balance of the system.

All steel construction, prime finished, the new Amweld Air Conditioning Door compliments any style of interior. Designed for use with Amweld K-D Inter-Lok frames — both door and frame can be installed in 11 minutes.

Available in 2'0", 2'4", 2'6", 2'8" and 3'0" widths and for standard 6'8" openings. See your Amweld dealer today, or write to us for catalog.

**EFFECTIVE GRILLE AREA**

Grilles are of uniform height and vary according to door widths: Grille area adequate for normal residential applications.



featured in  
N.A.H.B.  
AIR-CONDITIONED VILLAGE

THE AMERICAN WELDING AND MANUFACTURING CO. • 310 DIETZ RD. • WARREN, OHIO



Great new selling feature for home builders...



# NEW! HOME FIRE ALARM

by EDWARDS

Here's something few new homes offer, yet every buyer wants: *fire protection*. Now... with the new Edwards Home Fire Alarm... you can offer this powerful selling point as a permanent, built-in feature of *your* homes. Easily installed, easily demonstrated! Made and guaranteed by Edwards, world leader in fire alarm equipment for schools, hospitals, industry... since 1872.

**NOW! ADD FREEDOM FROM FEAR OF FIRE TO YOUR HOMES' SELLING POINTS!**

Strike a match... help close a sale!

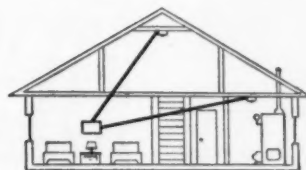
Here's a simple demonstration that never fails to ring the bell. Simply light a match, hold it under a detector. In seconds, the alarm bell sounds off! Here's dramatic proof that your prospects are protected — permanently, automatically — from fire. Big selling feature for you!



Edwards Home Fire Alarm, Catalog #F-100. Two detectors, self-contained signal unit, \$19.95. See your electrical supplier or mail coupon for illustrated literature.



**How it works.** Complete integral signal unit mounts behind aluminum plate that fits flush into wall. Self-contained, automatic detectors — ceiling-installed in "hazard" locations — operate at 140°F., safe coverage for 400 sq. ft. each. UL Listed.



**\$20 feature helps make \$10,000 sale!** Many prospects hesitate about *this* home against *that* home. The Edwards Home Fire Alarm exerts a powerful pull in your favor, far out of proportion to its cost... makes the sale easier. No adjustments, no maintenance.

**EDWARDS** Company Inc.  
NORWALK, CONNECTICUT

EDWARDS COMPANY, INC., DEPT. AB-8  
NORWALK, CONNECTICUT

Gentlemen: Please send me full information about the Edwards Home Fire Alarm.

Name \_\_\_\_\_  
Firm Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

The Saturday Evening  
**POST**



I think with you, that nothing is of more importance for the public weal, than to form and train up youth in wisdom and virtue. --Wise and good men are, in my opinion, the strength of a state far more so



Choice of the quality-minded!  
Ponderosa Pine Woodwork



Where finer things are cherished  
the choice is Ponderosa Pine Woodwork



Background for better living  
...Ponderosa Pine Woodwork



For living with a flair  
Ponderosa Pine Woodwork

# APPLAUSE

## ...from Coast to Coast for this business-building **POST** promotion

Builders...millwork jobbers...lumber dealers...are praising—and *using*—this big SATURDAY EVENING POST campaign and promotion for Ponderosa Pine woodwork. They're tying in with this nationwide opportunity to capitalize on the extra appeal which Ponderosa Pine doors, windows and cabinets can give to the quality home.

The SATURDAY EVENING POST was selected by Ponderosa Pine Woodwork because advertising in its pages—just as those in AMERICAN BUILDER—has always been considered an index of quality and stability. In addition, the POST'S concentrated circulation—reaching 20,000,000 readers—has maximum impact on the home-building, home-buying and home-planning consumer.

Tie in NOW with this extensive advertising and promotion—join this ever-growing trend toward *quality* in home construction.

### THESE ARE MEMBERS OF AND CONTRIBUTORS TO PONDEROSA PINE WOODWORK

#### LUMBER

Alexander-Stewart Lumber Co.  
Associated Lumber & Box Company  
Blagen Lumber Company  
Brooks-Scanlon, Inc.  
Cascade Lumber Company  
Collins Pine Company  
Crane Mills  
Gilchrist Timber Company  
Hayfork Lumber Company  
Edward Hines Lumber Co.  
Industrial Wholesale Lumber Co.  
Long Lake Lumber Company  
McCloud Lumber Company  
Michigan-California Lumber Company  
J. Neils Lumber Company  
Ochoco Lumber Company  
Oregon Lumber Company  
Peshastin Lumber & Box, Inc.  
Pickering Lumber Corporation  
Setzer Forest Products  
Ralph L. Smith Lumber Co.  
Tarter, Webster & Johnson, Inc.  
Weyerhaeuser Sales Company  
Winton Lumber Company

#### WOODWORK

Andersen Corporation  
Anson & Gilkey Company

Wm. Cameron & Co.  
Carr, Adams & Collier Company  
Cole Manufacturing Co.  
Continental Screen Company  
Curtis Companies Incorporated  
Farley & Loetscher Mfg. Co.  
Great Lakes Millwork Corp.  
The Hatchkiss Brothers Co.  
Hurd Millwork Corp.  
Huttig Manufacturing Co.  
Ideal Co.  
The Long-Bell Lumber Company  
The Malta Manufacturing Co.  
Morgan Company  
Northern Sash & Door Company  
Philadelphia Screen Mfg. Company  
Roach & Musser Company  
Rock Island Millwork Company  
The Rockwell Mfg. Co.  
Semling-Menke Company  
The Silcrest Company  
The Wabash Screen Door Company  
White Pine Sash Company

#### ASSOCIATE MEMBERS

Chapman Chemical Company  
The Darris Lumber & Moulding Company  
McKuen Moulding Company  
Protection Products Manufacturing Co.  
Western Pine Association

Ponderosa Pine Wood-  
work tips its hat to  
**AMERICAN BUILDER**  
on the 75th anniversary  
of this fine and flour-  
ishing old publication.



Now ANY home can have  
that "contemporary" look!



with these *Continental*  
contemporary doors

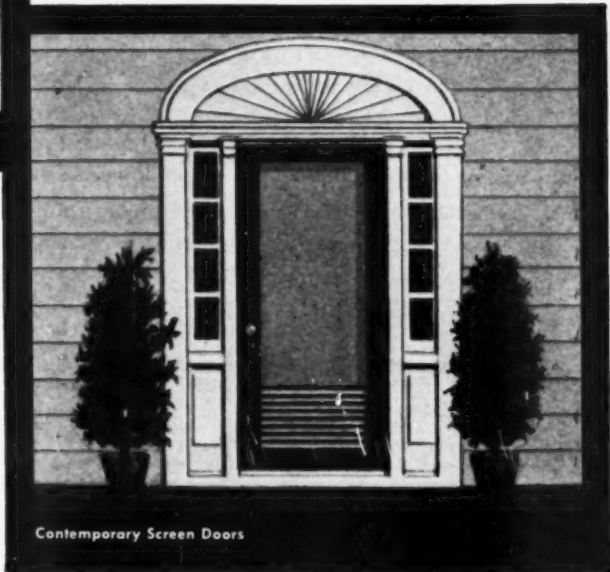


Contemporary Combination storm and screen doors

Entrances take on that "contemporary look" when protected and decorated by one of these new Contemporary doors. Available both as combination doors with storm and screen inserts—and as permanently wired screen doors—they feature a unique fluted-panel design that offers exciting new possibilities for "personalized" color treatment.

As a combination storm and screen door the Contemporary is offered in three attractive insert styles including the beautiful protruding "picture frame" insert shown above. Storm sash and screen panels are designed for quick and easy changeability and require little storage space.

Send for the four-color brochure which describes in detail the delightful color combinations suggested by the Contemporary's design.



Contemporary Screen Doors

The Continental Contemporary screen door is permanently wired, and presents the same combination of Continental quality construction features as is found in all Contemporary doors: mortise and tenon construction; made of Ponderosa Pine, the wood of warmth, beauty and durability. There is no other screen door in its price range that can approach its beauty and utility.

**A CONTEMPORARY STYLE  
FOR EVERY ENTRANCE  
—ANY TASTE**



As an all-weather combination storm and screen door the Contemporary is also available with one-light flush insert (left) and with three-light flush insert (right).



*Continental*

products are manufactured by:

The Wabash Screen Door Co.—Minneapolis—Chicago—Memphis  
Owosso Manufacturing Company—Owosso, Michigan  
Philadelphia Screen Manufacturing Company—Philadelphia

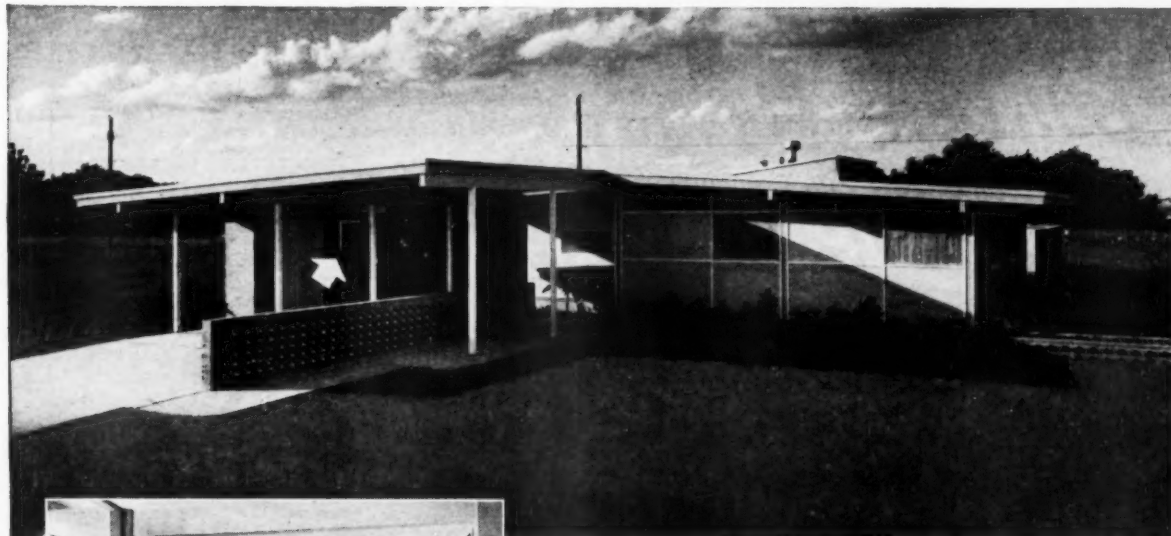
and sold through **CONTINENTAL SCREEN COMPANY**  
1323 BOOK BUILDING · DETROIT 26, MICHIGAN

AMERICAN BUILDER



**PROOF** in the making at air conditioned village

## it's CHRYSLER AIRTEMP waterless, all-electric COOLING for greatest efficiency and economy!



House in NAHB Air Conditioned Village, Austin, Texas, designed for Chrysler Airtemp *Air-Cooled* Air Conditioning by Fred W. Day and built by Wayne Burns. Cooling coil is located above Chrysler Airtemp Gas Furnace in hall closet. Air-cooled condensing unit for *waterless* cooling is mounted in wall of storage area at rear of carport at point marked by arrow in top photo.

High wall method of air distribution was used because of successful experience of builder and installer with this method in other homes in area. Compact duct system is confined to least used area of house.

Is year 'round air conditioning feasible for builder houses? The introduction of Chrysler Airtemp *waterless, all-electric* cooling over a year ago made it practical and economical for any house—anywhere! From actual installations in homes in every section of the country the proof has been recorded. And now, to make it official, there's final proof in the making at the "Chrysler Airtemp House" in NAHB's Air Conditioned Village.

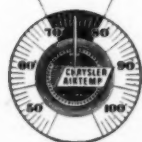
Give your new home "starts" the tremendous "buy" appeal of Chrysler Airtemp Year 'Round Air Conditioning—with *waterless, all-electric* cooling. See your Chrysler Airtemp Dealer (he's in the Yellow Pages), or return convenient coupon for complete facts.

# CHRYSLER AIRTEMP

HEATING • AIR CONDITIONING for HOMES, BUSINESS, INDUSTRY  
AIRTEMP DIVISION, CHRYSLER CORPORATION

Dayton 1, Ohio

Comfort Zone



Airtemp Division, Chrysler Corporation  
P. O. Box 1037, Dayton 1, Ohio



AB-8-54

I'd like to know more about Chrysler Airtemp Air Conditioning for homes:

Waterless  Water-Cooled

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

**THE TRULY MODERN HOME IS AIR CONDITIONED**  
AUGUST 1954

# BUILDERS GET 3 BIG BONUSES

with **WARE** Aluminum WINDOWS



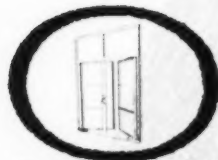
- 1** OVERNIGHT SERVICE to most cities,—made possible by Ware's strategically located warehouses in Chicago, Newark, Houston, and Atlanta!
- 2** A FULL LINE to meet your varied needs. Whatever your next requirement may be, it'll pay you to check the Ware quality line before you choose.
- 3** PROVEN VALUE that's paying off year after year in thousands of installations from coast to coast.

Get ALL the profit-building facts. Write Dept. A-8 today.

Aluminum **WARE** Windows

Ware Laboratories, Inc., 3700 N.W. 25th St., Miami, Florida

MEMBER OF THE ALUMINUM WINDOW MANUFACTURERS ASSOCIATION



**ALUMINUM CASEMENT WINDOW**  
The Casement with the Quality Reputation



**ECON-O-WARE AWNING WINDOW**  
The Economy Priced Awning Window



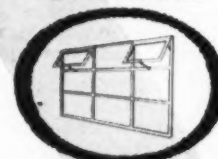
**INTERMEDIATE AWNING WINDOW**  
The Industry's Luxury Awning Window



**WARE-TITE JALOUSIES**  
Proven All Weather Protection



**WARE PROJECTED WINDOW**  
Rugged, monumental construction



**THE ECON-O-WALL WINDOW**  
Brings the Outdoors "Indoors"

**ANOTHER**

**BUILDER**

**SEES THE**

**LIGHT!**

**YOU'RE LOOKING AT SPACED SHEATHING**

This is the practical, *profitable* way to deck a roof. By spacing your sheathing, you save up to 50% on lumber, on labor, on nails. Or an average of \$200 a home.

Only with cedar shingles is this residential roofing economy possible. Because only with cedar shingles do you gain the strength and rigidity that enable you to apply your roof in a bridging application over spaced sheathing.

If you've been searching for a way to add quality to your homes — *without adding cost*, begin using genuine CERTIGRADE shingles applied over spaced sheathing. Take a good look at spaced sheathing. You'll soon see the light.

Write for your free copies of a handy roof estimating sheet and the 100-page Certigrade Handbook.



**RED CEDAR SHINGLE BUREAU**

5510 WHITE BUILDING, SEATTLE 1, WASHINGTON • 550 BURRARD STREET, VANCOUVER 1, B. C.  
AUGUST 1954

ANOTHER WAY YOU SAVE WITH FORD TRIPLE ECONOMY



FORDOMATIC DRIVE is available at worth-while extra cost on all Ford Truck series from F-100 to F-350.

## How Fordomatic Drive saves time on and off the road

Test Drive a new Ford Pickup  
with fully-automatic  
Fordomatic Drive! See how it  
gives you all these advantages!

There's big power in the new Ford "light duty" models. You get fullest advantage of this power to haul heavy loads off the road with *Fordomatic Drive*.

*Fordomatic* gives you double the engine starting torque for starting in heavy going. It shifts at just the right point without loss of truck momentum. Engine, drive line and rear axle are protected from the shock and strain of even full-throttle starts . . . burned out clutches are a thing of the past.

On the road, *Fordomatic* gets you there faster by cutting time from full stop to road speed—a big advantage for men who haul through traffic. And gone is the fatigue of constant clutch and gear shift handling. The driver stays alert. He can concentrate on *driving* the truck . . . avoid costly traffic mishaps.

For complete details, see your Ford Dealer *today!* Or write: Ford Division, Ford Motor Co., Dept. T-23, Box 658, Dearborn, Michigan.

### SAVE WITH ALL THREE

1. Gas-Saving Power!
2. Driver-Saving Ease!
3. Money-Saving Capacities!

And . . .  
*Ford Trucks last longer, too!*



FORDOMATIC DRIVE takes up to 90% of the work out of driving. New Safety-Drive Selector has convenient settings for full safety and ease of operation.

**FORD**  
*TRIPLE ECONOMY*  
**TRUCKS**  
MORE TRUCK FOR YOUR MONEY!

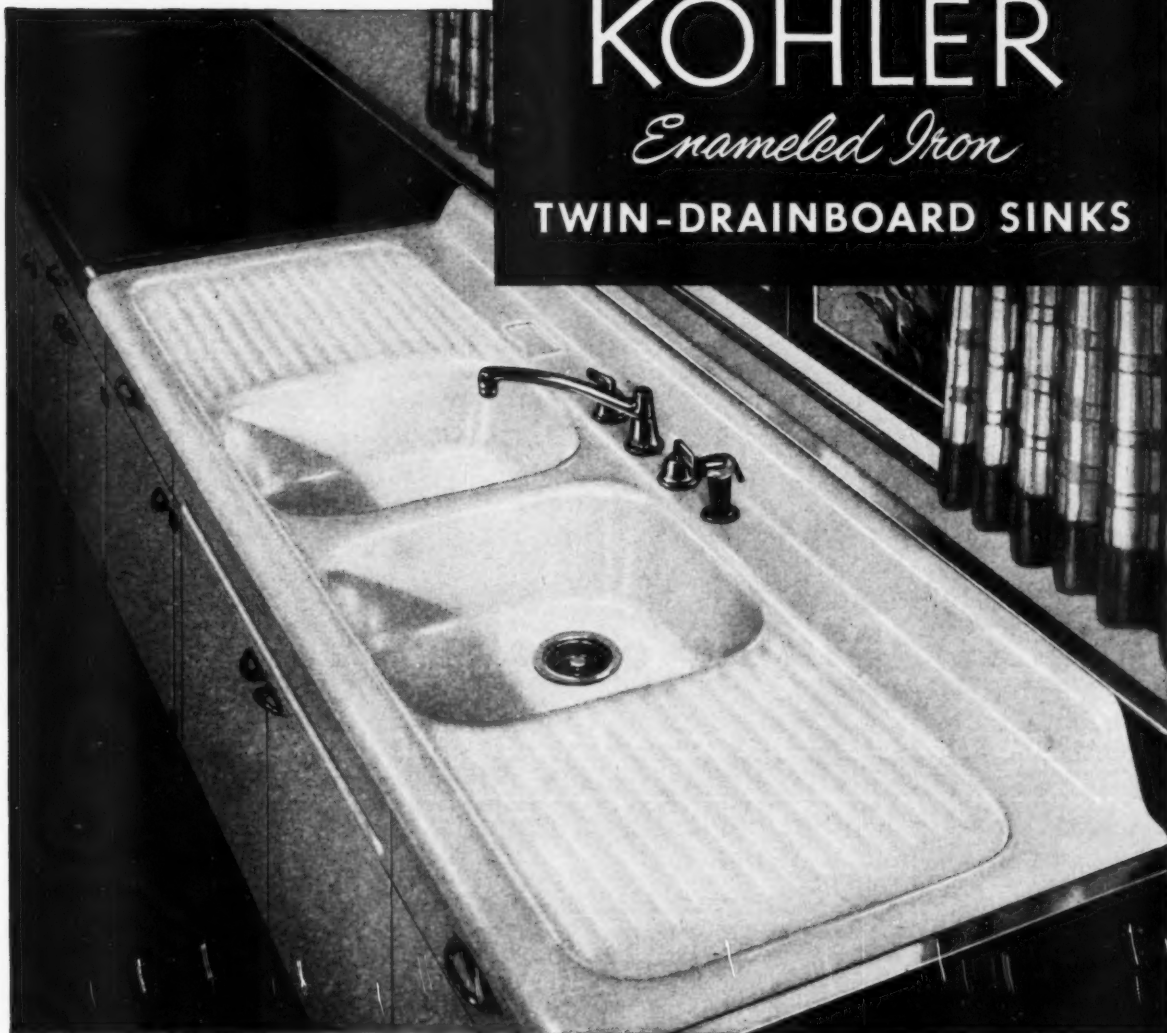
AMERICAN BUILDER



# KOHLER

*Enameled Iron*

## TWIN-DRAINBOARD SINKS



**Wilshire.** Sizes 60 x 25", 72 x 25".

Utmost utility and convenience are provided by the continuous self-draining work surfaces of Kohler twin-drainboard sinks. Fixtures are one-piece, without joints.

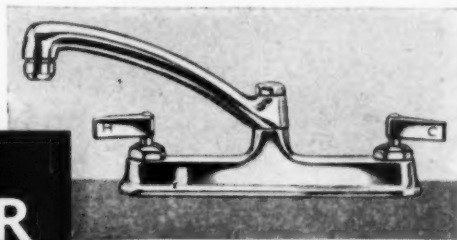
The deep, roomy basins have Kohler Duostrainers that make them water-retaining, collect solid waste, and drain freely. Other sink features are a full-length ledge with built-in soap dish; a high-arched spout that simplifies filling bottles and vases; and a lever-controlled sprayer for rinsing.

The Kohler enamel is acid-resisting clear through and is protected from strain by a strong base of non-flexing

cast iron. This superior enamel has a sparkling finish, easy to clean and clean-looking.

The Kohler line includes a variety of models to meet every need or special installation problem. A full line of undersink cabinets is available.

Kohler chromium-plated brass fittings match the sinks in style and quality.



**Rockford sink fitting.** Simplifies installation; available with or without hose sprayer.

Kohler Co., Kohler, Wisconsin. Established 1873

# KOHLER OF KOHLER

PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS  
AIR-COOLED ENGINES • PRECISION CONTROLS



ride the trend to faster sales

# Fir Plywood built-ins are a definite sales-feature in any home you build

YOU'RE swimming with the tide when you offer buyers plenty of built-in storage space. Even modest homes can be lifted above the ordinary . . . given extra sales-appeal, extra livability with low-cost fir plywood built-ins. Use them in every part of the home—in living and dining rooms, bath, hall and utility area as well as kitchen and bedroom.

And fir plywood is the perfect material for built-ins. Big panels save time and labor. They're easy to cut, fit and fasten. Strong. Fir plywood takes abuse without splitting or chipping. Good looking. Smooth real wood panels take any finish.

Play it safe. Your reputation's on the line with every home you sell. Specify only DFPA grade-trademarked fir plywood. "EXT-DFPA" for outdoor use. PlyPanel for interior finish, PlyScord for structural use. Other grades for other jobs.

**EXT-DFPA®**

**PLY/PANEL**  
FOR INTERIOR FINISH

**PLY/SCORD**  
FOR STRUCTURAL USE

© DOUGLAS FIR PLYWOOD ASSOCIATION, TACOMA 2, WASHINGTON

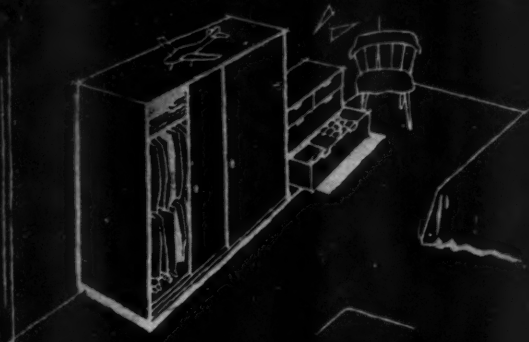
**REMEMBER—**  
plywood cuts costs . . . for  
floor and roof sheathing, subfloors,  
delayment, siding, exterior trim



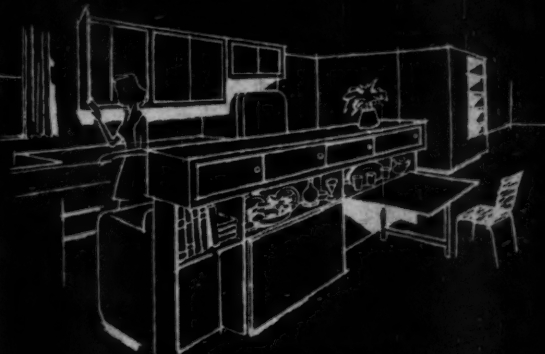
Combination dining bar, buffet and storage unit  
designed by Grosvenor Chapman, Washington, D.C.



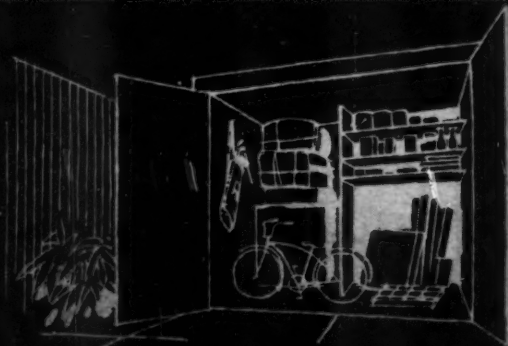
Shoulder-high sectional storage wall  
designed by Seymour R. Joseph, N.Y., N.Y.



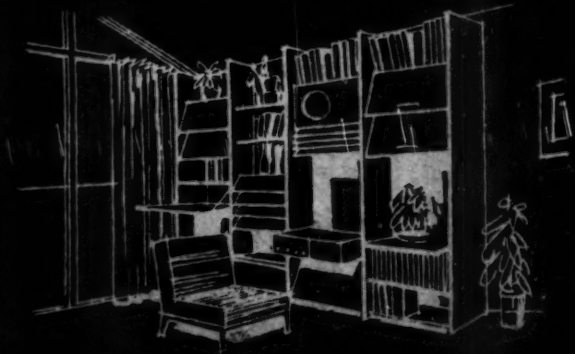
Fir plywood wardrobe closet and dresser  
designed by Bruce Walker, Cambridge, Mass.



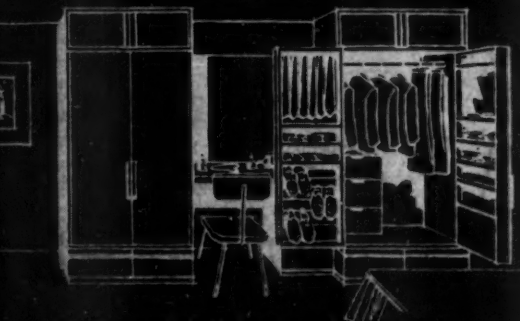
Half-high partition and storage unit  
designed by Paul Edward Tay, Long Beach, Calif.



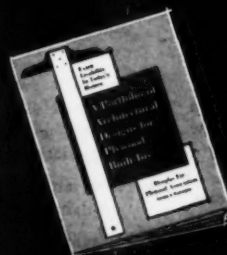
Exterior fir plywood carport storage closet  
Designed by Bruce Walker, Cambridge, Mass.



Modular fir plywood storage wall  
designed by Project Designers & Planners, N.Y., N.Y.



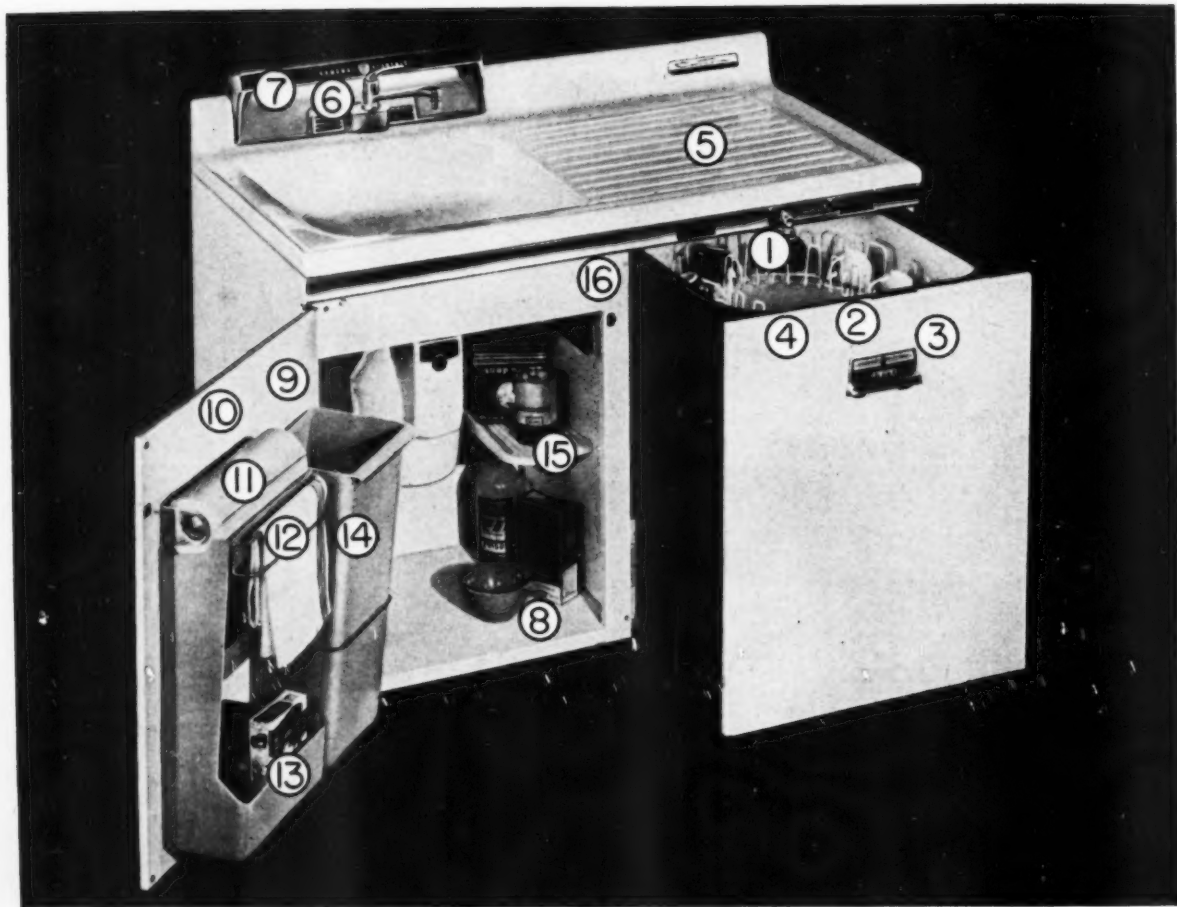
Fir plywood shelf-door wardrobe closet  
designed by Edward Hanson, Stillwater, Minn.



**MORE IDEAS FOR BUILT-INS**—Send today for free "Portfolio of Architectural Designs for Built-Ins." Over 50 prize-winning ideas from national architectural contest. (7 are shown on this page.) Write: (USA only) Douglas Fir Plywood Assoc., Dept. B, Tacoma, Washington.

# Sell your houses while

## 1 And get your price with the New feature-packed 48" Electric Sink



General Electric's new custom model Electric Dishwasher-Sink changes the sink area in new homes from a work center to the glamour spot of the kitchen.

Let this feature-packed new appliance add the customer appeal you need for quick sales of your new homes.

1. New improved dishwasher racks. Amazing capacity! Easiest to load. No racks to lift or shift!
2. New improved dishwasher detergent cup—optional second wash. Dishes come out sparkling, hygienically clean.

3. Selective control with Tel-a-Wash lights shows stages of cycle. Control provides completely automatic or manual operation as desired. Drying cycle can be used as *plate warmer!*
4. New silverware basket. Greater capacity. Holds full day's load. Silver loaded "points down" for safety and convenience.
5. New sink top—specially designed "no-drip" edge.
6. New single-control faucet, back-mounted for easy cleaning.
7. New built-in fluorescent light over sink bowl.

8. New and bigger under-sink storage.
9. Under-sink lighting—automatic, door operated.
10. Utility door—holds many accessories.
11. Convenient paper towel dispenser.
12. Special rack for hand towels.
13. Special racks for soaps and detergents.
14. Convenient, easily removable trash basket.
15. Extra intermediate shelf—specially for scouring materials.
16. Automatic touch latch on the door.



# the paint's still fresh!

help of these G-E sales-makers!



## 2 New low cost Disposall®

Introducing the new FC-20, at a price you, as a builder can't afford to overlook!

Big capacity. Continuous feed. Quick, easy installation. Removable plug for dishwasher drain connection.

The FC-20 joins the de luxe models FA-4 and FA-45. De luxe models feature safety Twistop control, and written 5-year customer protection plan.

## 3 New variety in Dishwasher designs Even one with a wood front!



What style does your customer want? G.E. has it! Models that fit to the right or left of sink! Models on wheels. Even models with wood fronts in knotty pine, birch, mahogany or oak!

Every model is a spacesaving under-counter model. 24" wide. Built-in models are pre-plumbed, easy to install. Free-standing model, with separate top, is also available.

Get more information. See G-E catalogue in Sweet's file, see your G-E distributor, or send this coupon.



General Electric Company  
Electric Sink & Cabinet Department  
Appliance Park, Louisville 1, Ky.

Please send me  
... detailed information on Disposalls  
... detailed information on Dishwashers  
... name of nearest G-E distributor.

Name.....  
Street.....  
City..... State.....

GENERAL  ELECTRIC

# PALCO

## Architectural Quality Redwood



### OFFERS TIMELESS DISTINCTION for exterior or interior design

Mellow richness is inherent in new redwood—while weather and time-defying qualities give it an unexcelled life span of beauty and service. Redwood has that look of “belonging” from the day the building takes form, for redwood is a finished product with inherent architectural design characteristics. Dimensional stability, high paint retention, and ease of workability give it almost limitless range of practical application. *Palco Architectural Quality Redwood* offers the *extra* value of consistent uniformity of texture and grade—yet you pay no higher premium.

For timeless distinction in exterior or interior design, specify *Palco Architectural Quality Redwood*.



**PALCO Redwood is tops  
in ALL these qualities**

- ✓ High Dimensional Stability
- ✓ Low Swelling and Shrinkage
- ✓ Finest Paint Retention
- ✓ Greatest Durability
- ✓ Good Workability
- ✓ Glue-holding Ability



## THE PACIFIC LUMBER COMPANY

*The best in Redwood—Since 1869*

Mills at Scotia, California

100 Bush St., San Francisco 4 • 35 East Wacker Drive, Chicago 1 • 2185 Huntington Drive, San Marino 9, Calif.

MEMBER OF CALIFORNIA REDWOOD ASSOCIATION

AMERICAN BUILDER

"THE MANY DESIRABLE CHARACTERISTICS OF REVERE COPPER WATER TUBE MAKE IT THE IDEAL MATERIAL FOR RADIANT PANEL HEATING"

"PREFABRICATION IS EASIER, TOO, SAVES TIME AND LABOR ON THE JOB"



... say the "Bagley Boys"

OF ROBERTSON, MO.

Directly above you see Mr. Eble, Chief Design Engineer (left) and Mr. R. Bagley conferring on a radiant panel heating job. Says Mr. Bagley, "Because of the superiority of radiant panel heating we recommend it every chance we get. We must give copper the credit for putting radiant panel heating on a competitive basis with inferior methods of heating, because of its many outstanding features. As it has been pointed out many times that: 'There is not another metal or alloy that has *all* the desirable construction characteristics of copper.' Why shouldn't we prefer it?"

At top right, Mr. R. W. Hardy holds a preformed radiant panel heating coil assisted by Mr. Harry Smith who has a prefabricated distribution manifold in his hand. Says Mr. Smith, "One answer to keeping radiant panel heating costs down is prefabrication. That's why we prefer Revere Copper Water Tube: It is ideally suited to preforming and the techniques used to install radiant panel heating."

It's good advice the "Bagley Boys" offer. Next time be sure to specify Revere Copper Water Tube for radiant panel heating, hot and cold water lines, underground service lines, air conditioning and processing lines, waste stack and vent lines. There is a Revere Distributor near you who carries a full supply of Revere Copper Water Tube in various sizes and tempers. And if you have technical problems, he will put you in touch with Revere's Technical Advisory Service.

**REVERE**

**COPPER AND BRASS INCORPORATED**

*Founded by Paul Revere in 1801*

230 Park Avenue, New York 17, N. Y.

Mills: Baltimore, Md.; Chicago and Clinton, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y.—Sales Offices in Principal Cities, Distributors Everywhere.

SEE "MEET THE PRESS" ON NBC TELEVISION, SUNDAYS

**WHY REVERE COPPER WATER TUBE IS PREFERRED BY—**

Architects, Builders, Plumbing & Heating Contractors

**EASY TO BEND**

*Saves Time*

Revere Copper Water Tube is easy to bend. Soft temper can be bent by hand to meet installation conditions.



**HANDY LENGTHS**

*Save Fittings... Labor*

Revere Copper Water Tube comes in straight lengths of 20' in hard and soft tempers. 60' coils of soft temper reduce the number of fittings needed.



**SOLDER OR COMPRESSION FITTINGS**

*Need Less Work Room*

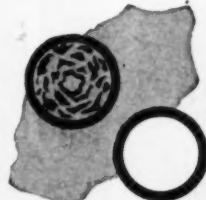
*... Save Metal*

No worry about wrench room when you use Revere Copper Water Tube with solder fittings. Compression fittings can also be used. No threading is necessary with either type fitting. Wall thickness of tube used can thus be less than for threaded pipe.



**NON-RUSTING**

Rustable pipe eventually clogs as shown in drawing at top right. Non-rustable Revere Copper Water Tube suffers no loss of flow or pressure as shown at bottom right. No allowance in pipe size need be made for rust accumulation with Revere Copper Water Tube.



**GOOD THINGS**  
begin to happen when you

*"go National"*

**Are your prospects getting fewer, harder to close?** Is your profit per home shrinking? Then it's time to learn what a National Homes dealership can mean in meeting today's keener competition.

Here are some of the pleasant things that happen when builders go National:

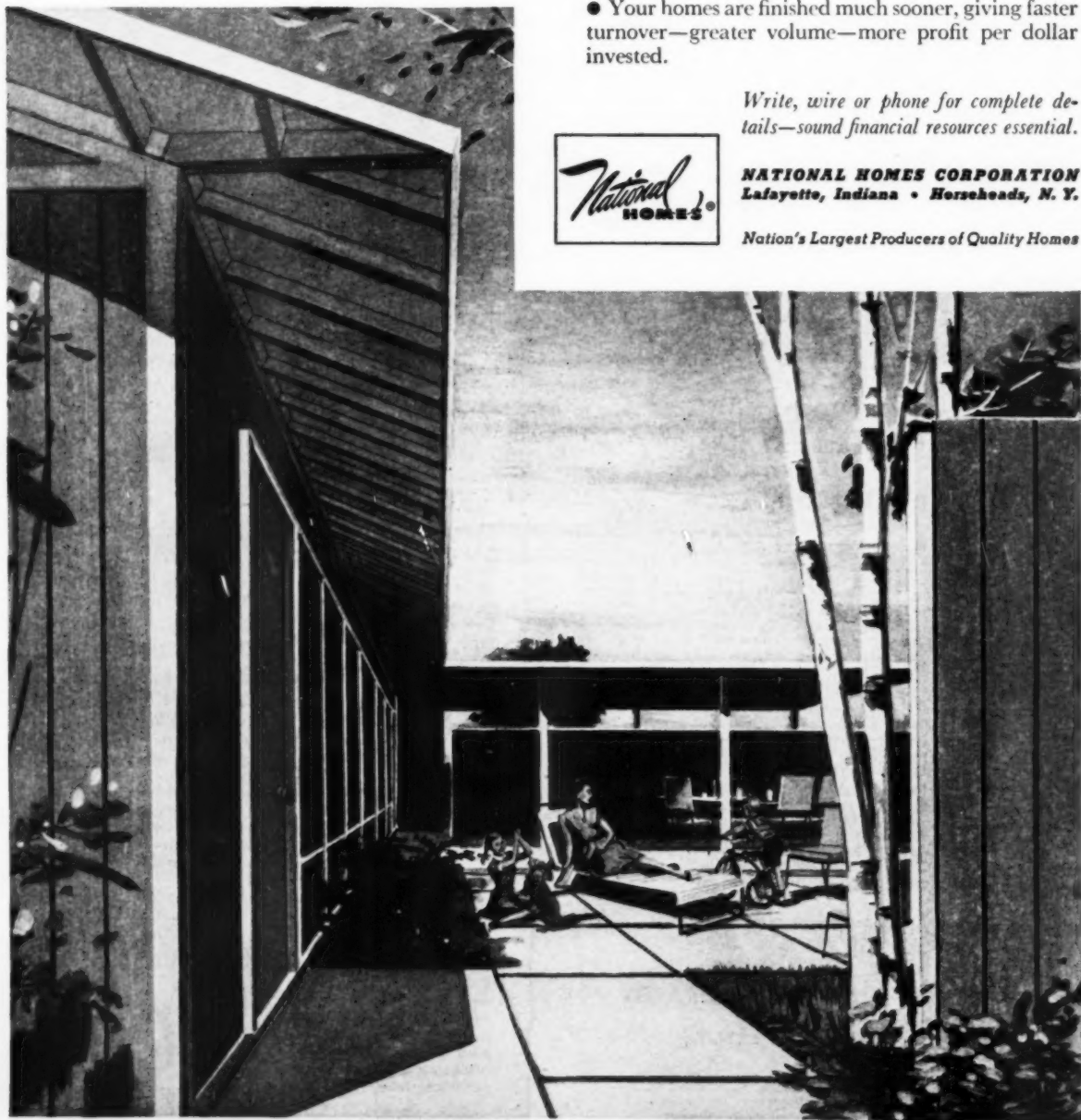
- A whole new group of enthusiastic, able-to-buy prospects becomes available—a virtually untapped market!
- You get a complete package from one reliable source—no inventory—no warehousing—no purchasing problems.
- You lower your administrative overhead and operating cost.
- Your homes are finished much sooner, giving faster turnover—greater volume—more profit per dollar invested.

*Write, wire or phone for complete details—sound financial resources essential.*



**NATIONAL HOMES CORPORATION**  
Lafayette, Indiana • Horseheads, N. Y.

*Nation's Largest Producers of Quality Homes*





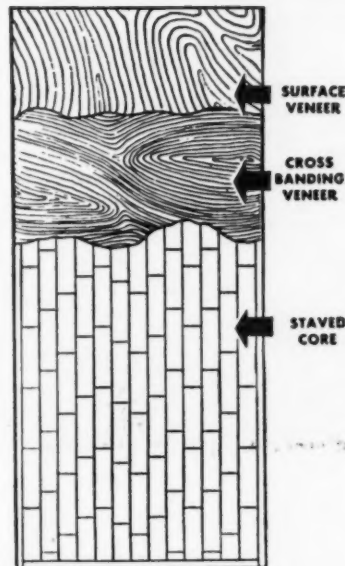
what doors  
do you recommend...

when customer satisfaction  
must be guaranteed?



**HOLLOW-CORE**

Curtis New Londoner hollow-core flush doors have an exclusive all-wood locked-in core which means lifetime satisfaction. These doors have the balanced construction which assures dimensional stability. Moisture content is balanced during manufacture by careful control and re-drying. Three-ply panels form each face of the door for balanced sturdiness. Interlocking grid is meshed in correct size for maximum strength. Every part of the Curtis New Londoner is balanced for full protection against sticking and warping.



**SOLID-CORE**

Curtis American solid-core flush doors provide complete protection against moisture absorption because of advanced bonding methods which permit the use of thinner face veneers, thus bringing the glue moisture barrier closer to the surface. Cores are kiln-dried pine; hardwood edge strips all around (veneer cross-banded selected face veneer); all plies are bonded with phenolic resin by the hot plate process. Can be had in dimensions up to 4' x 8'. Widely used in schools and hospitals. Special doors can be built to your specifications.

Both Curtis New Londoner hollow-core flush doors and Curtis American solid-core flush doors come with beautifully grain-matched face panels of carefully selected native woods. Sold by Curtis Woodwork dealers everywhere.



**CURTIS  
NEW LONDONER**  
HOLLOW-CORE  
**FLUSH DOORS**

For complete information, see "Curtis New Londoner" section in Sweet's Architectural Catalog—or mail the coupon.

Curtis Companies Service Bureau  
200 Curtis Building  
Clinton, Iowa

AB-8-54

I want to know more about Curtis New Londoner and Curtis American flush doors. Please send literature.

Name.....

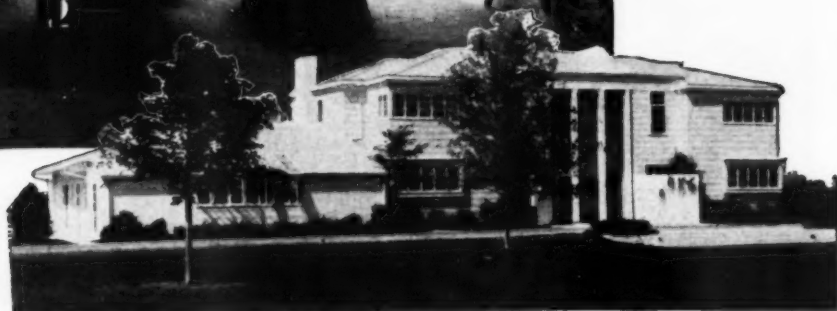
Address.....

City.....State.....



**ANOTHER  
BEAUTIFUL HOME  
WITH THRUSH  
RADIANT HOT  
WATER HEAT.**

**Seven zones.  
Eighteen Rooms  
including Green-  
house and  
Hobby Rooms**



*Specify*

# THRUSH Radiant Hot Water Heat

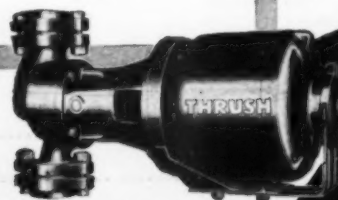
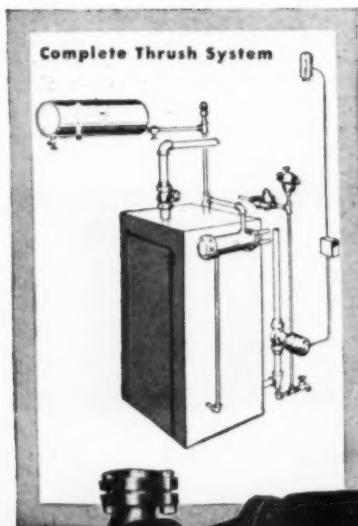
**FOR HOMES WHERE COMFORT AND BEAUTY COUNT**

**THE** finest modern development in home heating . . . Thrush Radiant Hot Water Heat . . . offers the maximum in comfort and flexibility at reasonable cost.

Ideal for use with radiant coils in ceiling or floors, radiant baseboards, convectors or radiators. Maintains temperatures in all zones within a fraction of 1 degree, regardless of weather. Zoning is simple and inexpensive.

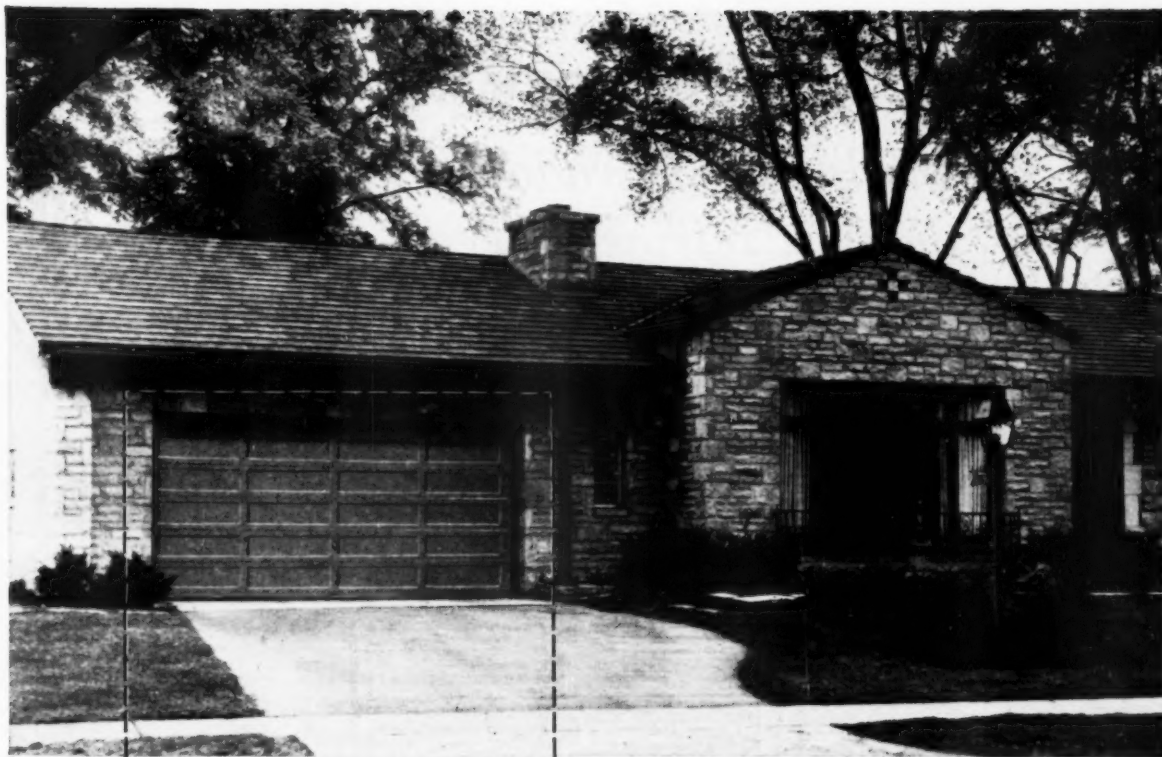
A plentiful supply of hot water for kitchen, laundry and bath is provided summer or winter by the same heating boiler.

*For more information, see our catalog  
in Sweet's or write Dept. C-8*



Thrush Water Circulator

**H. A. THRUSH & COMPANY**  
PERU • INDIANA



**THIS DOOR**

is a product of the originators of  
the upward-acting door with  
torsion-spring counterbalance

The **KINNEAR** Manufacturing Company

*At the close of the last century, the basic principles of today's most widely preferred type of door were originated in the Kinnear Steel Rolling Door. No other development in doors has added as much to both space-economy and operating efficiency as the combination of torsion spring counterbalance and upward action. Kinnear offers these and other advantages in the sectional-type RoL-TOP Door shown above, and in Kinnear Rolling Doors, featuring the familiar curtain of interlocking steel slats.*

In many ways, Kinnear's growth in the building field parallels American Builder's. It began in the last century . . . it brought us leadership in an important part of the building industry (world's largest makers of doors *exclusively*—wood and steel) . . . and it was attained with the help of many appearances in the pages of American Builder through more than half a century.

The KINNEAR Manufacturing Co.

Factories: 1560-80 Fields Avenue, Columbus 16, Ohio  
1742 Yosemite Ave., San Francisco 24, Calif.

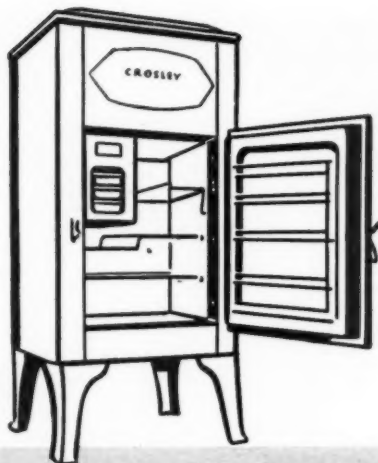
Offices And Agents In All Principal Cities



**KINNEAR**  
ROLLING DOORS

*Saving Ways in Doorways*

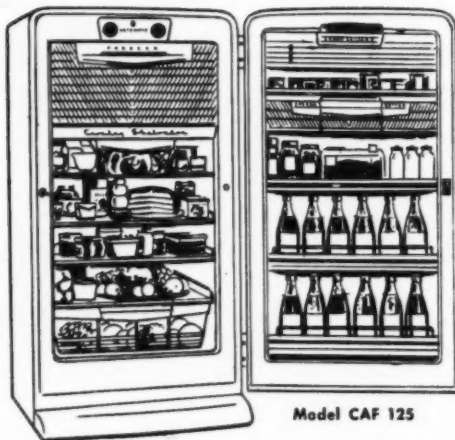
In 1933, **CROSLEY**  
 produced *Shelvador*,  
 the first refrigerator  
 with door shelves



**TODAY, THESE APPLIANCES ARE THE MOST**

**CROSLEY**  
**Super SHELVADOR**

In 1933, Crosley revolutionized the industry with the development of the Shelvador, the first refrigerator with door shelves. Today, Crosley is still the only manufacturer offering Deep Door Design, which permits the shelves to be completely recessed in the door, not merely fastened to the door. Crosley was also the first manufacturer to offer interior color styling, the exclusive Beverage Server, and true automatic defrosting. Today, Crosley automatic defrosting is proved in more homes than any other!



Model CAF 125

**BENDIX DUOMATIC**  
**WASHER-DRYER**

In 1935, Bendix, most famous name in home-laundry equipment, was the first manufacturer to make automatic washing machines for home use. Scooping the field with another revolutionary "first," Bendix introduced the Duomatic, world's only washer-dryer all-in-one. It washes and dries clothes in one operation, and is available for either gas or electric drying. It's one of the most popular items you can offer new-home prospects!



It's now possible for you to obtain the most complete, most attractively priced kitchen and laundry lines ever available—all from a single source! The tremendous Crosley and Bendix advertising programs . . . on TV, radio and in newspapers . . . continually influence your prospects to favor Crosley- and Bendix-equipped homes. That's why so many successful builders across the nation agree that "single source makes sales sense"!



**Now Crosley and Bendix provide builders with a single source for all major appliances, including the famous Crosley Shelvador and Bendix Duomatic**

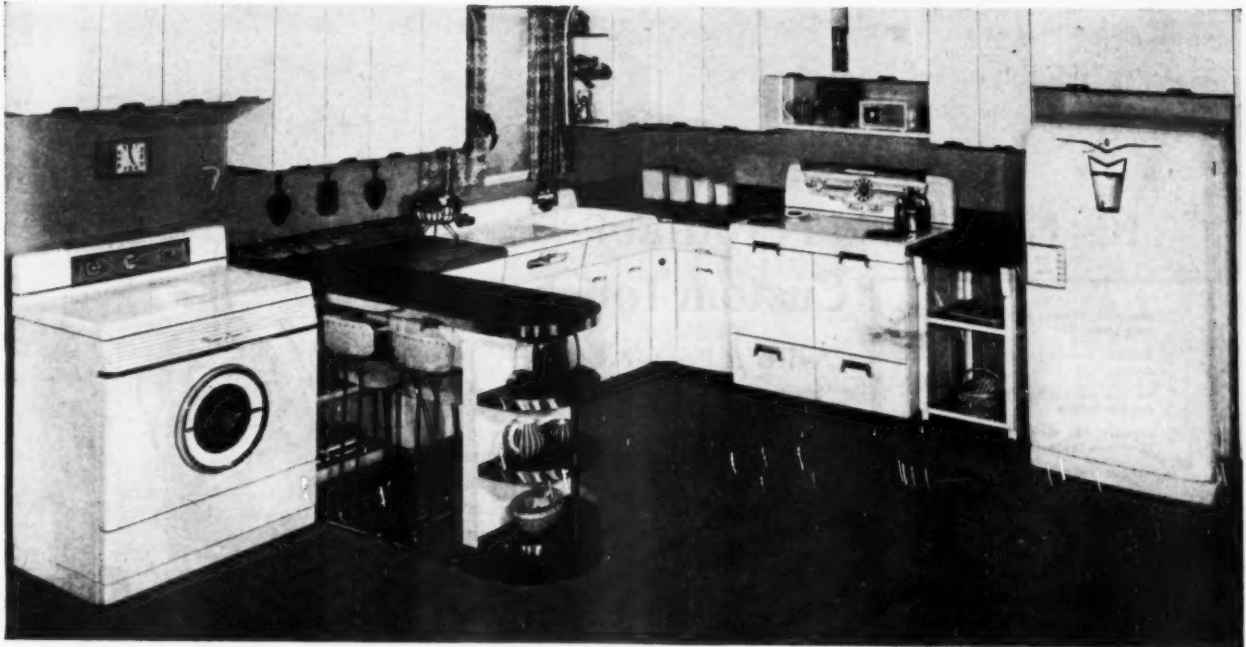
**AMERICAN BUILDER**





In 1935, **BENDIX**  
*produced the first truly  
automatic washing machine  
for home use*

**IMITATED OF ALL MAJOR HOME APPLIANCES!**



Offer customers the convenience and beauty of a Crosley and Bendix kitchen-laundry. It's the best salesman you can have! Complete Crosley and Bendix kitchen-laundries include *Super Shelvador* Refrigerators, Electric Ranges, Kitchen Cabinets, Food Waste Disposers, Automatic Dishwasher-Dryers, Shelvador® Freezers, and Bendix Automatic Washers and Dryers including the Duomatic all-in-one!

**Get the complete story of all major appliances from a single source. Contact your Crosley and Bendix Distributor today or use this convenient coupon.**

APPLIANCE AND ELECTRONICS DIVISION  
**CROSLEY** AVCO **BENDIX**  
APPLIANCES • TELEVISION • RADIOS EMERSON DIV. OHIO AUTOMATIC HOME LAUNDRY

**Builder Department** AB-84  
**Appliance and Electronics Division**  
**AVCO Manufacturing Corporation**  
**1329 Arlington Street, Cincinnati 25, Ohio**

Please send information concerning Crosley and Bendix appliances.

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

# Build SALES APPEAL into Your Kitchens



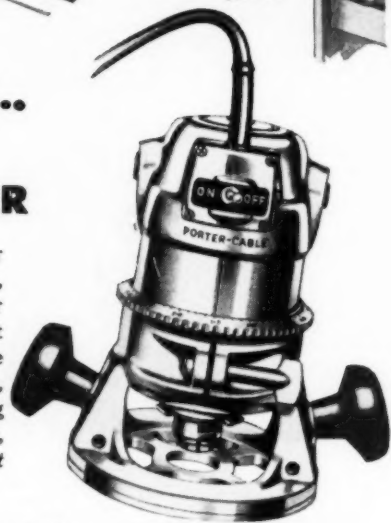
It's Easy to Add Profitable

Custom Touches...

with a Porter-Cable  
**PORTABLE ROUTER**

Adds custom touches you need for a quick sale yourself! Cuts Formica, Micarta, Textolite, Farlite and other plastic-laminated materials without chipping! Saves up to 80% of time ordinarily used for hanging doors, laying out and routing stairs, cutting sections for built-ins, valances, trims, etc. *Puts woodworking-shop fees right into your own pocket!*

Just one of the complete Porter-Cable Router line featuring the radically different and superior Kamgrip<sup>®</sup> Chuck, Grips bit without scoring — keeps it aligned — helps prevent work-spoiling run-out. Model 511, 1 1/4 HP, 20,000 RPM.



**MODEL 511**  
**ROUTER**  
**\$125<sup>00</sup>**

- \$ Dovetail drawer joints for rigidity and strength
- \$ Rabbit overlap for cupboard doors
- \$ Radius on cupboard door and drawer edges
- \$ Mortise for hinge butts (better, 10 times faster!)
- \$ Groove side members for set-in bench seats and backs
- \$ Shape bench ends to pattern
- \$ Make inside mortise for lock set
- \$ Cut scroll work for trim
- \$ Cut and fit plastic-laminated counter tops
- \$ Rout counter edges for T-molding
- \$ Shape decorative edging for built-in tables
- \$ Rout side supports for permanent shelves
- \$ Cut counter openings for sink
- \$ Shape drawer pulls
- \$ Fit shelves around lazy susan



• *Ask your dealer* for a free demonstration on your own job.

**FREE MANUAL** — Send today for 48-page router manual giving construction tips on stairs, doors, sink tops, trim, etc.

Porter-Cable Machine Co. 2008 N. Salina Street, Syracuse 8, N. Y.  
In Canada send to: Strongridge, Ltd., London, Ont.

Manufacturers of Speedmatic and Guild Electric Tools

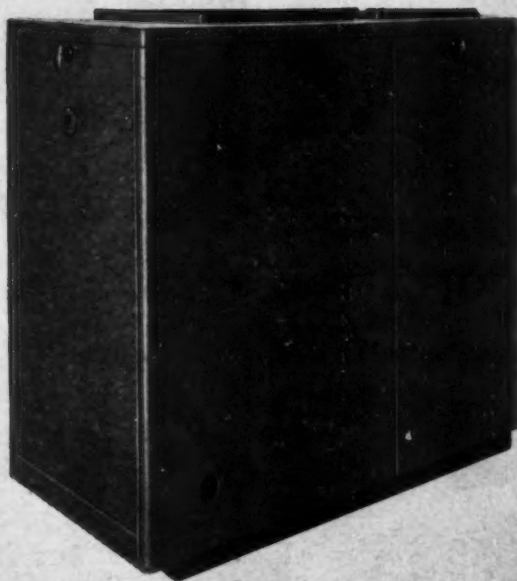
**Porter-Cable**

*Quality Electric Tools*

new  
winter  
air conditioner  
by

**RICHMOND**

Compact Steel Unit in Wide  
Range of Capacities for  
Practically any Home-heating  
Need. Fully Automatic,  
Gas or Oil.



Duridine —  
American Chemical  
Paint Co.

Now, RICHMOND offers a compact "low-boy" steel furnace — the SH — in five different sizes, for a full range of warm air heating needs.

The RICHMOND SH features a stainless steel, chromium alloy combustion chamber, heavy gauge heating element and unusually large filter area. Operation is fully automatic. All controls are enclosed in the sturdy steel jacket. Casing is Duridized to provide a superior bond for the handsome green enamel finish. Units are equipped with raised steel base which eliminates

the need for grouting and permits installation on combustible floor.

Oil-fired types equipped with pressure atomizing burners, U/L listed and complying with commercial standard CS-75. Gas-fired units, A.G.A. approved for use with all types of gases, meet S.U.R. requirements.

**You will be surprised at the reasonable cost of the SH model — it's priced right for today's more competitive heating market. Send off the coupon today for full details.**

#### SPECIFICATIONS

##### Gas-fired

Capacities—input  
Btu/hr.  
SH 20G— 85,000  
SH 22G—110,000  
SH 24G—140,000  
SH 26G—175,000  
SH 28G—220,000

##### Oil-fired

Capacities—output  
at bonnet, Btu/hr.  
SH 20P— 80,000  
SH 22P—106,000  
SH 24P—143,000  
SH 26P—175,000  
SH 28P—212,000

Automatic controls—fully enclosed  
Heavy gauge heating element  
Stainless steel combustion chamber (SH-P)  
Extra large filter area  
Raised base  
Steel jacket—Duridized green enamel

**Richmond radiator co. 16 Pearl St., Metuchen, New Jersey**

Please send me more information and literature on the new SH Winter Air Conditioner. No obligation, of course.

NAME \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

ZONE \_\_\_\_\_

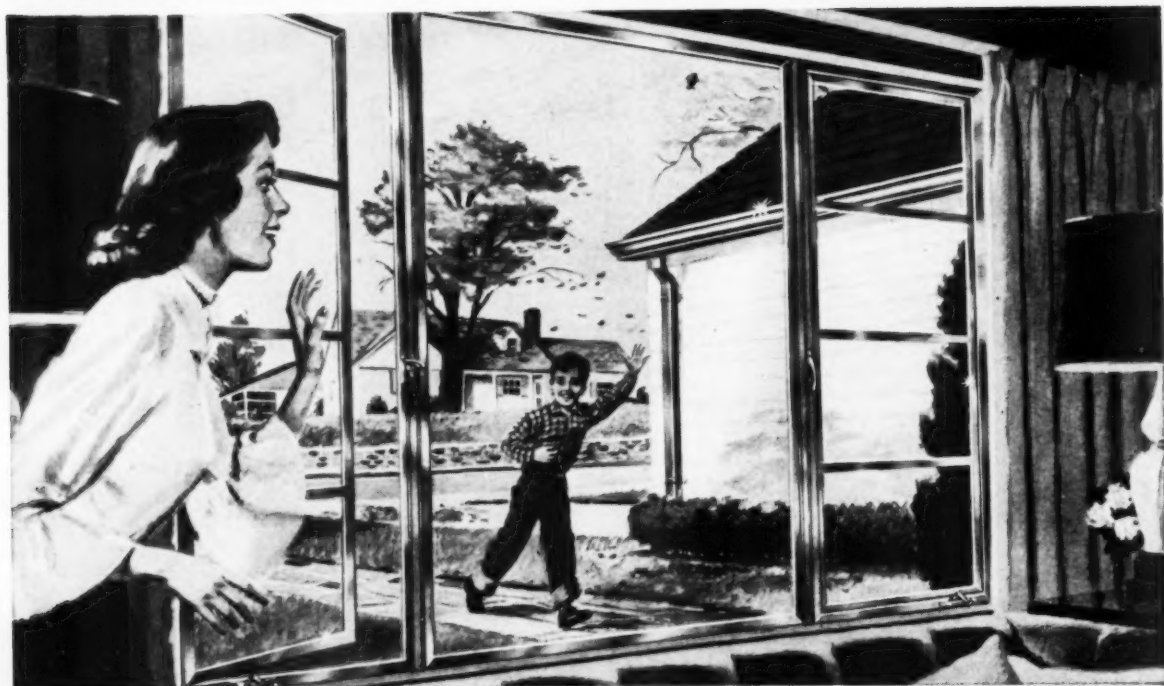
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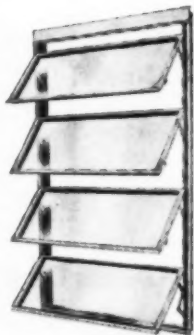
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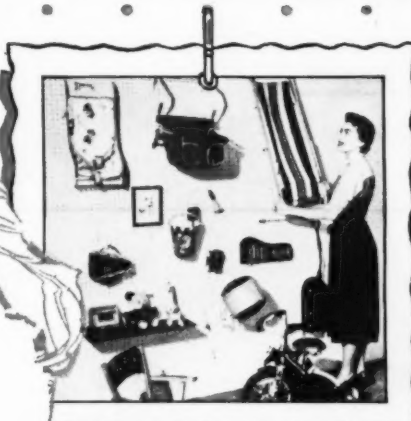
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**Concrete and the Basement.** Materials for building changed little from 1879 to 1929. Concrete came into practical use about 1895 but brick and stone foundations were still commonly used until 1914. The concrete basement, being more waterproof, made better space for laundry, workshop and storage. The basement recreation room of the 1930's was the forerunner of today's Family Room included in the plan above grade.

**The Automobile.** Henry Ford's Model-T was introduced in 1908 bringing the automobile within reach of thousands, then millions. The "auto barn" had to be provided; by 1920 it had been transformed into the attached garage. Today the garage, or the carport, is often the front of the house, the house itself turning away from the street traffic to face the garden to the rear. Americans in the gay Twenties lived in their cars. Entertainment left the homes for the highways. Country clubs and night clubs flourished. The sign of distinction was a fine car not a fine home. All this plus higher building costs made spaciousness in the house less desirable. The guest room vanished. The house became more compact, a basis of operations, not a center of activity. The one antidote of importance was the radio, introduced into the home about 1920. When the economic crash came in 1929, the radio served to bring the family together again for group activity in the home.

**The Great Depression.** Of this period in the early 1930's was born an appreciation of the fundamentals of good architecture as against the dressed-up European period styles which had prevailed in American architecture in the 1920's. The Colonial style emerged as the practical house of the depression. It was a simplification, a good basis for the modern design that was to become popular after World War II. Materials were few and carefully chosen. Ornamentation was all but eliminated. Frugality again became fashionable, bringing with it an interest in making things for the home. Here was born our present do-it-yourself movement.

**FHA and the Mortgage Pattern.** Not for 70 years had housebuilding reached such a low point as it did in 1933. The federal government tried many schemes to bring business back. One of the greatest was the establishment of the Federal Housing Administration which insured home loans made by private lenders. It is safe to say that the FHA has had a greater influence on home building and ownership than any other one factor, for it changed the entire pattern of home mortgages whether insured under FHA or not. In 1892, 62 per cent of all families owned their homes. In 1900 the figure had fallen to 50 per cent and in 1920 to 40 per cent. Now, largely due to FHA, about 52 per cent of our families own their homes.

**Lots Large and Small.** In the 1880's the wealthiest families of a town lived close to the center. Less desirable lots were farther out and were small, to crowd everyone within walking distance of work and shopping. This pattern changed but slightly with the building of the ubiquitous electric railways of the 1890's. But with the general use of the automobile the pattern was reversed. The wealthy built larger places on the outskirts or in the suburbs; lower-income families lived close in. New subdivisions on the outskirts became profitable. In the 1920's subdivisions were sliced into 40- or 50-foot lots to eke out the last dollar from the land. Rows of narrow fore-and-aft houses sprang up until the 1929 crash put an end to such operations. After World War II, lots were made larger, streets were pleasantly curved and laid out to avoid through traffic. The larger lots and the influence of the "ranch house" meant that one-story houses predominated in this post-war period.

**Wages and Income.** In the 1890's the usual day's wage was \$1. There was a great spread in the sizes of incomes. New houses were built by business and professional men and so-called capitalists. Through the years wages have risen and upper-level incomes have been reduced. The income tax (1913) and the strength of the labor unions, coupled with a broader understanding by management of the priming effect of higher wages, have leveled incomes so that now the plumber and banker live in very similar houses. In 1914, Henry Ford startled the industrial world by announcing a minimum daily wage of \$5 and at the same time reduced the working day to 8 hours. Besides bringing higher wages and greater circulation of money, the shortened hours gave men more time for their homes and families. Today's homes have hobby rooms, dens, workshops, gardens, radio and television and more personal attributes than could have been dreamed of 40 years ago.

**Family Income.** In the main these are the major factors which affect the volume of home building: fluctuations in family income, population changes, costs and prices, the level of rents and the mortgage interest rate. Probably the most important is family income.

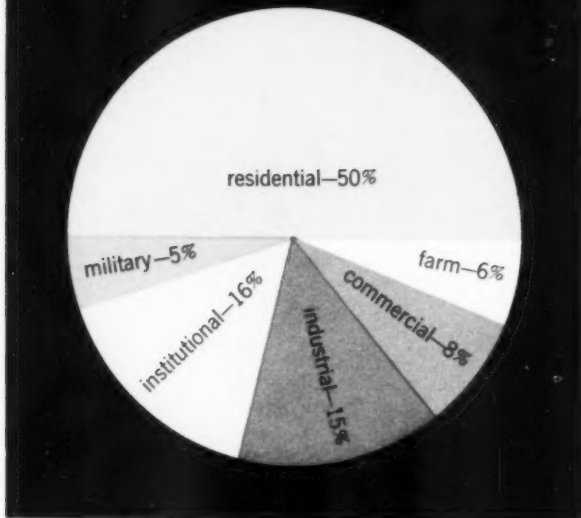
**More Utilities, Less Shell.** From the turn of the century, the mechanical utilities—heating, electrical, plumbing, appliances—took more and more of the cost of a building. Less and less, proportionately, went into the shell or mere shelter. A balance had to be maintained. Before 1900 spaciousness was cheap. Afterwards it had to cut down to afford the amenities and conveniences of the mechanical parts. To save space, the lighting, heating and plumbing became *part* of the building, integrated into the architecture and often influencing it. For example, perimeter heating allowed the comfortable use of large glass areas. So did baseboard heating. Mechanical ventilating fans made inside bathrooms practical, generally freeing up the plan. And so on.

**The Machine.** The machine had just begun to influence house design in the 1880's—and not for the better. The jigsaw and the lathe brought superficial ornaments, verge boards, spindles and posts in such variety that houses were restless in appearance. Twenty years later the novelty had worn off and a few architects were trying to design for the machine. At first it showed in simple millwork and in cases. Gradually the machine took operations from the site into the factory where they could be done better and cheaper. Now the building of a house is more nearly an assembly, and that helped by portable electric machines.

**Prefabrication.** Large-scale project housebuilding, begun about 1914, very naturally brought mass production methods into the building industry. From 1905 to 1929 many manufacturers sold precut houses with numbered parts so the novice could erect them. But true prefabrication requires controlled methods of erection as well as manufacture. After World War II, builders successfully developed their own prefabrication methods, based on conventional stud construction.

**Children.** Today we are once again a nation of home dwellers. We are much interested in our home communities and the part that we as families play in them. Children are more and more the prime reason for the home and are no longer regarded merely as temporary residents. The Family Activities room has become one of the most important factors in a new house plan. It is a good sign.

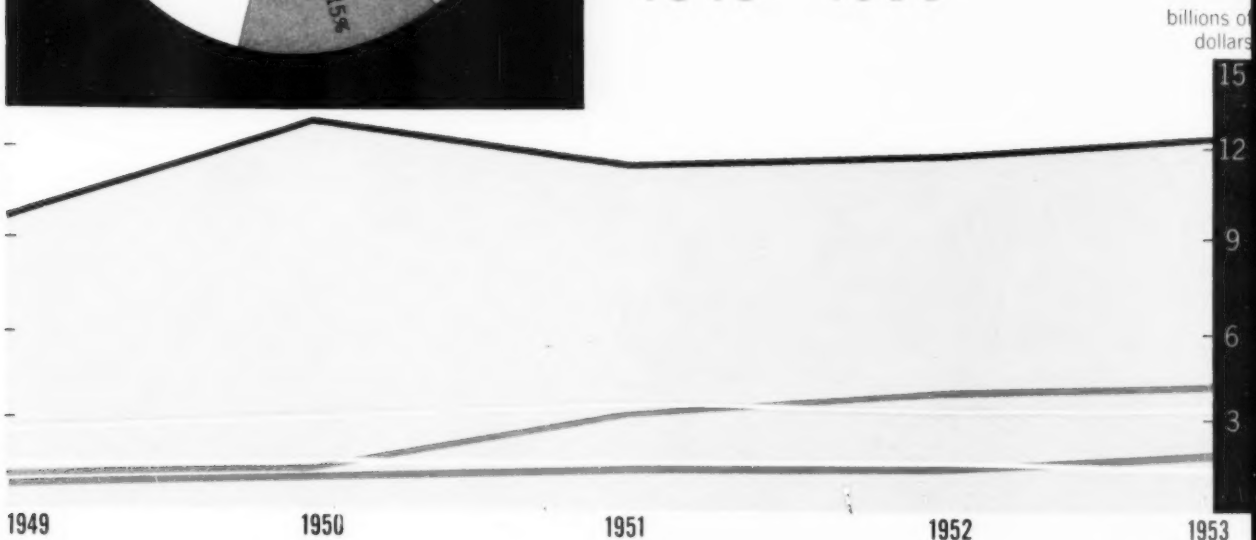




# This is the building business

and this is how it looked during the record years

1949 • 1953



billions of dollars

15

12

9

6

3

1949

1950

1951

1952

1953

U. S. Dept. of Commerce

## Candid views of a many-sided industry

The building business—largest user of materials in the U.S. economy—includes the construction of new buildings and alterations in existing ones. Hard to measure and define precisely, it is the largest segment of the general construction industry, which in itself is difficult to define clearly. But this much is at least strikingly clear—construction is big business in the U.S., often rated second only to agriculture.

In 1953, new construction reached a record volume of \$34.8 billion, of which the construction of new buildings (including additions and alterations) accounted for \$24.4 billion (of which \$12.3 billion was in residential construction). Measured in terms of the national economy, dollar volume of new construction in the prosperous year 1950 was 10.1 per cent of the gross national product. (The average for the 1919-1950 period was 8.3 per cent.) In that same year, 1950, the construction industry absorbed about 5

per cent of total civilian population, or 3.2 million persons.

Though inseparable from general contracting, *building* construction partakes also of the processes of manufacturing—because it produces housing. In the construction of dwelling units, the building business is concerned with a consumer's product rather with the capital production of other construction. Hence home building has financial and merchandising problems that set it apart from other construction.

Perhaps the simplest definition of the nature of the building business is to say that it is an aggregation of many sorts of enterprise, including builders and contractors, skilled and unskilled labor, producers of materials, distributors of materials, architects, engineers, and financial institutions.

What this aggregation of American enterprise can do in the way of consumption of materials is shown by the President's Materials Policy Commis-

sion, reporting in 1952. In the year 1950, states the Commission, new building construction and the maintenance of existing buildings took *one-third of the copper* consumed by all industries in the nation, *one-sixth of the iron and steel*, *one-fifth of the zinc*, *one-fifth of the lead*, and almost *two-thirds of the lumber*. Nearly *one-fourth of total fuel* consumption was devoted to the heating and air conditioning of buildings.

Within the building business, *home building* can be considered as a specialized department or industry which stands on its own, separate both from the general contractor and the non-professional or owner-builder. (Amateur builders in 1949 numbered an estimated 265,000, built about that number of dwelling units, mostly in non-metropolitan areas, or 33 per cent of all privately-financed nonfarm dwelling units produced in that year.)

In 1949 the Bureau of Labor Statistics estimated that 119,600 firms

were active in home building. They were either housing "contractors," who carried out projects planned and initiated by owners, or they were "merchant" or "operative" builders, who themselves initiated the planning, production and merchandising of units.

Sherman J. Maisel of the University of California, analyzing the home building industry, estimates that merchant builders in 1949 constructed 71 per cent of houses built by firms nationally and 75 per cent of houses built by firms in the nation's metropolitan areas. The total number of units built in 1949 by large firms (more than 100 houses a year) and by medium-sized firms (from 25 to 99 houses a year) was estimated to be at least six times as great as it was in 1939.

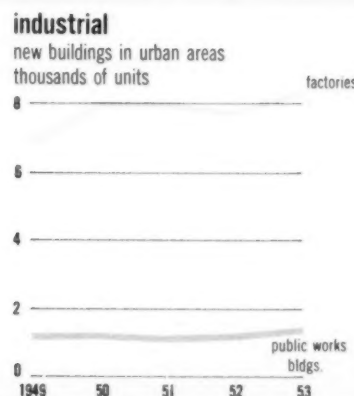
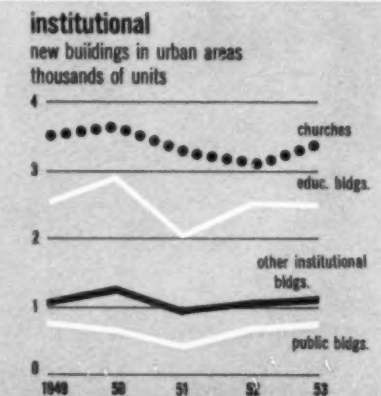
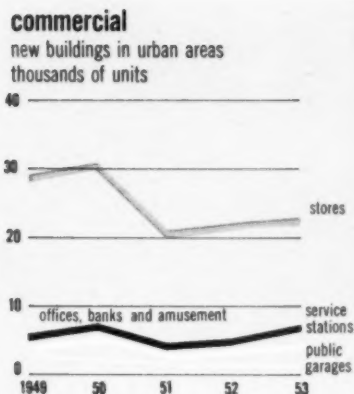
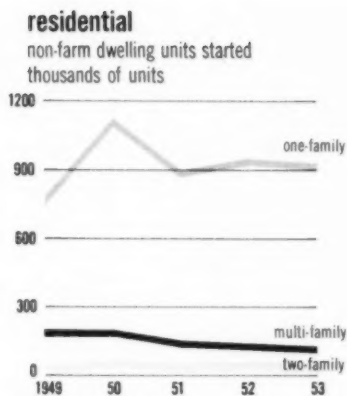
During the five years 1949-1953, builders started new dwelling units at the rate of almost 500 per hour. New commercial buildings were started at the rate of 4 per hour. The emphasis during this period was on single-family dwelling units and stores, shopping centers, churches and educational buildings. The total of nonfarm dwelling units produced in those five years—5.7 million—exceeded by 30 per cent the 4.4 million dwelling units built in the five years 1923-27, the previous record.

The number of publicly-owned dwelling units started in the 1949-1953 period was 279,780.

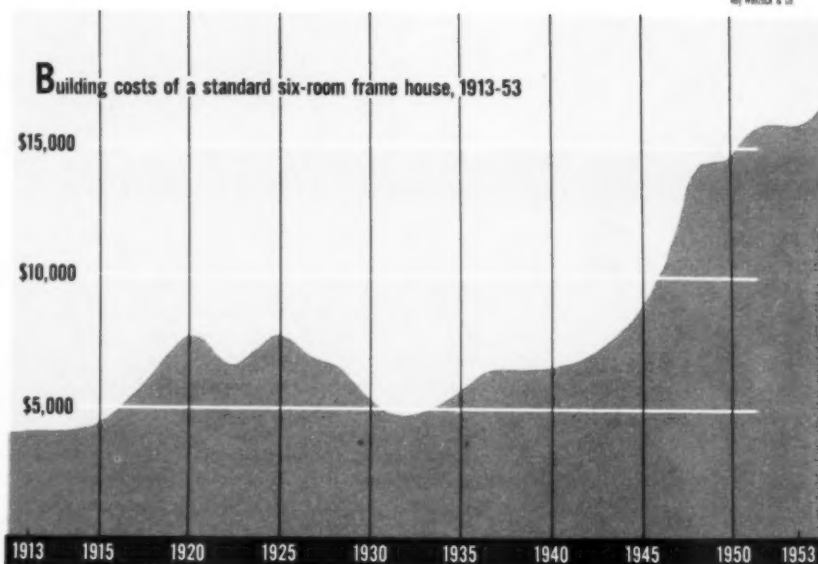
There is no exact information on the number of farm dwelling units constructed annually, but it is believed that the number is about 100,000. The value of total farm building in 1953 was \$1.5 billion.

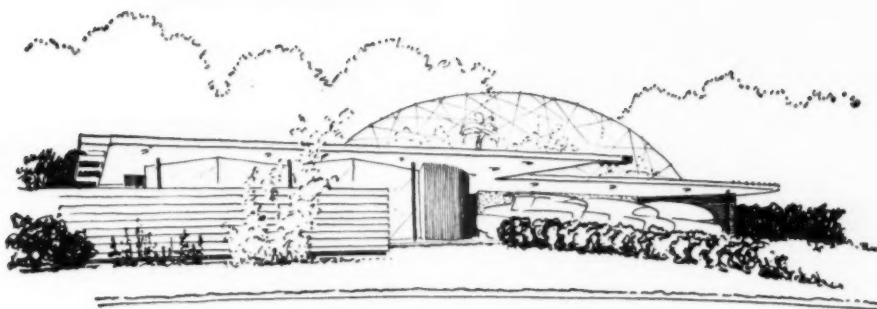
Labor required for on-site building construction, both private and public, during the fourth quarter of 1953 totaled 1,887,000 persons. For the same period, general contractors employed 927,900; plumbing and heating, 306,000; painting and decorating, 153,100; electrical work, 161,200; other special trades, 592,000. The average weekly earnings of building construction workers in the 4th quarter of 1953 was \$92.09, or about 6 cents more than earned weekly by workers in general construction. The average weekly hours were 36.4 at an average per hour earnings of \$2.53.

The building business is served by 26,110 lumber yards and building material dealers, who in turn are served by 3,312 wholesalers, according to the last Census of Business (1948). Data show that lumber dealers sold \$15.6 billion worth of lumber and lumber products in 1948. Sales of other building materials totaled \$3.5 billion.



Bureau of Labor Statistics





## look ahead to the house of 1979

By L. Morgan Yost, F.A.I.A.

**D**URING the past ten years houses have changed more than they had in the previous fifty. There had been a resistance to change that caused us to force the new things into our houses without actually designing them in. World War II broke that tradition of resistance. Now we think of the best house for our families, utilizing all we know and have. Today few of us think of period styles and the camouflaging or hiding of the new developments or appliances in a robe of the past.

This trend will continue. We will have a freedom of design born of the broad new concepts with which every child is growing up. The house of 1979 will do more for the family. It will be a natural house. Even today, if we but look, we can see the shape of things to come in the works of Frank Lloyd Wright, Richard Neutra and others.

Specifically, we predict that automobiles will be smaller so their greater numbers will not crowd the highways and parking spaces so much. Three cars per family will not be unusual.

Flat roofs will allow more flexibility in planning, more use of prefabricated wall sections and storage cases. Some country houses will use the flat deck for helicopter landing as automatic radar controls will make them safe in air traffic. No television antenna will be in the way for it will disappear as did the radio aerial.

The structure will be free, separated from windows, doors, partitions and walls. Isolated columns will support a light slab roof of gypsum or hollow metal forms, perhaps erected by the lift-slab method. Walls will be suspended as mere screens an inch thick. Windows and doors likewise will be in non-load bearing frames, slender and movable. This will allow the house to grow and change with the needs of the family through the years, even to make fewer rooms, though larger, when the children leave home and the parents remain. No longer will it be necessary for a family to move several times to have a house that fits.

Deep foundations will be passé. Slabs will float on stabilized earth.

True radiant heating will be silent and even, per-

fectly controlled. Metallic surfaces exposed or hidden in the thin walls, and in the floors and ceiling, will reflect the radiated heat, so walls will be thinner and insulation less bulky. Air cooling will also be of the radiant type; that is, instead of blowing large volumes of cold air into a room, cold surfaces in the room (though not the floor) will drain off body heat directly. Dehumidification will be combined in this process, perhaps using the same pipes that heat the room in winter. The house atmosphere will be pressurized, with the small volume of incoming air electrostatically cleaned. The air pressure will prevent infiltration of outside air. No dirt or pollen will enter. No cleaning problems, no hay fever or smog reactions!

The plan will not follow rectangular lines as the structure will be separate and partitions may be placed anywhere. Non-parallel and curved partitions will be arranged for better acoustics. Sound control will be one of the big advances in comfort.

The old living room, dining room, kitchen pattern will be discarded. There will be several general areas, depending on family needs, for entertaining and relaxation, for workshop and creative activities, for quiet reading and meditation.

Bedrooms will be small and compact for sleeping and study only, as there will be spaces to take care of other activities. Each child will have his private bedroom.

Baths will be compartmented. Electronic destructors may do away with sewers.

The housewife twenty-five years hence will do less cooking as most meals will come ready-cooked and stored in the freezer merely to be warmed. The kitchen will be part of the entertainment area.

The house and the garden will be planned as a unit for indoor-outdoor activities and enjoyment. Perhaps in the more expensive house a geodesic dome with plastic surfaces will enclose part of the garden for year-round enjoyment.

The house of tomorrow will be a family house, pleasant and easy. We know the description we give is not fanciful, for every one of the ideas is now in use.

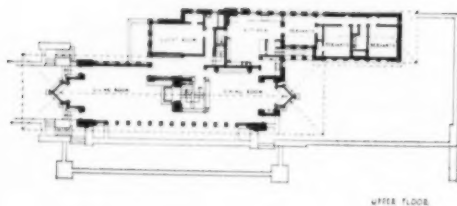


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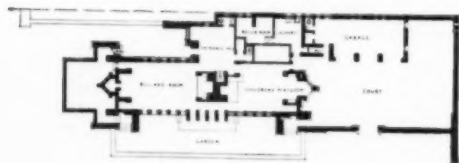
The sprawling informality of the late Victorian house had its points, though in decoration afflicted by "carpenter's frenzy"



Museum of Modern Art



AFTER FLOOR



LOWER FLOOR

Frank Lloyd Wright's "prairie house" of the early 1900's was the pioneer which influenced the so-called "ranch house" design of today. This example is the Robie house, designed by Wright and built in Chicago in 1909. It was the first to include a garage-attached scheme

## the changing house

# DESIGN and

THE AMERICAN HOUSE of the late 19th century was the victim of previous decades of architecture which were concerned with various stylistic fashions. These fashions came and went, not in clear succession but in vigorous confusion. Recognizable among the many were the neo-classic and neo-gothic attitudes, both originating in the late 18th century in Europe. During the first half of the following century these were the two major contestants in the battle of revival styles. Architects hotly argued the merits of each. Some architects stood on the fence and supplied both designs. At mid-century the architectural picture was enlivened by further contestants although none achieved the popularity or standing of the first two. They are nonetheless important in that the whole character of architecture became a medley of various styles: Romanesque, Egyptian, English cottage, Italian Renaissance, Turkish and Moorish mixtures as well as the neo-classic and the neo-gothic. This was the age of eclecticism.

### Why European leadership?

What was intended to enrich the architectural scene was largely misunderstood. It was a period of unsound architectural sense. Yet America followed, at times slavishly, the European pattern of what was fashionable—for such revivals had their start abroad—and America was willingly subservient to European leadership in design. Indeed our own professional architects trained there, preferably in France.

Although much of this seriousness of revival architecture went on above the level of modest house building, it was nevertheless an ever-present standard of quality. Americans did the best they could. Egyptian columns held up a porch, Gothic tracery enhanced a dormer window, a Turkish corner gave intrigue to a living room. These represented the importance of Europe both to the collective and individual mind of America. This attitude persisted strongly until only a few years ago when the prestige of foreign work lost out in the re-evaluation of house design in terms of our contemporary living patterns.

### The late 19th century house

The late Victorian house is an instructive curiosity. It represents a thorough mixture of those many Euro-



# PLANNING

By H. F. Koeper

School of Architecture  
University of Minnesota

pean-inspired styles mixed once again with certain American demands for informality. Outwardly this house followed no particular period. The stylistic details themselves are so inextricably composed—and thus transformed—that the late Victorian house can be said to be a style in itself. The irresistible possibilities of the jig-saw and lathe led to a manner of decoration best described as “carpenter’s frenzy.”

In the elements of planning and composition this same late Victorian house exhibited a freedom which can only be interpreted as early signs of functionalism. These huge, shapeless piles, houses of many rooms and much ornament so often ridiculed today, have in their basic planning many admirable qualities: the spaciousness and comfort of many rooms, verandas, cross breezes, and picturesque landscaping. The sprawling informality of late Victorian work is a significant break with the inhibiting dictates of period design. The deliberate symmetry of plan, the exterior composition which clearly expressed the interior concept of each room as a separate volume of space, these qualities of freedom make one wonder if the modern house is not a Victorian invention.

The plans of these houses illustrate a generosity of space from full basement to attic. The formal front parlor, the separate dining room, the family kitchen, the pantry space and the corridors connecting the bedrooms bespeak the comfortable elegance of the well-to-do. Even in the more modest house which did with less, the quantity of house is still impressive in comparison with the shoe-horn tightness of today’s compact plans. Inside, the lofty rooms were made cozy by ornate furniture, elaborate window hangings, heavily framed pictures and all manner of bric-a-brac. The clutter was made even more impenetrable by the deep, dark, rich colors and the dim light which made its way under porch cover and through voluminous curtains. The elaboration of Victorian life was the end of a long tradition.

## *Technology forecasts a better product*

The direction and form which the American house took during the early 20th century cannot be stated simply. But the technological environment is unmistakable. It was the time of great advancement: the radio and telephone, the automobile, the airplane. Extremely



Perhaps the most significant house of pre-World War I was the bungalow. House at right shows the bungalow form at its most prosaic.

Above is a California bungalow of 1910 designed by a follower of the Greene brothers



The 1920's were a period of imitation and/or confusion in house design. House above tries to imitate a European style. House below is simply confused



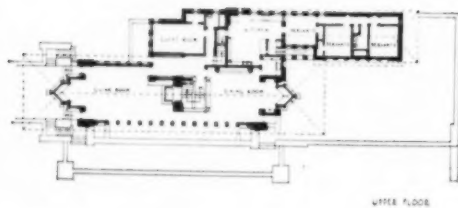


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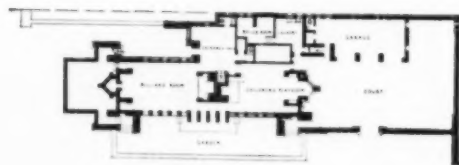
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Museum of Modern Art



UPPER FLOOR



LOWER FLOOR

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THE AMERICAN HOUSE of the late 19th century was the victim of previous decades of architecture which were concerned with various stylistic fashions. These fashions came and went, not in clear succession but in vigorous confusion. Recognizable among the many were the neo-classic and neo-gothic attitudes, both originating in the late 18th century in Europe. During the first half of the following century these were the two major contestants in the battle of revival styles. Architects hotly argued the merits of each. Some architects stood on the fence and supplied both designs. At mid-century the architectural picture was enlivened by further contestants although none achieved the popularity or standing of the first two. They are nonetheless important in that the whole character of architecture became a medley of various styles: Romanesque, Egyptian, English cottage, Italian Renaissance, Turkish and Moorish mixtures as well as the neo-classic and the neo-gothic. This was the age of eclecticism.

### *Why European leadership?*

What was intended to enrich the architectural scene was largely misunderstood. It was a period of unsound architectural sense. Yet America followed, at times slavishly, the European pattern of what was fashionable—for such revivals had their start abroad—and America was willingly subservient to European leadership in design. Indeed our own professional architects trained there, preferably in France.

Although much of this seriousness of revival architecture went on above the level of modest house building, it was nevertheless an ever-present standard of quality. Americans did the best they could. Egyptian columns held up a porch, Gothic tracery enhanced a dormer window, a Turkish corner gave intrigue to a living room. These represented the importance of Europe both to the collective and individual mind of America. This attitude persisted strongly until only a few years ago when the prestige of foreign work lost out in the re-evaluation of house design in terms of our contemporary living patterns.

### *The late 19th century house*

The late Victorian house is an instructive curiosity. It represents a thorough mixture of those many Euro-

# PLANNING

By H. F. Koeper

School of Architecture  
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pean-inspired styles mixed once again with certain American demands for informality. Outwardly this house followed no particular period. The stylistic details themselves are so inextricably composed—and thus transformed—that the late Victorian house can be said to be a style in itself. The irresistible possibilities of the jig-saw and lathe led to a manner of decoration best described as “carpenter’s frenzy.”

In the elements of planning and composition this same late Victorian house exhibited a freedom which can only be interpreted as early signs of functionalism. These huge, shapeless piles, houses of many rooms and much ornament so often ridiculed today, have in their basic planning many admirable qualities: the spaciousness and comfort of many rooms, verandas, cross breezes, and picturesque landscaping. The sprawling informality of late Victorian work is a significant break with the inhibiting dictates of period design. The deliberate symmetry of plan, the exterior composition which clearly expressed the interior concept of each room as a separate volume of space, these qualities of freedom make one wonder if the modern house is not a Victorian invention.

The plans of these houses illustrate a generosity of space from full basement to attic. The formal front parlor, the separate dining room, the family kitchen, the pantry space and the corridors connecting the bedrooms bespeak the comfortable elegance of the well-to-do. Even in the more modest house which did with less, the quantity of house is still impressive in comparison with the shoe-horn tightness of today’s compact plans. Inside, the lofty rooms were made cozy by ornate furniture, elaborate window hangings, heavily framed pictures and all manner of bric-a-brac. The clutter was made even more impenetrable by the deep, dark, rich colors and the dim light which made its way under porch cover and through voluminous curtains. The elaboration of Victorian life was the end of a long tradition.

## **Technology forecasts a better product**

The direction and form which the American house took during the early 20th century cannot be stated simply. But the technological environment is unmistakable. It was the time of great advancement: the radio and telephone, the automobile, the airplane. Extremely



Perhaps the most significant house of pre-World War I was the bungalow. House at right shows the bungalow form at its most prosaic. Above is a California bungalow of 1910 designed by a follower of the Greene brothers



The 1920's were a period of imitation and/or confusion in house design. House above tries to imitate a European style. House below is simply confused





Chicago Art Institute



The International Style, with its bare, cubistic masses and emphasis on tubular metal furniture, began to appear in the 1930's. But the public was not ready for it and this style had no immediate effect on the general level of house design

important for building of a later time were studies of concrete, the cement block, the manufacture of metal parts large and small, veneered wood, kiln-dried lumber, factory-made paints, multi-ply roofing, a synthetic resin patent and, of course, the electric light replacing gas. This was the start of complexity and better quality in building. No longer would the house be a simple shell but a highly refined and detailed structure laced with pipes and drains, wires and ducts. Blueprints and specifications were the result of a very necessary pre-building phase of design. The builder himself had to familiarize himself with new materials, new methods, new trades, a demand which continues down to the present.

### *The popular bungalow*

If the technological advantages brought about were clear, the design trend was not. Perhaps the most significant house of pre-World War I was the bungalow. Originally a simple, one-story frame house designed for life in the British colonies, the bungalow in many modifications became the popular, low-cost home. Its compact plan, continuous roof slope extended to form a large porch and forthright construction represents the simplicity of the American tradition in wood. Despite the fact that much of bungalow building fell into the immense volume of jerry-built and tasteless residences of the 20th century, the bungalow was a fresh look towards a more functional house. Gone was the veneer of historic ornament, gone was the imposing facade. The cry of truth and honesty made by some Americans in the 19th century heyday of eclectic styling now took visual form. Although aesthetically unimportant, there is an admirable Puritan simplicity in the best bungalow designs which was in healthy contrast to the tired eclecticism which flourished (strangely) alongside.

Inside the simple bungalow was likely to be found the simple mission-style of furniture. This durable furniture usually of oak with leather covering was a reflec-



Enormously popular from 1940 on was the Cape Cod house, complete with the incongruity of shutters and the nuisance of dormer windows

The "ranch house" of recent years incorporates features which Frank Lloyd Wright had used as early as 1896: strip and corner windows, the broad roof overhangs, the horizontal composition, the one-story plan, the dining et, built-in furniture







Bettman Archive



tion of William Morris' arts and crafts movement in England. The rooms themselves were usually somber in tone, ivory and browns, occasionally yellow.

### *Some pioneers of modern architecture*

Throughout the country at this time there was a handful of architects whose work reached a particularly high level of design and which is now recognized as a significant pioneer effort in determining the house of a later day. In the Midwest were Frank Lloyd Wright, William Gray Purcell and George Elmslie. In California were the Greene brothers and Bernard Maybeck. What we see in their designs is a novel freshness and informality far beyond the modest bungalow form. Their plans and compositions anticipated the best efforts of house design today. The open flow of interior arrangement and the exploded spatial volumes are remarkably in keeping with present-day ideas. All these men thought of how best to use the site and planned an outdoor relation to the house itself—a practice now commonly accepted.

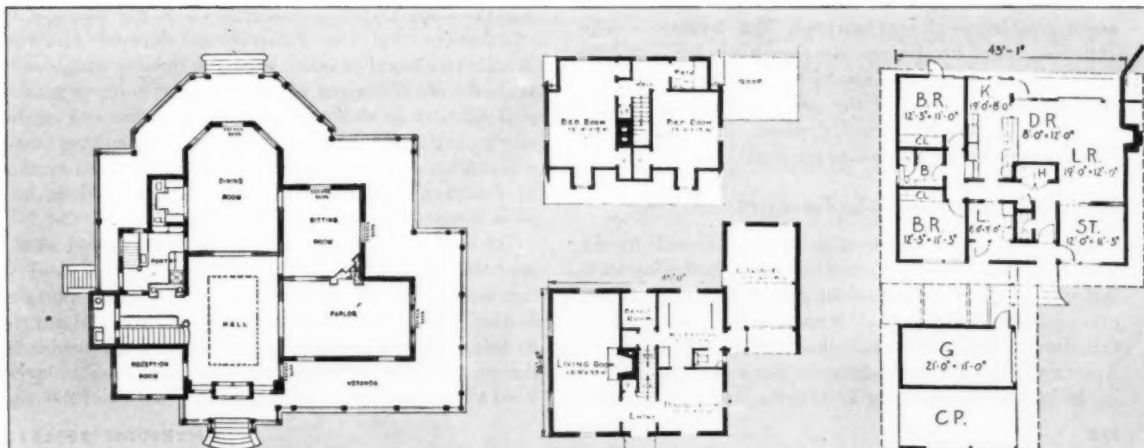


The sunshine so effectively shut out of the Victorian parlor is now freely admitted. Today's house reflects the great interest in an informal way of life and easy maintenance

### *A return to "styles"*

Despite the work of notable architects, despite the obvious reasonableness of the bungalow, the American was not easily led into a rational dwelling, however

Comparative planning from 1879 down to the present shows (left to right) the generous use of space in the Victorian house, the compactness of the Cape Cod plan, the open planning which characterizes the living area of today's house





Today's house is compact but achieves a sense of spaciousness by open planning and emphasis on outdoor living. The outdoor



room is consciously designed with sun-shades, windbreaks, privacy screens. The house is oriented toward the garden at rear

suitable for his use and way of life. The history of progressive design went into reverse in the 20's. The popular taste was once more of the old world, led largely by knowledgeable Americans who claimed to know what was "correct." Designers turned their backs on the creative process of architecture and designed more for effect than for use. Instead of the amusing mixtures seen in the 19th century eclectic taste, architects made the great effort to be consistent. They tried to be as faithful as possible in their adaptations, although the small scale and low cost of the average house made duplication impossible. Often the result was ridiculous. Houses tried to be various things: a Norman farm building, an English country mansion, a Spanish convent. Any style was worthy provided it was carried out with reasonable consistency.

#### **Interior decorators at work**

Period design also took over on the inside. It was the great craze for antiques. If you could not afford the genuine, you bought a Grand Rapids copy. It was permissible, according to interior decorators, those arbiters of taste, to "do" various rooms in different styles. Chippendale in the living room, for example. The dining room might look well in French provincial. Accordingly all the accessories were systematically worked out to go with the style in Emily-Post correctness. Only the kitchen and bathroom escaped the decorator's hand and retained some semblance of real purpose. The housewife with little money for furnishings was completely left out of the fashion picture. But the electric refrigerator, the automatic clothes dryer and the radio, introduced in the 20's, were in her future and destined to be part of the big change from traditional to modern.

#### **European rebellion—the International Style**

The early signs of functionalism exhibited in the sprawling Victorian house and the sturdy bungalow were lost in this era of self-conscious design in the 20's. However, profound happenings occurred in Europe during this decade which eventually had their telling effect in America. This was a rebellion in the arts, a revolution in design led by various architects. Among the most

prominent were Walter Gropius in Germany and Le Corbusier in France, who are now recognized for their pioneering spirit. What these men proposed to do was to return to a functional rationality of building and related phases of design, especially furniture. Slowly, steadily, this movement developed into what is commonly known as the International Style.

Harsh and uncompromising as much of this work seems, it did have its effect, as we clearly see today in the widespread acceptance of simple design, large windows, flexible planning and metal furniture. Europe was soon leading us again but in a different path. In the 30's, American versions of the International Style began to appear. Ironically, the early work of one of our own men, Frank Lloyd Wright, largely neglected here, was of great influence abroad in the formation of this militant phase of functional architecture. Exciting as it was, the International Style had no immediate effect on the general level of house design. The public was not ready for such a radical change. Bare, cubistic blocks did not look like home. There was no human response to these bleak abstractions of design.

#### **1940 and on—the Modern Style**

Conventional designs based on some particular historical style continued to be built. Enormously popular was the Cape Cod house complete with the incongruity of shutters and the nuisance of dormer windows. Whether Colonial or otherwise these designs were slowly revised toward a more simple design. People gradually realized that an elaborate period-type home was expensive to buy and difficult to maintain. An imposing house was still very much to be desired because it was a symbol of wealth and prestige. People still wanted them and were largely suspicious of modern design.

But somewhere the turning point came, sooner in the west than in the east. There was the gradual discard of the notion that the front of the house was important. Logical planning—for example, the kitchen and garage in front, the living room opening toward the garden in the rear—began to have its effect. The house oriented itself toward the sun and the natural beauties of the site.

Americans began thinking of a house in terms of the day-by-day, season-by-season experience of living in it. The emphasis on the out-of-doors is seen in the currently popular terrace and barbecue. The winning informality of the best of the California "ranch style" has had its rapid influence. The very name of California has become a byword for all that represents the exhilaration of living simply and yet living well.

The big change in house design between 1930 and 1950 has been this widespread acceptance of the modern style. "Modern" of course is actually no style at all but an approach to design which incorporates technological advances in a plan which recognizes the social habits of today. This acceptance of modern is set against the wider pattern of sociological changes of which it is a part. People now work less, have more leisure time, enjoy a generally higher standard of living. The great range of taste and wealth which existed seventy-five years ago made an architectural picture of extremes. Today the equipment found in all homes, rich and poor, is remarkably the same. The automobile is a necessity for everyone. The comparative richness and variety of the average family's existence has given the architect and builder a higher social level with which to work.

Apparent as the advantages of modern design now seem, it was not always popular. Functionalism often came into an unsuspecting house via the back door. It was the kitchen which was the first area of the house to be deliberately treated as a functional room. The efficiency-expert phase of kitchen planning eagerly counted footsteps from sink to stove to refrigerator and delighted in rearranging them for minimum foot travel. It was the beginning of the scientific, built-in kitchen. Without such a kitchen, housewives were made to feel as slaves. Liberated from drudgery, the American wife now had the kitchen she deserved and, with a respectable lapse of time, she is beginning to change her whole house to reflect the pleasant and work-saving advantages of modern design.

### **Today's house**

The great interest in an informal way of life and easy self-maintenance of the home has led to a design which achieves this. This is the house of today. It is a compact house. The kitchen, dining room and living room are not uncommonly designed as a single space. Bedrooms are treated as cubicles forming a quiet zone. Clothes and household equipment are shrewdly organized in storage walls. The vanishing attic and cellar are replaced by a utility room. Guests use the convertible sofa-bed in the living room. The whole house is lightly but efficiently furnished and easy to clean. The taste is towards light, neutral colors with accents of bright colors and growing plants. The sunshine so effectively shut out of the Victorian parlor is now freely admitted. Curiously enough, the hearth has become the symbol of the home. Even with central heating, the open fireplace is desired, part of a revived romanticism which Americans paradoxically exhibit. Despite technological advances, the American family has not become detached from nature. The outdoor room, now so popular, is obvious evidence that the American family is not dominated by the machine aspects of the modern house.

### **The house of the future—**

#### **less to look at but more to live with**

What will the house of 1979 be like? Any reply is, of course, only a prediction but that prediction can be made more valid if we try to visualize the social pattern of twenty-five years hence. As the houses of the past have reflected their contemporary patterns of living and taste, so will the house of the future.

Everyone today is alert to the advantages which have come over house design since 1945. The agreeable and efficient new houses which we now see would make us immediately predict more glass and gadgets for the future. Yet if we are to trust historical precedent, we know that public acceptance of new techniques is a tardy affair. House design never keeps pace with science. The innate conservatism of the building industry reflects not so much the architect or the builder as his client. The clue then to the average future house is the individual family's acceptance of what science and the building industry can provide. In fairness to the individual buyer it must be said that his home represents the greatest single purchase he makes in his lifetime. Therefore its cost, its means of financing, its relatively long life necessitates a cautious, even conservative design. The hypothetical average house of the future is therefore to be answered in terms of what the public will ask for rather than what science will provide, although the latter would be the more startling design.

### **How families will live in 1979**

The social life of the family of 1979 will be something like this: It will be a family with more children. Already statistics clearly show this trend towards larger families. Correspondingly, this family will want a larger house than the minimum two- or three-bedroom one we see today. The home will be a center of activities for the whole family because of the increased leisure provided by a four-day work week. The family will enjoy itself in a large multi-use living space or separately at various hobbies and sports, indoors and out. The informal aspects of life today will be emphasized. Family transportation will be at least two cars and, for the adventurous family, certainly a helicopter. Vacations will be more frequent although perhaps only several days long. More distant points will be visited. Far-flung weekends in the snowy mountains or at the sunny shore will be common.

In some respects the future house will be less, especially in actual bulk and complexity, but will provide more in shelter and services. Although Le Corbusier's dictum, "the house is a machine for living," has often been attacked for its ruthless disregard of spiritual and emotional values which the idea of home connotes, this phrase does illustrate the functional attitude which is now largely prevalent. Further analysis of what a house should do to fulfill its 24-hour function will continue. People will want to be as efficient and direct as possible in the problem of shelter and conveniences. They will give distinction to this "machine" by their own personal tastes, interests and personality. What makes a house a home is less a matter of roof structure or chair design than one of mutual love and respect of family



members for each other. Let no one say that the house of the future will put an end to individuality.

### ***It will be larger***

As for the likely plan of tomorrow's house, it will be larger than the average home today. The amount of floor space is now at a minimum even though double and triple use of this space skilfully overcomes this disadvantage. Larger families of the future will make the house bigger. Also there will be a limit to open planning as well as to minimum spaces. Families already recognize that individual privacy is a definite advantage. Greater separation of areas will be made.

How will the homeowner pay for this larger house when the one he now buys seems too expensive for him? The answer to the bigger house at equal or less cost lies in a re-thinking of construction methods. It is astonishing how little wood frame construction has changed in the last 100 years. All that has changed is detail: the essential system of joists, studs and rafters remains the same.

### ***Construction and appearance***

The key to more building, better building and at less cost is simplification. The outward appearance of the future house will reveal its simplified construction technique. It will be a house of simple all-over volume or volumes, a design composed of similar major structural elements boldly fitting together, establishing the framework for the entire enclosure. Wall and roof members are likely to be of one piece. These members might be of laminated wood, metal alloys or Fiberglas. This bold skeletal system will be especially designed to receive opaque, translucent or transparent panels which themselves will be the product of a factory process. Some designs would make these sheets of skin a structural element in themselves so that when fitted together they share the job of enclosure without the benefit of framework. No particularly design system can be set because many will be available. What they will all represent is the advantage taken of optimum working conditions provided by the factory. As much of the house will be prefabricated as is reasonable. Certain jobs as well as the major assembly will continue to be done on the site. Reducing labor costs on the site reduces the all-over cost.

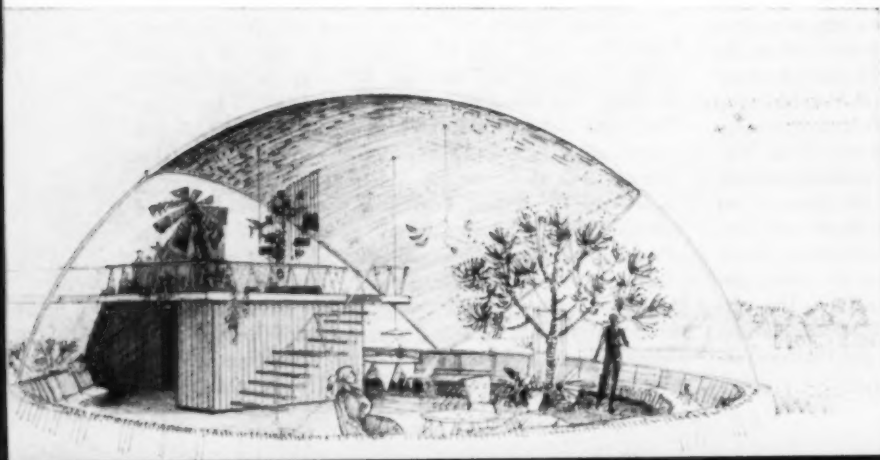


This emphasis on prefabrication does not mean that every house will look alike. Interchangeability and variety of design are important for selling any house, the one product the customer traditionally thinks of as custom-made to his uses.

This prediction, if it is to come true, will require much detailed analysis of method, as well as creative design. Close cooperation between all involved in the building process—architect, builder, manufacturer, buyer—is needed.

### ***The plan will be informal***

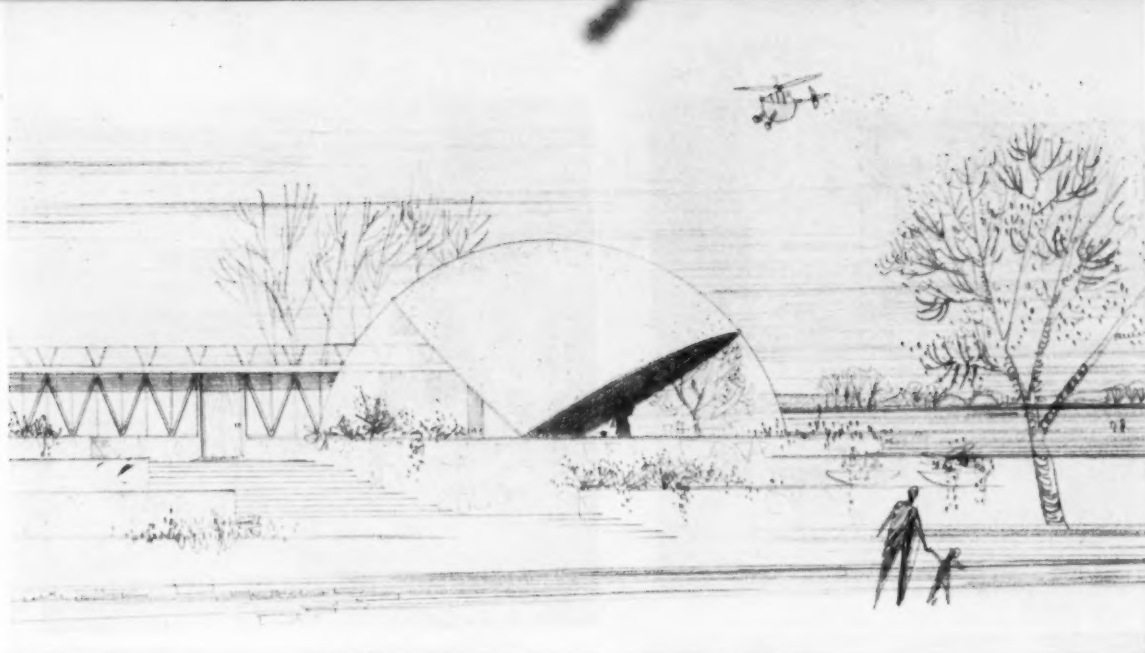
As the structure will be thought out in terms of cost and ease of assembly, the plan itself will be set by the individual owner's need. What he generally wants is the physical comfort of a controlled environment, space to move about and the luxury of push-button gadgets to do the work. Because he wants these things first, he will accept a more unorthodox solution to the house. Already conventional ideas of kitchen, dining room and bedrooms have been successfully challenged. Cooking, for example, is no longer a chore to be concealed from



Domes would be flown by helicopter from factory to the site. The rectangular mechanical core would be driven to the site, like a trailer. Only construction work done at the site would be the foundation.

Balcony over part of living room is a project area. Similar arrangement at opposite end of house provides two bedrooms over first-floor bedrooms, reached by ladder stairs. Movable screens and free-standing partitions, in addition to the opaque areas on the domes, would be used for privacy





A HOUSE OF 1979. DESIGNED BY MICHAEL MCGUIRE

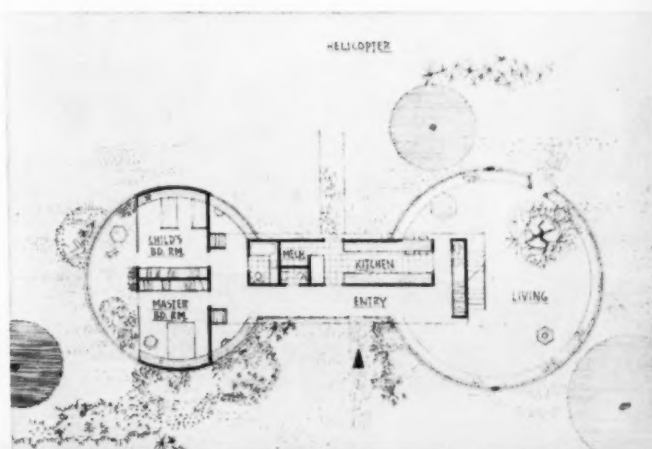
the family or guests. The ceremony of the dish-laden dining table has almost vanished. Help yourself to the stew, serve yourself please is the call to mealtime now. Who knows what informal patterns of family life will prevail in 1979? The drastic changes of recent years make it not unreasonable to think of equally radical changes in the next twenty-five years.

Kitchens and bathrooms will be pre-built, completely and beautifully fitted out with fixtures and appliances at a factory and hauled to the site much like a trailer. Taken off its traveling wheels, the kitchen-bathroom core, combined with a heating-cooling power unit, will be incorporated into an individualized plan, the proper water and disposal connections made and the rooms will be ready for use. The advantages of low cost and unbelievable ease of maintenance will win over the public which now says it wants these things but is not quite ready to accept them.

The general living room and the sleeping areas are likely to be formed of separate space enclosures to give the added room and privacy to the large family. Although greater in volume than today's house, the unit of space cost would be less, due to simplified construction. One cannot be specific about the typical arrangement of the future house; houses always vary enormously in detail. The interiors will be decidedly spacious in contrast to the compactness of the utility core mentioned above. Although the separate living and sleeping areas may very well be framed by similar structural members, the interior arrangement will declare the specific function. Flexibility within a standard weather-proof shell is a very economical idea because of the versatility of the shell itself. While the cost-saving shell may be duplicated in thousands of houses, there will be endless variety according to the particular terrain, view and orientation to the sun. Furthermore, such a framework could easily have interchangeable panels, opaque and transparent, so that the window pattern could vary from season to season within the same house. Again and again, the interior impressions of the future

house will be dominated by the particular structural system which encloses it from the elements.

In its smaller details the future house will not fail to please the housewife. The storage of clothes and equipment will be standardized in numerous ways. Modular cupboards, drawer space and closets will be sold as separate units to be combined in endless ways. Thus millwork, now one of the most expensive items in a finished house, will be substantially reduced. The interior finishes will be durable, attractive and easy to clean. The few movable pieces of furniture will be light, strong and comfortable. The entire house will be less to look at but more to live with. Tomorrow's family will not want to be burdened with unnecessary upkeep or delicate possessions. It will regard its home as a fun place in which to live. Already the pleasantness of vacation life has been made a part of year-round living: the informal meals, the sports clothes, the nearness of the land and the sky. Tomorrow's house will elaborate on this trend. It will be less a decorative piece of property than a simplified enclosure for an effortless way of life.





## biography of the American kitchen

Photos by Plumbing and Heating  
Industries Bureau, Commonwealth Edison  
Company, and Frigidaire



Careful planning for easy work patterns, including lighting, has produced the characteristic kitchen of the 1950's



Sink and cabinet of 1898 vintage. Wood countertop



Kitchen of 1912 has sink mounted on legs, wood drainboard

About 1920, manufacturers began building integral enameled iron drainboards. Sink still has legs, however, and plumbing is exposed

Electric dishwashers began to be generally used by 1930. Built-in cabinets also began to be an important part of the sink center





(Left) A kitchen of 1904 goes electric with two appliances, one for cooking steaks, the other for heating a chafing dish. (Right) An all-electric kitchen of about the same period



Frigidaire's Kitchen of Tomorrow is modular in construction. Ice-making machine at extreme left in buffet. Twin refrigerator and food freezer in far right corner



An all-electric kitchen of 1937, a product of the revolution in kitchen planning. This kitchen included the first table-top dishwasher



Corner of the Kitchen of Tomorrow showing ovens, cabinets and food boxes in "open" and closed" positions. Note also adjustability in height of chopping block

Frigidaire's Kitchen of Tomorrow (right), introduced in 1954 but not available, was a striking example of the prevailing push-button approach to kitcheneering. Frigidaire's room has 61 switches, buttons or other controls to bring paradise to the homemaker. Major features include: stainless steel range center with two ovens (one electronic) which rise from counter level to handy waist height; wall cabinets concealed by the strip above range center, which glide down within easy reach by passing the hand in front of panel, thus activating a proximity switch; an ice-making machine that produces either cubes or crushed ice at the push of a button; twin refrigerator and food freezer, each horizontal at waist height with automatic vertical sliding doors of Fiberglass vinyl plastic; mixing center (left of range) with photographic viewer for menus and recipes, food mixer and blender which disappear from counter top at touch of a button; double island sink with a single faucet which controls both water temperature and flow, drain which operates electrically.

FOR KITCHENS OF 1979, TURN THE PAGE



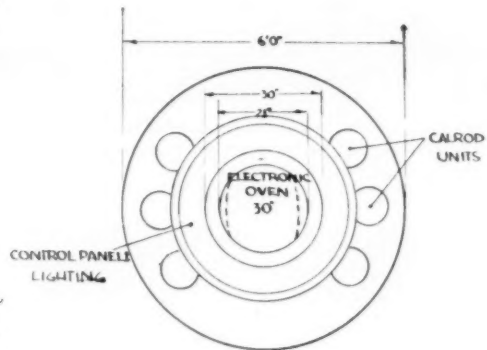
## • ELECTRONIC RANGE •



6 CALROD SURFACE UNITS & OVEN GOVERNED BY ELECTRONICALLY CONTROLLED PANEL SET AT EYE-LEVEL ALSO CONTAINS LIGHTING

OVEN DOORS OPEN AT COUNTER HEIGHT 36" ON TWO SIDES; COUNTER RESISTANT TO ALL HEAT TEMPERATURES

CONVENIENT CABINET STORAGE BELOW COOKING UNITS



### Forecast

## KITCHENS of 1979

Electric kitchen forecast by the Hotpoint Co.

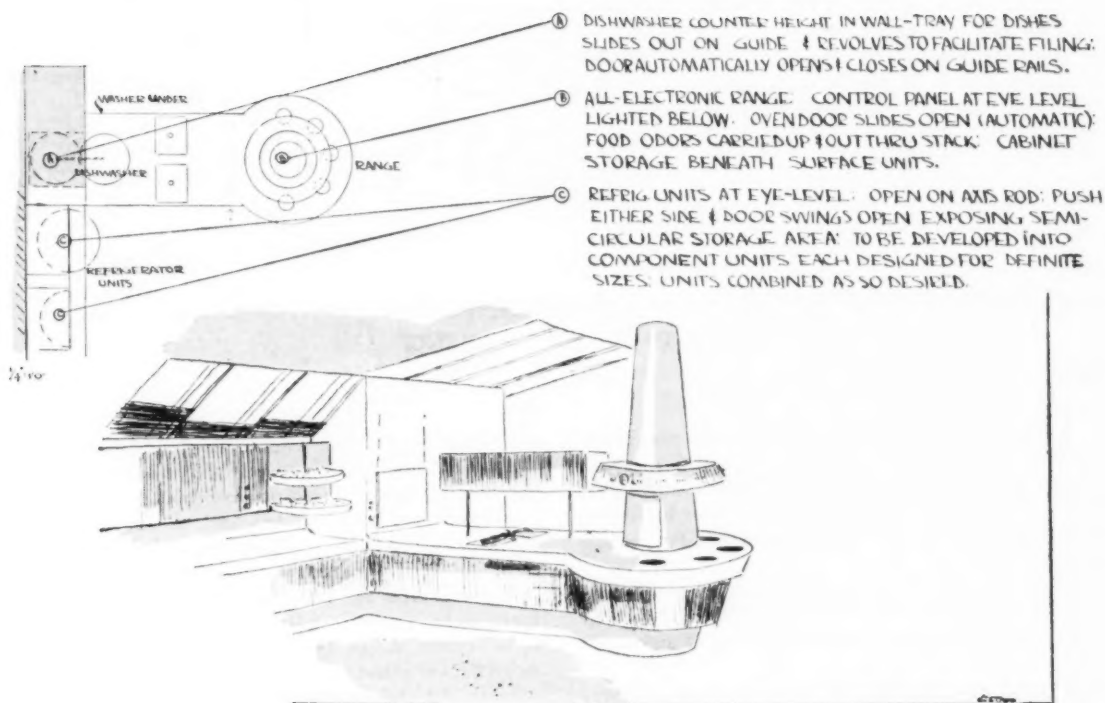
Gas kitchen by the American Gas Association

Sketches by Jean Gou'd

Sketches by Mutschler Bros.

**T**HIS is what is likely to happen to the kitchen: It will be an efficient laboratory room, floor, walls and ceiling completely and beautifully fitted out at a factory and hauled to the site much like a trailer. Taken off its traveling wheels, it will be incorporated into an individualized plan, the proper water and disposal connections made and the kitchen will be ready for use. Fully equipped with built-in units, such a kitchen could be purchased cheaply in comparison with the cost of separate items separately crated and shipped, separately sold, separately moved in place, then connected for use.





## Electric

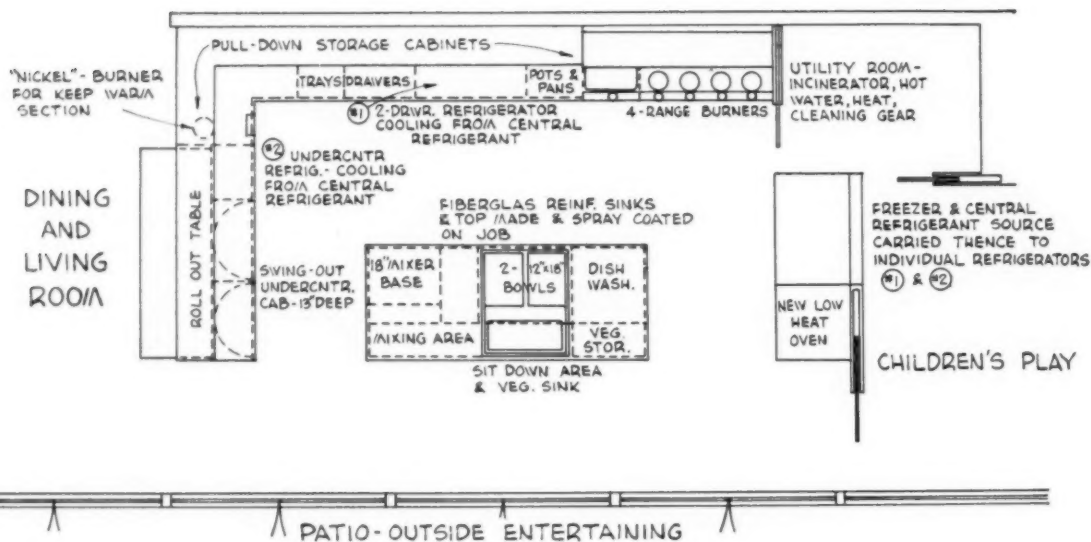
THE ALL-ELECTRIC KITCHEN of 1979 will be a multi-purpose room similar to the hospitable kitchens of early American homes—a large, airy room called a “living-kitchen.” The current trend toward built-in ovens and surface units will lead to built-ins for refrigerators, food freezers, clothes washers and dishwashers.

Electric appliances will have greater automaticity, convenience and efficiency. Cooking time will be reduced as much as 50 per cent or more. Electronics will play an important part in the kitchen of 1979 but it is not likely that electronic cooking, for example, will entirely supplant electrical resistance methods.

New developments in materials, paints and machines will influence appliances. With better insulating materials alone, appliances can be smaller which means ultimate cost savings.

Many new ideas are in the mill and need only more research before they can become reality. Is it possible to wash clothes without water? Can sound be used to wash dishes? Can refrigerators be made more efficient and yet take up less room?





## Gas

HERE are the outstanding features of a gas kitchen for 1979:

A new gas burner, the size of a nickel, controls heat ranging anywhere from a low simmer to a high heat "halo fire." Despite its small size—a terrific heating wallop.

Built-in oven has a transparent door, low heat oven burner and indirect oven heat flow; fast pre-heat and low heat loss to kitchen; cool surfaces; cool automatic pilot.

There is a built-in luminous or golden-flame broiler. A very small burner inside this broiler gives fast uniform broiling heat over a wide area with radiant-type flames—smokeless broiling.

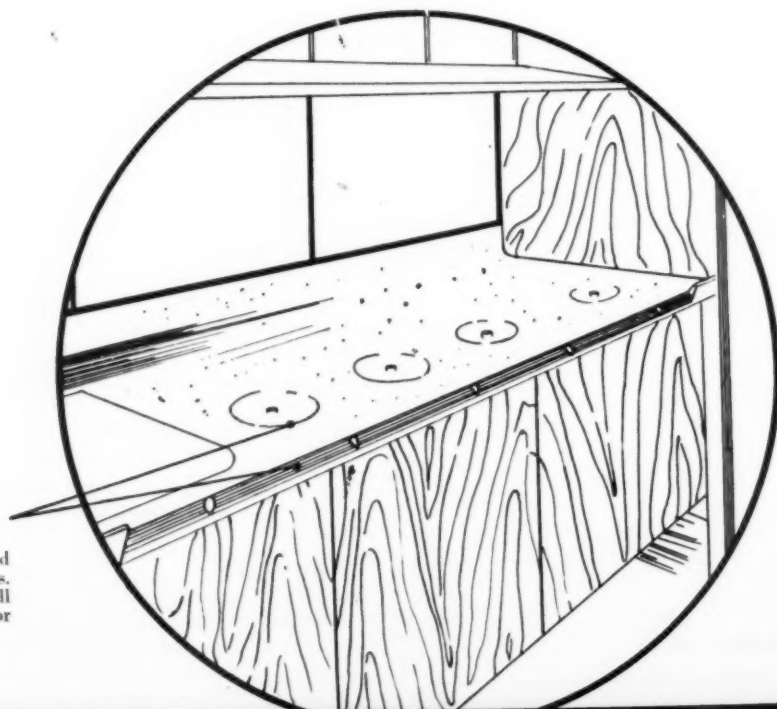
Built-in freezer and central gas cooling element provides refrigerant piped to small built-in service refrig-

erators throughout the kitchen. These refrigerators, by virtue of high-insulating low-volume insulation material, can be built into any wall or base cabinet.

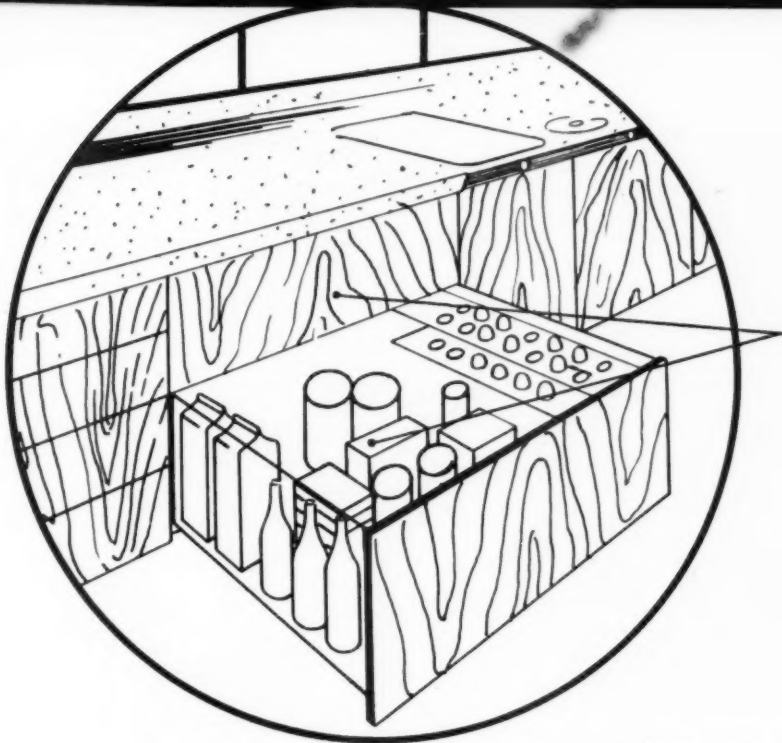
Plastic tops, back splashes, etc., are applied on the job over a Fiberglas reinforcement which can be fitted around anything and anywhere, much like plaster.

Base cabinets are hung from wall hanger strip—no base touches the floor. A flat glass panel, a self-contained light source, is set at back of the cabinet. Light is switched on when door is opened, eliminating dark corners. All shelves and drawers are variable and adjustable. They can be removed and washed at the sink.

Walls and floors are applied in liquid over Fiberglas lath to become one seamless, jointless whole. Color or designs are applied as one layer and then covered with a final clear coat, providing maximum ease of cleaning.



Plastic range top is formed around the "nickel" burner and control knobs. Wood cabinets are hung from wall hanger strip and do not touch floor



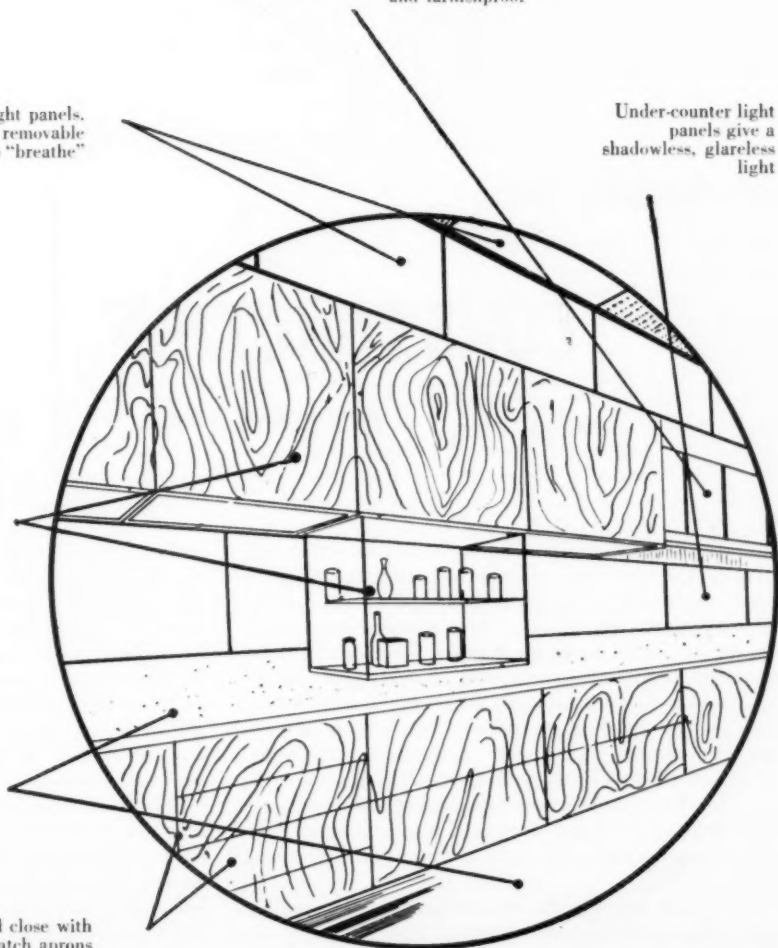
Refrigeration service units are set in any type of cabinet with thin, malleable insulation; can be positioned in kitchen wherever most needed. Shown here set in two deep drawers with touchlatch opening

Plastic range hood is covered with metal foil, is plastic-coated to be dentproof, greaseproof, and tarnishproof

Soffit and ceiling are glass or plastic light panels. Ceiling light panels are interspaced with removable perforated vent panels to allow ceiling to "breathe"

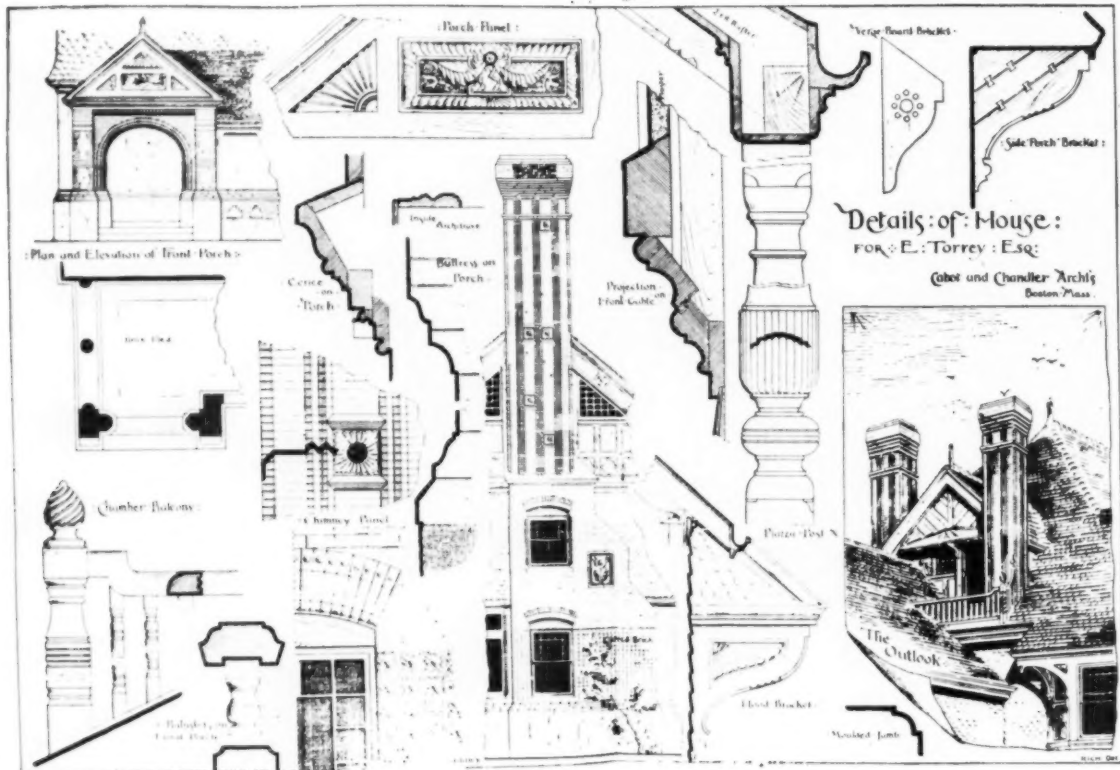
Under-counter light panels give a shadowless, glareless light

All wall cabinet shelves are of the pull-down, counter-balanced type. Front panel remains fixed. Surface is a plastic finish sprayed on, which chemically fuses with the wood to be completely washable and warp-proof



Walls, floors and counter tops are sprayed in place over Fiberglas reinforcing medium

All drawers and doors open and close with touchlatch. No visible hardware to catch aprons



## the changing house

# CONSTRUCTION

By James T. Lendrum

Director, University of  
Illinois Small Homes Council

IT WOULD BE possible to make an easy error and say that in the last 75 years there has been little change in house construction. It would be equally easy and equally erroneous to say that there has been tremendous change, even in the last 50, or 25, or 10 years. Whether or not we build differently now than we did 75 years ago will depend on one's point of view. I believe that there has been change, but not a revolution. One would expect slow and developmental improvements in an industry as old and as established as agriculture, or house construction. The changes that have taken place in this expanding home building field are worthy of notice because they indicate a trend and point to more important changes in the future.

There is a great similarity between our houses, as built today, and those of 75 years ago. The office in which I am writing this (Mumford House on the Uni-

versity of Illinois campus) is 84 years old. It was built by the university as a model farm house. During the years since its construction it has been constantly remodeled, modernized and extended; but the frame, the basic shell, is unchanged. The house has a 2 by 4 stud frame which in many respects is almost exactly the same as that of houses built this year. It is because of this similarity between the stud wall of 75 or more years ago and our houses today that it is easy to comment that there has been little change in house construction.

We can identify or classify the improvements that have been made in house construction as those which are based either on the use of new materials, or those based on new methods. Back of these, of course, are the factors behind the evolution, the motivation or desire for houses which meet the requirements of today's social and economic life.





Mumford House on the University of Illinois campus was built as a model farm house in 1870, is now headquarters for the Small Homes Council. The house has a 2 by 4 stud frame which in many respects is almost exactly the same as that of houses built this year

## Flashback

During the years surrounding the middle of the last century, the carpenters' handbooks were the only source of technical information available to the craftsman. Often a carpenter or master builder, armed with one of these books, would move westward with the flood of people opening a new frontier. By 1830 the first monthly publications for the building industry were beginning to appear (some of the companies advertising in these early magazines are still in business and advertising greatly improved products today). These early magazines were given over almost completely to commercial or industrial buildings. Only a few of the largest and most expensive of the houses built in those days were illustrated. Even in these, the emphasis was on design, the exterior appearance, the ornament, the moldings and not on construction or methods or livability.

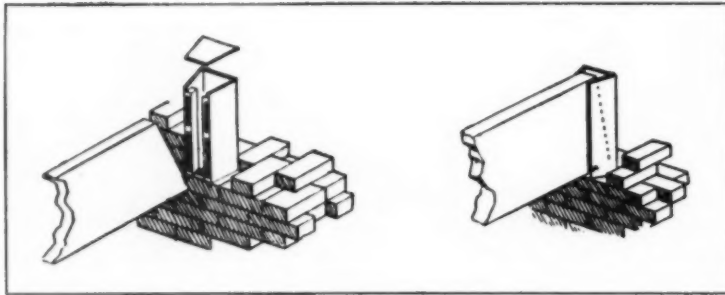
On these larger houses, as on the smaller ones which often were built without benefit of an architect, the details of construction were left to be worked out on the job by the master craftsman. Since the responsibility for the construction was placed on him, it is only normal to find that he solved his problems in terms of those details and methods with which he was familiar. These in turn came from the carpenter's handbook, the text and only source he had as an apprentice 25 years before.

So, the house of 75 years ago reflected details, structural systems, and assembly methods which were new almost a generation before that date. The frame houses, to be true, lost some of the character of the early braced

frame construction. The brick fill, which was common in the earlier houses, was gone, but the heavy sill and the joists mortised into the sill formed the floor construction for most of the homes. Exterior walls were stud (close to 2 by 4 in size but rough and irregular) with the spacings varying around the 6-inch mark. Hand-split wood lath and plaster of varying thickness was the interior finish. Sheathing and siding completed the house on the outside. Interior trim—the base, and door and window casings were heavy—often reeded or fluted. The second floor construction was similar to that of the first floor, as many a man who has attempted to add electrical wiring or piping to one of these houses can testify.

We have no record of the manner in which these houses were built, that is, the methods used for their assembly. Barn building, where the braced frame continued to be used, often had the bents or frames assembled on the ground and tipped into place, with intermediate beams, precut with tenons and pins, placed afterward. As recently as 25 years ago, it was still possible to hear an old master carpenter referred to as "framer," a superior grade, a term reserved for a man who was capable of laying out and precutting the timbers and connections of a braced frame barn or house. House building somewhere in the early part of the last 75 years lost a sense of organization. When the change from heavy frame to the stud wall was made, precutting no

*(Continued on page 124)*



This was a new method of anchoring joists to a brick wall in 1892. It was known as the Goetz box anchor

(Continued from page 123)

longer was necessary. It soon meant that no pre-planning was done.

During the period from 1875 to 1925 it is my feeling that carpentry and house building, in general, made only slight progress. In fact, during the first part of that period it might be argued that there was a recession rather than progress.

Mechanics and craftsmen, in general, learned as apprentices from the master mechanics of their day. As the population increased and more craftsmen were needed there was a shortage of qualified mechanics to teach, and as the number of skills they used grew smaller (that is, no pre-framing or precutting of members, no cutting of moldings or building sash and doors on the job) the newer generation was limited in what it learned. Workers were still skilled—excellent mechanics—but they had not learned the great variety of methods, details, and applied geometry which their fathers knew.

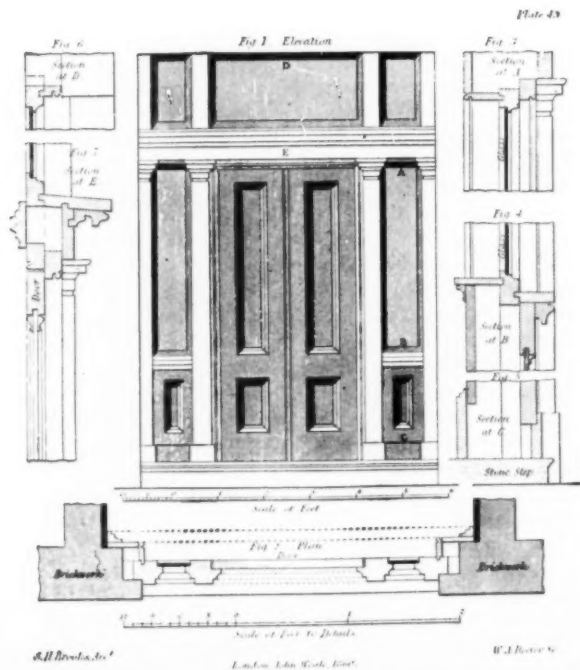
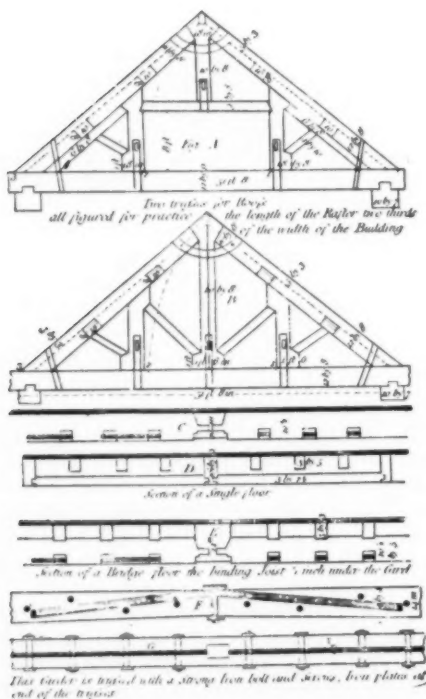
About 1920 the industrial strength of the United States began to produce a vast number of new materials,

and made others cheap enough so they were no longer limited to the wealthy. New roofing materials, sheathing boards, laths, improved plasters, flooring, foundation materials, new nails, all gave the carpenter a variety of materials where previously there had only been a few from which he could choose. In learning the advantages and troubles of a group of new materials, the mechanic lost even more of his knowledge of methods.

Only recently have we had a complete reversal of this pattern. An emergency demand for houses, and houses at an acceptable price, made it necessary to change the pattern that has existed for two generations. The fact that a certain detail or method has "always been used" did not make it right, and, in fact, often was the reason why it was singled out for special attention and study.

A study of the complete process of building a house—call it the manufacture of a finished product—has been undertaken by the federal government through the Housing and Home Finance Agency, by schools and universities through such organizations as the Small Homes

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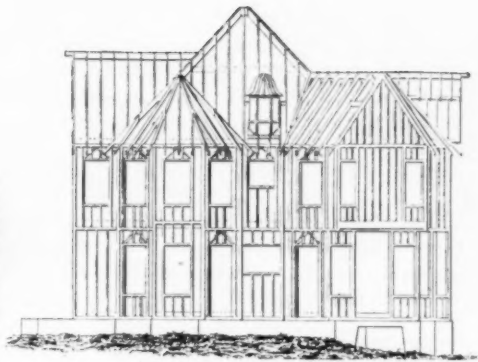


Figures like these, from a carpenter's handbook published

AMERICAN BUILDER



A Study in Suburban Architecture—Perspective View of the House from the Northwest



A Study in Suburban Architecture—Framing Plan of South End



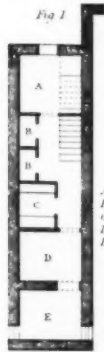
A Study in Suburban Architecture—Framing Plan, Showing the Timbering of Porch and North End, 1/4 Inch to the Foot



Framing Plan of South End, North End, 1/4 Inch to the Foot

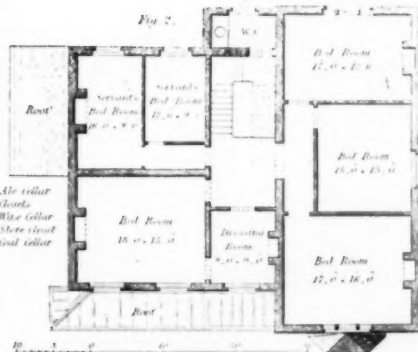
Framing system for a house built in 1893, as published in *Carpentry and Building*

Plan of Basement



- A Ale cellar
- B Store
- C Wine cellar
- D Store closet
- E Coal cellar

Plan of Chamber Floor



- Bed Room 12' 0" x 11' 0"
- Bed Room 13' 0" x 13' 0"
- Bed Room 15' 0" x 15' 0"
- Bed Room 12' 0" x 16' 0"
- Bathroom 5' 0" x 7' 0"
- Porch

Floors upon Girders Trussed in their own Wood

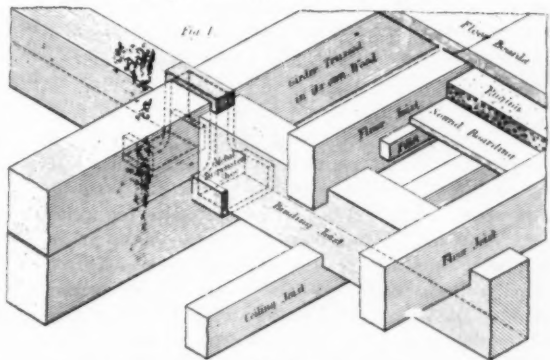
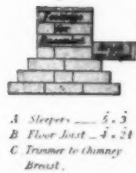


Fig. 12

Fig. 3



- A Sleepers — 5 x 5
- B Floor Joist — 4 x 24
- C Trimmer to chimney breast

Fig. 4

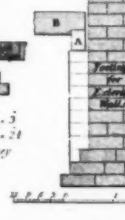


Fig. 5



Fig. 6



S. H. Brooks, Inc.

London, John Wood, 1862

W. A. Beeve, Jr.

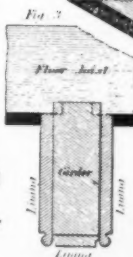
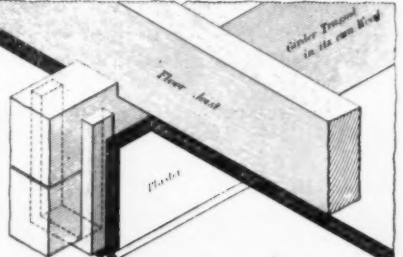


Fig. 7



S. H. Brooks, Inc.

Scale to Details

W. A. Beeve, Jr.

in 1860, guided house construction through the 80's and 90's

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(Continued from page 124)

Council, by builders through their National Association of Home Builders, and by material manufacturers, either in their own laboratories or through sponsored research. A few trends and indications of direction might be expected and are beginning to be apparent.

Seventy-five or more years ago the first steps in the factory assembly of house parts had already been taken. Window sash and doors were manufactured and delivered to the site (in Michigan and similar heavily forested areas the sash might be installed in a log cabin).

## Forecast

### how will houses be built in 1979?

Based on the trends which already are apparent, it would seem reasonable to expect that house construction in the next 25 years will change to the field assembly of factory-manufactured parts: floor panels, wall panels, both transparent (window) and opaque, closet wall units used as partitions and some form of roof construction, probably panels for ceiling and roof to be used with trusses. With these standard units a great variety of houses, both in style and size, can be built. With the use of a variety of materials, the complete range of house construction from the most economical to that with no cost limitation can be covered.

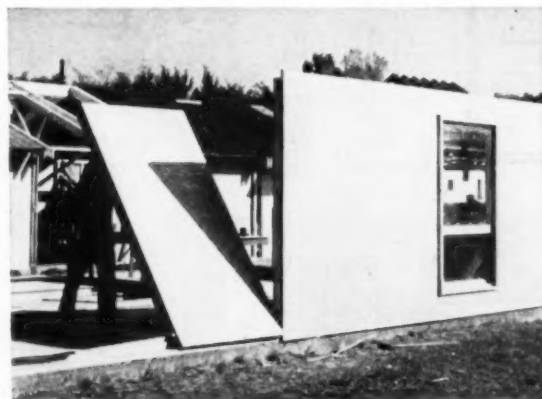
Such a system of house construction could be available today. Many problems of materials, codes and details in connection remain to be solved, as do some economic problems, but it is not above our technical ability. We can write the specifications for each part, its strength, its insulating value, its maintenance requirements, its weather-tightness, its resistance to impact, and all the other required qualities needed in a structure. With this specification, organized research could solve the technical problems long before it would be possible to get acceptance by building codes or lending agencies.

Such a pre-assembly system would assure factory-controlled quality. A uniformity of product would reduce the delays and the unknown expense often present in field manufacture on a craft basis, and still in no way would it limit the design, or size, or appearance of the house. It should result in a direct saving of material costs and should insure year-around employment in the building industry.

With factory control of the manufacture of house parts, it would be possible for the first time to break with past tradition of materials and details and craft handtools. The current wasteful methods of fastening multiple layers on both sides of a wood frame, or building a wood frame and installing it on the inside of a masonry wall in order to secure insulating value, would

be gone forever. New materials, not limitations of old ones, would be possible. Single materials could be used in an exterior wall, that is, a wall in which there will be one material serving as structure, insulation, interior and exterior finish. Old materials could be used in new ways. The good features of the material could be used to the fullest advantage, scientifically controlled.

For example, we have already been shown how the high compressive strength of structural clay products could be used with the high tensile strength of steel wire to produce a pre-stressed tile plank only a few inches thick and yet as strong and safe as a conventional floor many times as thick. A honeycomb wall panel with a paper core has already had years of tests at the Forest Products Laboratory. A studless non-load-bearing closet panel tested at the Small Homes Council is only 1/2 inch



Already, fabricated wall panels suitable for small volume building operations are available, to be tied into a wall by a double 2x6-inch continuous header



In the next 25 years, the prevailing system of house construction will be based on the field assembly of factory-manufactured parts: floor panels, wall panels, closet wall units, probably panels for ceiling and roof to be used with fabricated trusses



thick, yet under impact it is stronger than the best standard frame wall. None of these, of course, are the final answer, but they seem to indicate a direction, not only in the panelization but also in the size that might be best to use for such panels. The 4-foot by 8-foot wall panel, together with half panels or smaller panels, seems to be the most practical size for wall construction. Similar standards must appear for floor and roof units.

Such a building component system will make it necessary to have the wiring, plumbing and heating installed in the panel before it leaves the factory. This, of course, necessitates additional major adjustments in building codes, but the final result most definitely will be a more uniform, economical and safer construction than we have by the present system.

When the construction of houses is freed from the



Fabricated window wall panels as well as sliding door partitions are also already being used in component construction operations by home builders

present limitation of tradition-dominated patterns, it will be possible for the first time to have unhampered technical changes in the material and construction field. The forests which have furnished such a high percentage of our building materials in the past will continue to dominate the market during the foreseeable future. There will be, however, a considerable change in the general attitude or the approach to the use of lumber. We may never see the day when all of the forest products are reduced to pulp and extruded in the form of structural members, but we will have an increasing conversion of sawdust and wood waste into resin-bonded presswood, and the assembly of short pieces into laminated members built up both in length and width from smaller sections. This laminating will not be confined to the building of solid members or our familiar plywood. Wood veneers will be fastened to all types of materials, not only for exterior finish and interior paneling but for floor construction as well. The structural sandwich assemblies which have been used in aircraft and similar locations in the past will be, through the reduction of cost, combined with some of the synthetic and plastic materials, possibly reinforced with such things as glass fiber, to form a strong and stiff wall panel.

The knowledge of frost action in soils and the similar understanding of the processes of moisture migration will affect the construction of slab-on-ground floors and make it possible to use large precast concrete panels, efficient through the use of pre-stressed steel and light through the use of new aggregates. Such construction would tend to further reduce the calendar time required to build a house and, also, help control such currently difficult processes as pouring concrete under unfavorable weather conditions.

Brick is already being used in large precast panels. Masons are still needed for setting the panels and for pointing the joints between the panels, but the shortage

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Precast brick panels being lowered into place to form steel reinforced face brick walls of a house—a technique for the future being pioneered today

Courtesy, Silbrico Corporation

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of skilled masons may very well be overcome by the factory assembly of the masonry panel.

The standardization of planning of bathrooms and kitchens is the first step toward the packaging or pre-assembly of the water supply lines and the drain lines for the plumbing fixtures. Quite possibly, plastic pipes, such as are now being used for garden hose, may replace metal in the water supply. Copper, which has been used in increasing quantities for water supply, may take over instead the drain line piping because of its light weight and, therefore, suitability for use in a pre-assembled plumbing wall.

For the first time since the introduction of electrical wiring in residential construction we have two major changes in wiring systems. One of these is the remote control switching and the other a method of belt line distribution which does away with the well-known load distribution center. This new system, although now in use, is almost unknown. Its real value will become apparent only when it is added to a factory-produced wall panel.

Heating, perhaps more than any other single portion

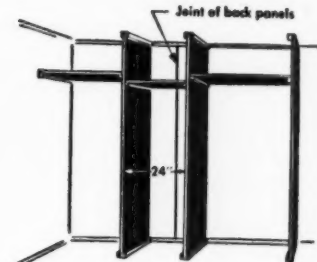
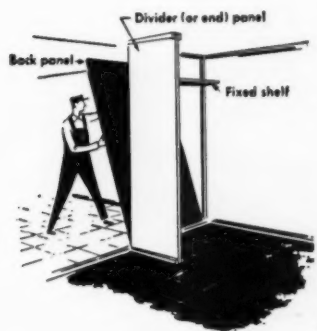
of the house, has been exposed to research for a period of approximately 30 years, and during that time there has been a continuous development and improvement not only in the equipment itself but in the methods for design and installation of the distribution system. Comfort during the winter months, which only 30 years ago was something which could not be guaranteed in advance, is now taken for granted in any house. Within a very short time year-round comfort, involving summer cooling and dehumidification, will be equally common.

Nothing, so far, has been said concerning the development of new plastics, or other synthetics, or in the possible development of new building materials based on chemical processes. These are in the field of product development and depend upon the progress within the manufacturer's laboratory and do not belong in a discussion on construction and building techniques. It would be normal, however, to expect an accelerated program in this direction because these products, even more than those with which we are now familiar, would be suitable for use in factory-controlled manufacture of a building component.

The break away from the slow and continuous devel-



This will become more and more a familiar sight—installation of pre-assembled closet wall units

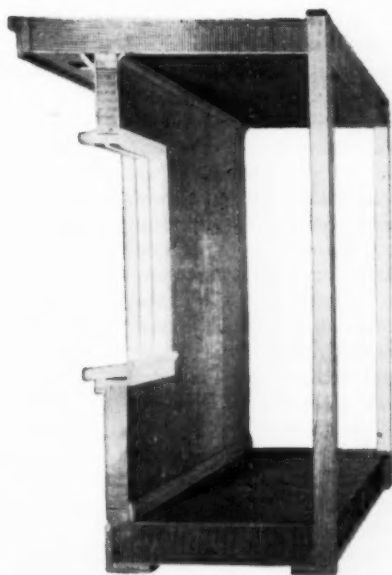


A studless non-load-bearing closet panel tested at the Small Homes Council is only 1/2-inch thick yet under impact is stronger than the best standard frame wall

opment based on several hundred years of tradition of craftsmanship will make certain changes in the personnel necessary to build houses. It will call for a new classification, a shop mechanic. This classification may take the place of the present apprentice training period, or it may become a new classification, equal in importance to those which we have now.

Shop mechanics will know the details of the manufacturer of a single or a few types of building components with a limited list of materials. They will have experience with tools, materials, and techniques now unknown. The use of adhesives instead of mechanical fasteners is one of the first such new techniques which would appear under factory-controlled assembly of building parts.

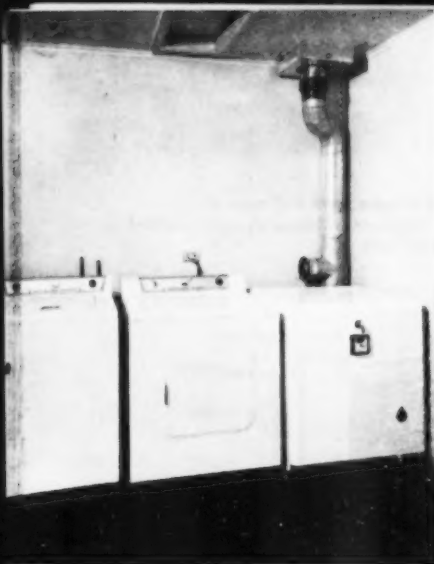
The master builder will always be needed. He is the man who now thinks of a house as an assembly process and thinks in terms of methods to create that assembly. He will control and direct the final field assembly of the factory-manufactured parts. Perhaps this is merely history repeating itself, because that is what we had 75 years ago—a master builder on the site directing the assembly of parts, although in those days he manufactured the parts as well as assembled them.



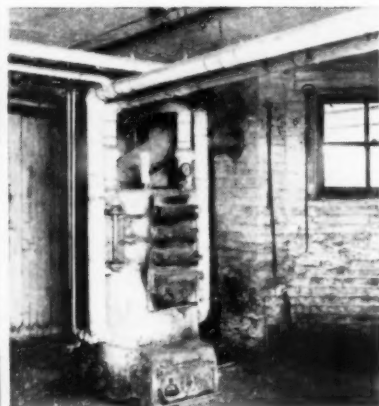
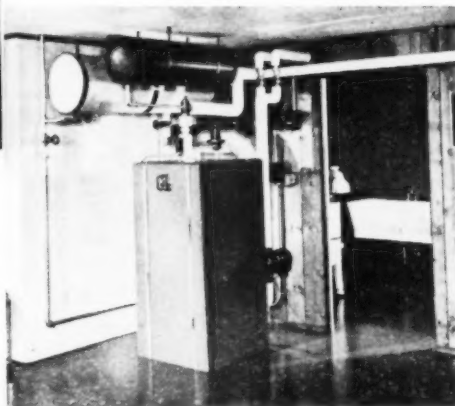
This honeycomb wall panel or "sandwich" with a paper core has already had years of tests at the Forest Products Laboratory

the changing house

## heating and air conditioning



The circulating pump (at rear of boiler in middle photograph) revolutionized hot water heating. Boilers (and pipes) could shrink in size, become as streamlined and pleasant as an automatic washer or dryer (above)



### Hot water

Although it was not fit well into the 1330's that radiator heating for the home came into widespread use, hot water heating was introduced into this country as early as 1342. Joseph Nason, a New England engineer, brought the Perkins systems of hot water heating from England in that year.

The Perkins system consisted of a boiler and pipe coils installed in the rooms to be heated. There were no valves to control the flow of water. The water circuit was continuous.

The first radiators consisted of piping connected with fittings. Hot water or steam was circulated through the piping, but because there was no provision made to vent the trapped-in air, this method proved to be extremely noisy.

Next, the radiator took the form of one-inch pipe sections screwed vertically into a cast iron base and a cast iron top. By the time of the first World War, manufacturers were standardizing on the plainer type of radiator, predecessor of the slim-tube radiator of today. The series of photographs on pages 132 and 133 illustrate the development

of heat distributors from pre-1900.

The first hot water boilers were sprawling affairs equipped with an ashpit, firebox and a number of sections. The firepot was extremely shallow. Boilers were put together with lead gaskets, later with rubber gaskets, and the ashpit was surrounded by water on the sides.

The advent of the circulating pump, just before the last war, did more than anything else to revolutionize hot water heating. Prior to this, steam and hot water heating systems operated according to the law of gravity. As the heating medium cooled in radiators, it gradually returned by the force of gravity to the boiler, there to be re-heated and re-circulated through the system.

Heating by this method was slow in comparison with the prompt response of the latest-type forced circulation systems. Large boilers were necessary because gravity heating required huge quantities of water. The piping also had to be large to overcome the friction of water circulation.

The addition of a circulating pump to the boiler changed everything. The boiler could respond instantly to the demands of a tempera-

ture control thermostat for heat, with rapid circulation of water. Far less water was now required, so boilers began to shrink in size. Piping, too, could be reduced to a minimum in size, since the circulating pump effectively overcame the water friction factor.

A great change has also come about in installation practices. Studies conducted by the industry at the University of Illinois showed the way for heating contractors to design hot water systems providing just enough capacity—and no more—to balance and offset normal heat loss of a house.

Panel heating—or radiant heating—came along in the 1940's, panels consisting of serpentine pipe coils embedded in the floor, a wall or the ceiling.

In 1954, the hot water method is on the verge of advance in summer cooling engineering. Room units resembling convectors are already available which contain a coil for both heating and cooling. During the winter, hot water from the boiler is circulated through these coils. During the summer, cold water is circulated, supplied by a water chiller located in basement, utility

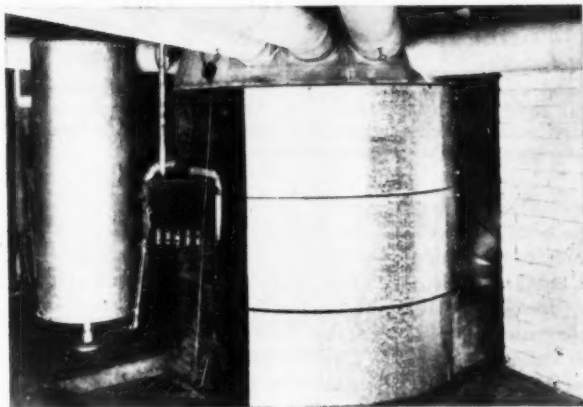


contributors

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room or some other convenient spot.

**Warm air**

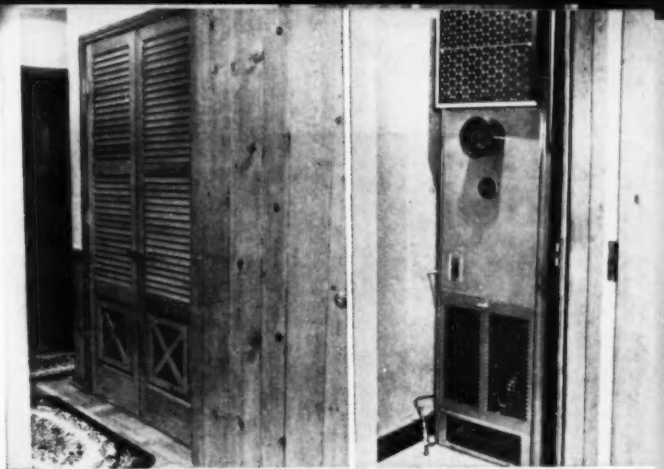
Through the 1880's and 90's came the gradual popularizing of the idea of central heating. Furnaces were of the gravity type, hand-fired with coal or wood.

Beginning in 1918 industry research carried on at the University of Illinois began to establish uniform standards of furnace rating and installation practices. Gravity warm-air codes appeared.

In the 1920's came forced air heating. At first a booster fan was added to a gravity furnace. Then came the quiet centrifugal blowers with sufficient pressure to permit controlled air distribution.

The greatest changes began to take place in the 1930's. Automatic gas and oil burners were attached to furnaces and were followed by the streamlined gas-designed and oil-designed furnaces. This was the period when the term "winter air conditioning" was popularized to describe forced circulation, filtered, humidified warm air heat.

Perimeter heating was the product of the 1940's, with smaller (4-



The development of the furnace fan revolutionized warm air heating. Yesterday's mammoth equipment no longer chokes the basement. Downflow furnaces can be installed in closets, attics, are as neat as a button



inch) piping a companion development.

All-year air conditioning for the average home is the point of advancement in the 1950's—a period when warm air heating as a system has achieved great versatility and popularity (furnishing about 80 per cent of the central heating systems now being installed).

**Automatic heating and cooling**

In 1883, in Minnesota, A. M. Butz, a young inventor, wearied of trudging downstairs to adjust the dampers on the monstrous and cantankerous furnace used to heat his house. He began tinkering with the basic law of physics that says metals expand when heated and contract when cold. The result was America's first thermostat.

Rigged to a spring-wound motor,

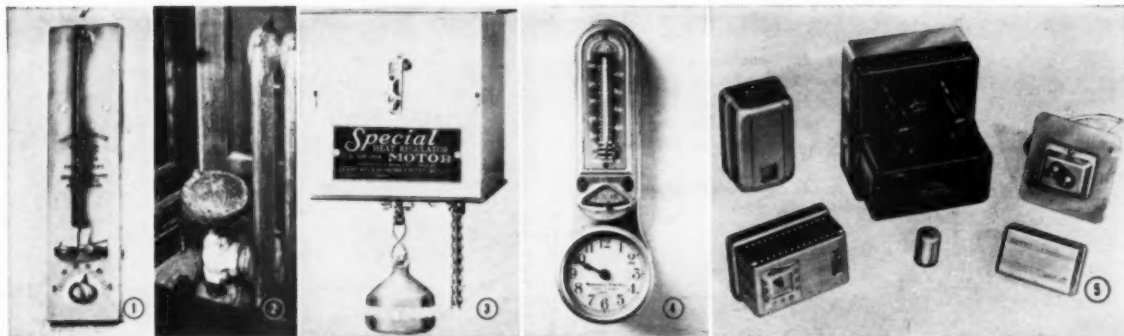
it caused the furnace damper doors to open and close automatically whenever the temperature changed inside the house.

Butz interested a handful of Minneapolis businessmen in the idea and formed the Consolidated Temperature Controlling Company, predecessor of the Minneapolis-Honeywell Regulator Company.

It wasn't until the turn of the century, when house heating shifted from parlor stoves to basement furnaces, that the nation first became automatic-control conscious. Then in the northern areas of the country several small firms were formed to manufacture automatic regulators. These devices were sold from door to door and were advertised in national magazines. In 1908 the Sears-Roebuck catalog listed them.

Gradually the regulators were im-

*(Continued on page 132)*



Photos by Minneapolis-Honeywell

(1) The original damper flapper built by A. M. Butz in 1893. (2) Early steam and hot water valves like this led up to the present-day gas controls. (3) A 1908 gravity-operated furnace timer. (4) The popular clock thermostat of the 1920's. (5) Electronics loom large in importance for controls in 1954, in systems which use a super-sensitive electronic thermostat outdoors, an electronic "brain" and one or more indoor thermostats to control inside temperatures according to outside weather conditions

(Continued from page 131)

proved and began gaining public acceptance. Clocks were added to some so the instrument and the furnace it controlled could be operated on a time schedule.

In addition to thermostats, these pioneer companies made a variety of other furnace regulators. One of the earliest was the gravity-operated timer motor introduced in 1908 (and shown here). It worked on the principle of a cuckoo clock and the home owner had to go to the basement every so often and rewind the chain. Later, these were replaced by spring-wound motors and electrically-powered units.

The development of automatic

stokers in the 1920's led to the development of timing devices thousands of which are in use today.

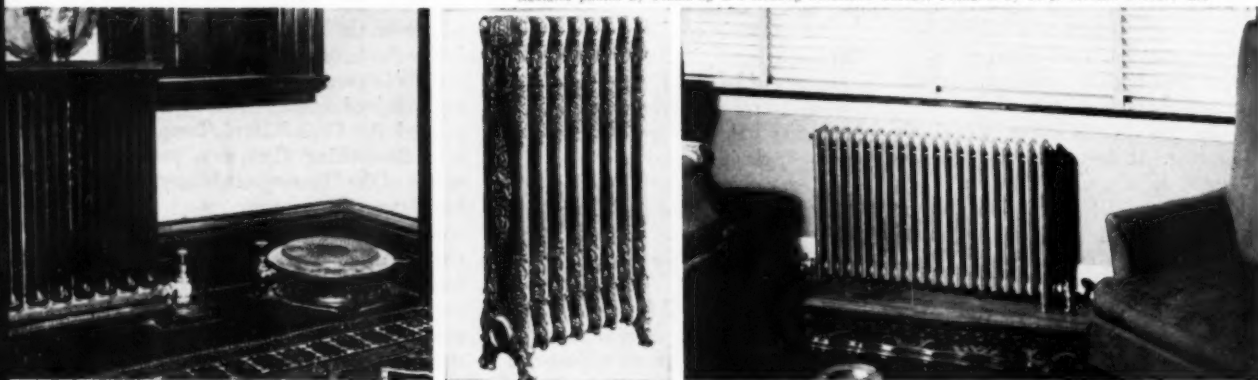
Meanwhile, other fuels—first oil then gas—began competing for the consumer's comfort dollars. As oil and gas heating developed through the 1920's and 1930's, furnace control and thermostat companies turned their know-how to this new type of heating and began building limit controls, stack controls and relays.

In the midst of the depression in the 1930's the manufacturers of oil heating equipment found themselves locked in a costly battle not only with other fuels but with one another. At the height of the struggle,

one control manufacturer built and shipped more than 250 different kinds of oil burner regulating devices. Consolidation and standardization followed quickly.

Air conditioning is, of course, the infant of residential comfort. From less than 5,000 units in the early 1940's it has grown to an astounding 70,000 residential installations in 1953 and is expected to top half a million within the next ten years. The air conditioning industry is going through growth pains much like those experienced by the oil heating companies in the 1930's. Standardization—a "package" heating-cooling control system—is an important factor for healthy expansion.

Radiator photos by Plumbing and Heating Industries Bureau. Furnaces by L. J. Mueller Furnace Co.



(Left to right) A pre-1900 radiator with its companion foot-warmer. Ornate decoration was the mode at the turn of the century. Today's slender-tube radiators are 40 per cent smaller, are installed under windows to counteract incoming air



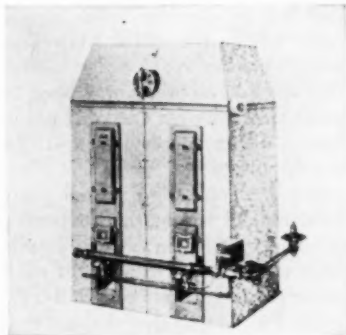
1885—One of the first double radiator cast iron furnaces



1895—A 3-foot wood furnace

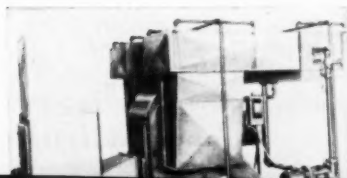


1925—First forced-air furnace



1927—Cast iron gas furnace

1933—Residential all-year air conditioning system



## Forecast . . . Heating . . . 1979

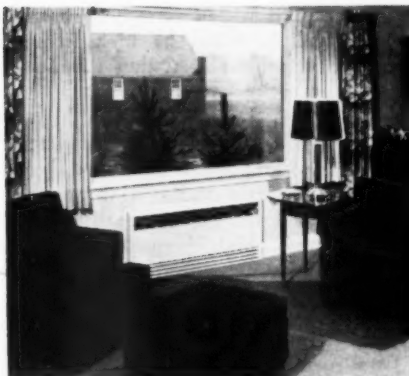
In hot water systems, boilers will shrink still further in size; so will room heat distributors. There will be greater sensitivity in electronic controls, and the addition of a ventilating system to cool, humidify and remove dust and pollen from the air.

For warm air, industry leaders see these as among the important realities: Universal acceptance of all-year air conditioning. More compact units, with greater simplification and "packaged" installation of the whole system. Better filtering (the electrostatic filter may be the answer). Better humidifying and humidity control. Increased use of electricity as a fuel, bringing in radically different heat exchangers (electric ceiling panels for radiant heating or coils in a heat exchanger in a convection system are possibilities). Electronic thermostats no larger than a thimble placed around a house, as well as outdoors to send impulses on a certain wave length to the matching electronic controller at the furnace, producing a degree of comfort never before equalled. "Atomic" furnaces, in which the heat exchanger may be charged with

a container that will release a regulated quantity of heat for 50 years to come. Widespread public education in the principles of good heating.

Solar heating will be an important method, perhaps developed at first as an auxiliary to the heat pump. Of new dwellings to be built by 1975, an estimated 30 per cent will probably lie north of the critical line, in New England, in the East and West North Central States. Perhaps half of the remaining 70 per cent will be isolated or small buildings suitable for solar comfort heating. Even apartment houses in middle and southern tiers of States may be designed for solar heating. If so, a maximum market of more than 13 million installations has been estimated. This would amount to about 10 per cent of the national energy system.

Where and when electricity is cheap, the heat pump will find an ever-widening use because of its high heat delivery in comparison with fuel consumed. Sources of energy for heating and cooling will be provided by ground wells, ground coils and stored solar energy.



Convective heating units for distributing boiler heat can be opened or closed to regulate the output of convected air. Front panel enclosure gives a certain amount of radiant heat



The heating baseboard and live-front radiator combined in the same system. Live-front radiators give a combination of radiant and convected heat

# electricity

## forecast 1979 — electricity in the home

**I**F THERE is any single key to tomorrow, it lies in the mysterious force of electricity. There is every indication that electrical progress in the next 25 years will exceed that which has been realized in the past 75 years.

The home of the future will be built around its electrical features. These electrical features will require a home wiring system quite different from that used today. Every room of the house will need higher voltage and higher capacity wiring. Space between receptacle outlets will be greatly reduced, or more likely, continuous outlet strip will be used around each room, perhaps at both floor and ceiling.

It is safe to say that the wiring system will not be constructed on the job as at present. Perhaps it will come in standard length and sizes, with the continuous outlet strip. It is possible that each room might have electrical capacity equivalent to that of today's entire house.

Lighting will probably be accomplished from hidden sources, not obvious to the eye and providing a uniform shadowless illumination of the entire room. Intensity will be controllable and perhaps color variation will be introduced.

Present-day wall switches will be outmoded. Some lighting will be turned on automatically as natural light fades. In other rooms lighting will be turned on and off automatically as a person enters or leaves the room. Many of tomorrow's appliances and devices will be automatically controlled by time, or temperature, or humidity, dust, weight or color, or a thousand and

one other things to which electricity can be made to respond. The control wiring for the house could become the major portion of the electrical work.

Here are some of the other ideas which leaders of the electrical industry see as having great importance for the house of the future:

—*Video communication* within the house, by television. Mother can see what goes on in the playroom while she works in the kitchen. Television can baby-sit while the parents visit next door. Cathode tube repeaters will put television screens in every room in the house, the actual receiving set being located in attic or basement. Color TV screens may be suspended on the walls like pictures, connected to the TV receiver by a tiny wire.

—*Translucent walls* may be coated with fluorescent phosphors and energized by high frequency electronic power, thus illuminating an entire house.

—*Electric lamps* lit by high frequency waves would eliminate the need for present-day electrical cords. A built-in radio wave generator would fill the house with unseen, unfelt, high frequency radiations that would directly light the phosphors in fluorescent tubes.

—*Ultrasonic waves* shot through soapy water may wash clothes and dishes instantaneously. High frequency radiations would dry them as quickly. By the use of an electronic "brain," ironing and folding clothes will be automatic. We will just load the washer, then come back only to carry out the simple job of putting clothes away.

—The telephone will become the *videophone*, since two people communicating in this way will be able to see one another. The traditional hand receiver will be replaced with microphones and soft speakers.

—The refrigerator could become a *food box* filled with gamma radiations instead of cold air, thus killing bacteria and preserving the food.

—*Dust* will be removed from the air electrically.

—*An electronic device* will thaw frozen food in a matter of seconds.

—*A floor cleaner* will wash and dry hard floors thoroughly in one operation as it moves along.

The whole electrical outlook is, of course, based on the prospect of low-cost electrical power produced by atomic fuels. Some experts predict that by the year 2,000, atomic fuels will be the major sources of energy for the world. It is reported that the first atomic power plant to make electricity for everyday use in homes, offices and factories will be started this year. When this plant comes into operation several years from now, it will be the forerunner of other plants in which atomic fuels will be used in place of coal, oil or gas to generate electricity. By 1975, it is confidently predicted that the United States will use annually somewhere between 262 and 367 million kilowatts of electricity. (In 1954, the peak load is expected to be around 83 million kilowatts.) And if the use of electric power expands over the next half century as it has over the past 50 years, the United States will be using 10 trillion kilowatt-hours annually by year 2000.



# and lighting

## Contributors

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SINCE 1900 the tremendous increase in electrical power used in homes has been intimately associated with the development of appliances, as Chart I shows. At the turn of the century, the electric fan was about the only appliance available. It required an ampere or two. Then came the electric iron, the washing machine, the refrigerator, and the roaster, the latter with a demand of some 15 amperes. Today, the minimum circuit used has a rating of only 15 amperes. This obviously stands as a serious limitation to the development of new appliances.

In the early years of the century, when the electrical load served by a residential branch circuit comprised only a very few small lamps, these circuits were generally rated at 660 watts, with protective devices rated 6 amperes or less. As the size of lamps increased and the electrical flatiron appeared, the circuit rating was increased to 10 amperes at 110 volts, where it remained until 1923.

Then as small fans, space heaters and other electrical appliances began to be used, the minimum branch circuit rating was raised to 15 amperes. This 15-ampere rated circuit, using No. 14 insulated copper wire and protected with 15-ampere rated overcurrent devices, has for many years been the minimum rated branch circuit to supply lighting fixtures and the standardized plug receptacles.

As early as 1928, the National Electric Code recognized the need for 20- and 25-ampere circuits for portable appliances, and in 1937 the Code specified that at least one ap-

pliance branch circuit be installed in every newly wired home, in addition to any lighting branch circuits. This circuit was to be of No. 12 copper wire minimum and was to serve the plug receptacles in kitchen, dining room, breakfast nook, pantry and laundry. The largest single appliance this circuit was supposed to supply would be rated at not more than 16 amperes. These provisions were retained in the 1947 issue of the Code.

Chart II shows some related facts on average kilowatt-hour residential  
*(Continued on next page)*

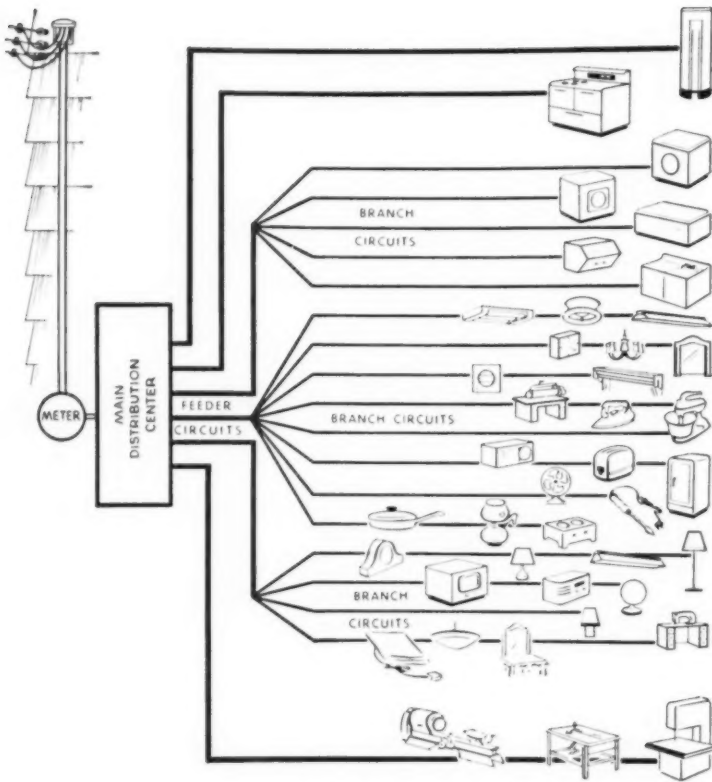


KILOWATT HOURS SHOWN ARE THE AVERAGE ANNUAL RESIDENTIAL CONSUMPTION

\* 12 mos. av'ge as of 5/53

† Electrical World Forecast

CHART I. New lighting equipment and electrical appliances that have come into common use in the average small home during the past 20-odd years, listed in the period during which they attained wide popularity



Courtesy Arrow-Hart & Hegeman Electric Co., Hartford, Conn.

(Continued from page 135)

usage since 1913, the changes of minimum branch-circuit ratings and the normal-demands of appliances that have been generally used.

The majority of branch circuits installed today are of the multi-outlet type, using No. 14 wire rated at 15 amperes. But the rating of many appliances are being increased for better performance, and the appearance of new types of equipment requires higher ratings than the Code limit for 15-ampere, 115-volt branch circuits.

A Joint Committee of the Association of Edison Illuminating Companies and the Edison Electric Institute has summed all this up in the following conclusion:

- (1) The 15-ampere rated circuits are no longer adequate for general-purpose use in modern and future homes.
- (2) A 20-ampere rated minimum branch circuit with a 20-ampere protective device of suitable time-current characteristics would be adequate for most individual household appliances and lighting loads.
- (3) Such 20-ampere rated circuits are suitable for supplying all 15-ampere rated receptacles.

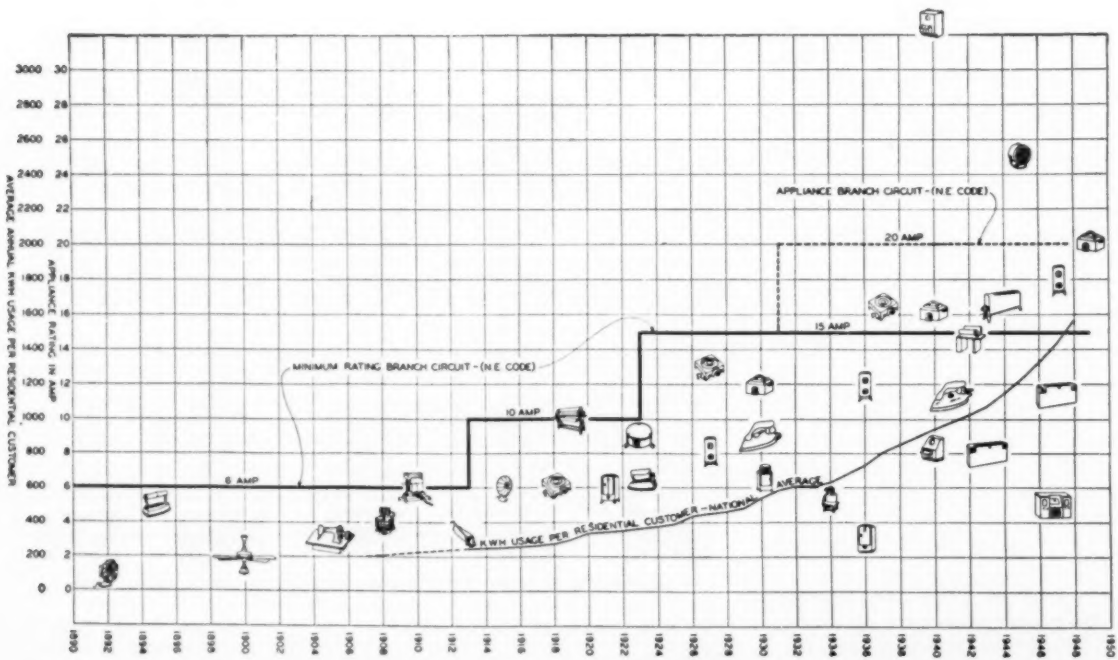


CHART II. The effect of load growth and appliance demand on branch circuit ratings

Edison Electric Institute

# lighting

By Aileen Page

Home Lighting Specialist, G.E. Lamp Division, Nela Park, Cleveland, Ohio

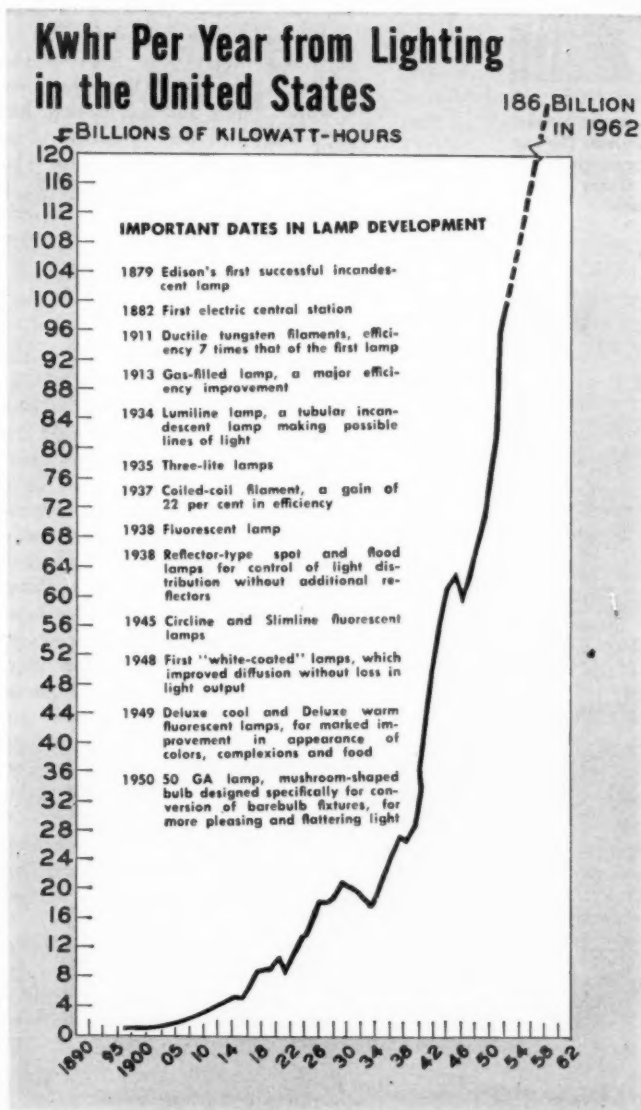


FIGURE 1

The first house to be lit with the new incandescent lamps was Mrs. Jordan's boarding house in Menlo Park, N. J., where Edison lived. The year was 1879

IN THE development of something as vital to human beings as artificial lighting, seventy-five years is a comparatively short time. In this short span of years phenomenal developments have been made in light bulbs, in equipment necessary to operate them and in techniques to make them serve in more and better ways. When the electric light first appeared it merely replaced a flickering gas-light flame with a safe, clean, steady light which, like its predecessor, pushed back the darkness a little. Today we are developing not just more electric lights but carefully-planned lighting to serve the daily living and seeing needs of the family in a way it has never been served before.

This development is traced pictorially, in 25-year spans, in the group of photographs shown on pages 140-143. Improvements





Courtesy Curtis Lighting, Inc.

FIGURE 2. Designed in the 1915-25 period, this 200-watt totally indirect fixture gave a soft light that was almost completely shadowless. The low ceilings in today's homes do not allow the necessary suspension for achieving this even distribution of light. There are few if any kitchen fixtures on the market today that can equal its performance

in architectural and interior design through the years are as dramatic as are the enhanced appearance, greater comfort and increased seeing ease which better lighting has brought. Such great strides have been accomplished in residence lighting techniques just within the past decade that most people are not aware of them. The habits and prejudices formed through the first 50 to 60 years of electric lighting are hard to overcome.

Lighting progress in the home as well as in other areas has followed along three lines: (1) *the lamp*; (2) *the lighting equipment and techniques*; (3) *the concept of what artificial light can do for human beings and their surroundings.*

### The lamp

Lamp developments which have been of particular significance to residence lighting progress are summarized in the chart reproduced here (Figure 1). In the early years, the efficiency of incandescent lamps was increased about four to one. Today's lamps, in the sizes used in the home, give about ten to twelve times more light per watt than Edison's first lamp.

The first "lines of light" were brought out twenty years ago by the development of Lumiline lamps—and decorative lighting was born.



FIGURE 3. This comfortably-shaded semi-indirect chandelier was an outstanding development in residential lighting in the 1920's. It provided better distributed pleasanter light than a great majority of today's fixtures. Low ceilings and fixture price-cutting caused it to disappear from the market

Four years later, in 1938, the newest of all tubular sources, the fluorescent lamp, doubled again the light-per-watt of electric lamps. Besides the wonder of this cool light source, other improvements, since

it was brought out originally, have been quieter operation, longer life, and (most important of all for residence use) more natural appearance of colors, complexions, food, etc.—and its efficiency has been doubled *again*.

But the progress is by no means all in fluorescent lamp developments. Nearly a dozen brand new incandescent lamps have been developed in the past 15 years—most of them for use in the home. Most of these were bulbs with special finishes or coatings designed to improve the softness of light (like the new "white" bulbs and the 50-watt and 100-watt GA bulbs) or to control its distribution (like the reflector-type lamps). These developments have made the lamp bulb itself more self-sufficient, less dependent on other equipment for its effectiveness.

### The lighting equipment

Major developments in home lighting equipment were not in evidence until well into the second quarter century of electric light. In the 1920's, ceiling fixtures and wall brackets were the chief light sources—and the aim seems to have been to add more "fixed" equipment and to dress it up with decorated glass shades of all shapes and colors. Lighting fixtures were in their heyday and claimed a higher percentage of the building budget than they ever have since that time. Figures 2 and 3 are examples of early attempts to build effective lighting distribution and lighting quality into fixtures. It is regrettable that such progress did not continue. The fixture business began to decline when portable lamps came on the scene in greater quantities, in the late 20's.

During the depression of the 30's, attempts to hold business led to such price-cutting and cheapening of fixtures that there was a decided retrogression in their lighting as well as artistic design. The prestige lost then has not been fully regained, and as a result some people, both laymen and members of the building industry, have shown an inclination to regard fixtures as a necessary evil rather than a func-



tional part of the operation of the home—on a par with the heating, plumbing or ventilating systems. This situation is slowly changing now, with improved fixture designs and a growing public awareness of “light conditioning” and its contributions to better living.

Portable lamps which started out as candlesticks and later electrified kerosene lamps, received their first design-for-lighting thought when diffusing bowls and indirect reflectors were added. This began about 1917. However, it was not until 1934, with the design of the first “certified” lamp, that any real commercial impetus was put behind sound, universally usable improvements. Over 10 million of these “tagged” lamps, designed and developed by W. F. Little with the Illuminating Engineering Society, were sold in ten years. (See Figure 4.) The impact of this program was so great that by 1940, 98 per cent of all floor lamps and 50 per cent of all table lamps were being made with diffusing bowls.

The second program of lamp certification, begun in 1946, had as its goal the overcoming of objections to the styling of earlier certified lamps. High standards of lighting performance were to be retained, naturally. The C.L.M. lamps, as they are called, provide a high degree of lighting efficiency,

comfort, and effectiveness. Lacking the industry backing given the earlier program, however, this more recent certification program has not been so successful, quantitatively. Within the past few months, new plans have been formulated for improving the lighting design of portable lamps. There is much early evidence to indicate that these will be successful.

Open planning, smaller living space and other architectural trends in today’s houses, particularly those of contemporary design, have brought about a greater use of built-in and built-on lighting. Lighted cornices, valances, and coves are increasing in popularity, and special fluorescent equipment designed specifically for these purposes is available from several manufacturers. The trend toward smooth, simple lines in home design has also led to the use of a great deal of recessed lighting equipment in the past few years, but unfortunately too much of this has been used without regard for recommended lighting practices.

#### **Lighting concepts and lighting practice**

Until the development of the incandescent lamp and for many years afterward, few people attempted to do any close-seeing work after dark. It just was not possible to see with

any degree of ease, so work habits and hours were regulated by the availability of daylight. As incandescent lamps became more efficient, more plentiful, and available in higher wattage, it was possible to lengthen the “seeing” day into the evening hours. In 1906 the Illuminating Engineering Society was formed and a science of lighting began to develop. Coincidentally, studies of the relation of lighting to seeing were being made in a number of research laboratories.

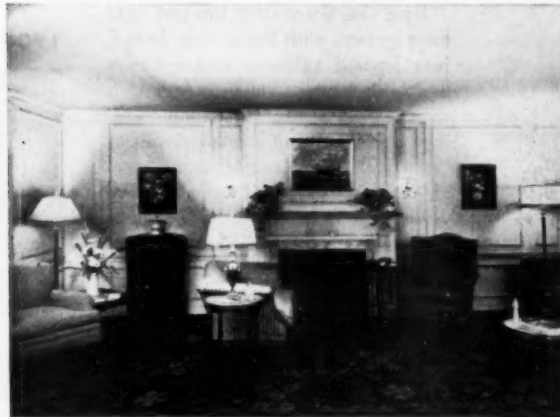
Outstanding among these lighting and seeing researches were those performed under the direction of Dr. Matthew Luckiesh in the Lighting Research Laboratory of the General Electric Company at Nela Park, Cleveland, Ohio, where the first residence lighting demonstration room was built in 1920. These researches were published in 1931 in Dr. Luckiesh’s book, “The Science of Seeing.” They provided important contributions to the science of lighting—for they furnished a sound and factual basis for the first specific recommendations as to quantity and distribution of light and lighting.

The National Better Light Better Sight Bureau was organized in 1934 and has for 20 years been disseminating information on lighting and seeing to educators, the electrical in-

*(Continued on page 142)*



**FIGURE 4.** An important milestone in residential lighting progress came in the mid-1930's. This was the first concerted effort by the industry to improve the lighting design of portable lamps.



Shown here is the tremendous improvement produced by lamps “certified” as to compliance with the lighting specifications developed by the Illuminating Engineering Society in 1934

## how home lighting has changed

**I**N 1904, electric light was merely a dispeller of darkness. Little or no thought was given to lighting specification and recommendation until the early 1920's. Few portable lamps were to be found.

By 1929, emphasis was on equipment rather than on "seeing" needs, and on "shaded light" rather than truly eye-serviceable lighting.

Today's concept of lighting—that it is a vital element in serving human beings and fulfilling their emotional and psychological needs as well as their daily living and seeing needs—is well exemplified in the 1954 photographs. These illustrate recommended lighting practice—measured, tested and designed to provide visually effective and comfortable lighting for all areas where seeing tasks are done.

### Living rooms

The 1904 room had a 9-foot ceiling and a suspended lighting fixture. When the room was photographed in 1929, a few portable lamps had been added. By 1929 the use of portable lamps was increasing and ceiling heights were down to 8 feet 6 inches or less. Living room fixtures were beginning to disappear in new construction, though some wall brackets remained. There was quite a fad for luminous art objects—and the then-new "lumiline" lamps suggested decorative built-in lighting. Actually, the model room pictured here was not typical of average 1929 residence lighting, although expressing best lighting practice for the period.

By 1954, decorative lines of light have grown, with fluorescent lamps, into lighted valances and cornices which illuminate whole window walls to give rooms a more spacious feeling, more lighting combinations or "moods." All portable lamps provide generous *upward* light, diffused downward light (unlike 1929 lamps in both respects) and all have three-light bulbs for greater flexibility of effect.

### Bathrooms

Bathroom mirror lighting in 1904—one-sided, harsh and uncomfortable—had improved to the extent of being somewhat softened and better balanced by 1929. The pair of

(Continued on page 142)

1904



1929



1904



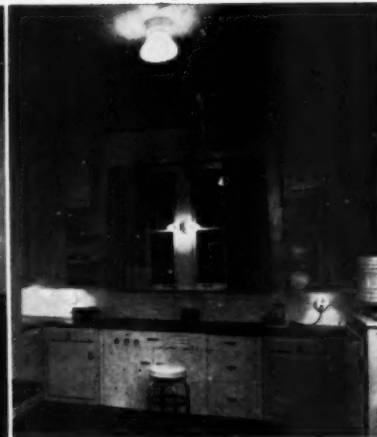
1929



1904



1929



since 1904

1954



1954



1954

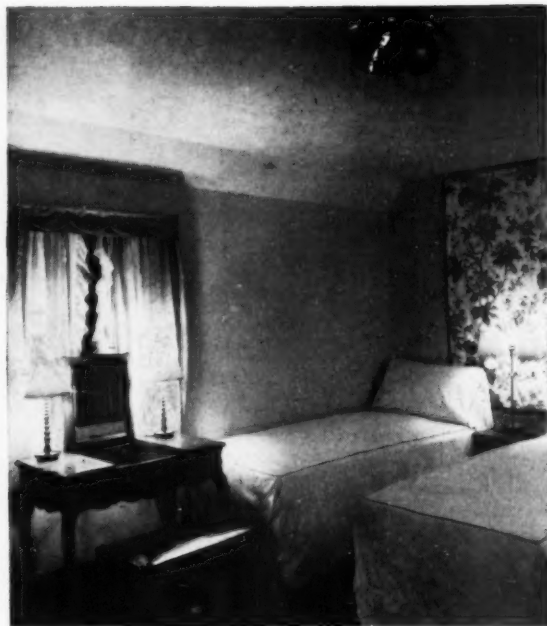


AUGUST 1954

141



1904



1929

(Continued from page 140)

brackets recommended in 1929 was actually seldom found, however, and still is above average. Today's recommendation calls for a third fixture, directly over the front edge of the bowl. (A deluxe bathroom may even have a luminous ceiling, as shown in the big 1954 photograph.) The longer lighted area at the sides is a decided improvement in serving people of varying heights; and new

deluxe warm fluorescent lamps give complexions a more natural look.

#### Kitchens

With kitchen planning came the idea of light over each work area. Although spotty and inadequate in comparison to the 1954 light-conditioned kitchen, the 1929 installation shown on pages 140-141 was way ahead of average practice at that time. More efficient than incandes-

cent and much better suited to the lighting of kitchen work areas are today's fluorescent lines of light.

#### Bedrooms

The early electric fixtures clung to gas-light design. Wall brackets fixed the dressing table location and were too small and far away to provide effective make-up lighting. The 1929 bedroom shows the advances made in interior styling, but lighting

## lighting — continued from page 139

dustry, and the general public. Also in the mid-30's, home lighting advisors were hired and trained by electric service companies to call on individual homes with the "Better Light Better Sight" message and to make recommendations for lighting improvements. By 1941 there were some 3,000 of these advisors at work, but the war caused a severe retrenchment in this activity. Considering that a million new homes are being built every year—to say nothing of the old ones needing rewiring and remodeling—there is need for thousands more of trained home lighting advisors.

Since the publication of many of the lighting and seeing researches, specification of light and lighting

has been on a sound basis of proven facts. The Illuminating Engineering Society has recently published a new edition of its "Recommended Practice of Residence Lighting." This new edition might well become the "bible" of an enlightened home building industry. It illustrates the changing concept of residence lighting in very recent years.

Formerly, recommendations were based on size and type of room, without regard to the specific activities, the people, or the furnishings. Recent I.E.S. studies and tests have considered the person, his eye position, the type and location of the visual task he is performing, and the size and location of the furniture involved. All these have been

integrated in the testing and design of lighting equipment which will supply comfortably the recommended amount of light, wherever the visual task may be performed. In other words, the emphasis is now on the human being and his seeing needs rather than on the room.

Never in the history of building has so much professional and specialized thought been given to the home, as in this past decade. Psychologists, sociologists, home economists, architects, designers, builders, lighting specialists—all have applied their specialized knowledge to the living problems of the family. All of these professions have a common objective—that of fitting the house more precisely to the





1954

was still unrealistic in terms of seeing needs. Today's light-conditioned bedrooms boast plenty of portable lamps. With smaller houses and smaller rooms it becomes increasingly important to make all space more usable. Bedrooms become auxiliary living rooms when well-lighted sewing, reading and study areas are planned. The generous-sized 5-socket fixture (above) seems almost part of the ceiling.

needs of the human beings who live in it. Each of them has much to contribute to the planning of the home. The challenge of today is to integrate all their very worthwhile findings for the benefit of the American family.

More and better lighting is a vital element in this integration. The sound research background, the lamps, the equipments and techniques to be used, are accomplished facts, but there is a great gap between what is known about residence lighting and what is *done* about it.

To predict what *could* happen in the next 25 years of residential lighting would be comparatively easy. For example, codes could

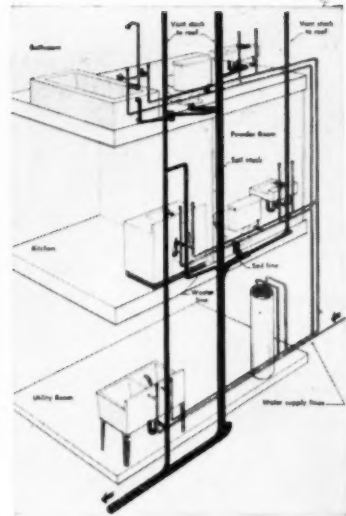
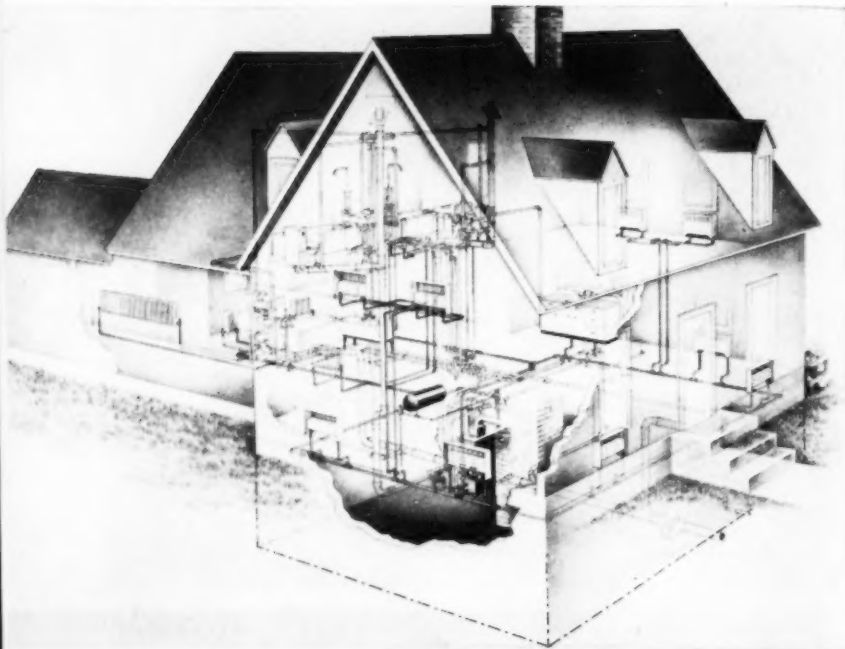


cover "safe seeing" lighting as they now cover safe wiring; prospective home buyers could demand that light conditioning of homes be guaranteed; the new profession of residence lighting consultant could be recognized and take its place with other established professions related to the building and furnishing of homes.

To predict what will come of some ideas for lighting developments

which are still in the dream stage—such as energizing lights by radio frequencies, or luminescent materials powerful enough to produce reading light from glowing walls or ceilings—that is a job for a professional prophet. However, it is to be hoped that it will not take another seventy-five years before the wide gap between present knowledge and present practice in residence lighting is filled.

## the changing house



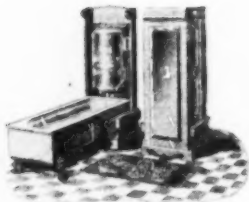
Plumbing in a modern 3-bathroom house (simplified diagram above). Note elaborate system of traps and vents, two soil stacks vented above top floor, house trap buried beside front steps

Plumbing and Heating Industries Bureau and University of Illinois Small Homes Council

# PLUMBING

By William E. Kramer

Plumbing and Heating Industries Bureau



Folding bathtub and heater, 1893

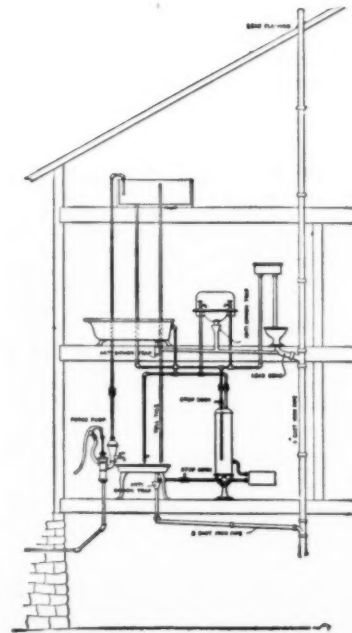


A water closet of 1887

**B**EGINNING with the Chicago sewage system in 1856—the first city sewage system in the nation—we have arrived at a point today where all cities and most towns have complete water purifying and sewage disposal systems. And in the next decade or so, the few small villages not yet equipped will have been modernized.

The first enameled cast-iron bathtub was manufactured in 1870. And it wasn't until the 1890's that water closets began to be installed in houses. Most of the progress in American plumbing has taken place in the 50 years since that time. Only 50 years ago most Americans were taking their weekly baths in the family kitchen. Now 70 per cent of our families have private bathtubs and 71 per cent have private toilets. Another 4 per cent also have these facilities but share them with other families.

The prototype of the modern bath-



Plumbing in a farmhouse, 1907

AMERICAN BUILDER

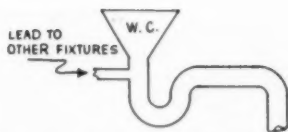
room, a 100 years ago, was just simply that—a room for a bath. Some such rooms actually contained metal tubs, while others were simply over-sized shower cabinets. Showers were tanks supported on poles. A tug on a wire released the water from the tank allowing it to flow into a perforated subtank which served as a showerhead. The bather stood in a tub beneath the shower.

Around 1900, when the toilet was brought inside the house, it was usually relegated to a location by itself at the end of a little-used hallway. This arrangement did not last long, however. It was more convenient (and sanitary) to have the water closet and the lavatory in the same room. Also, piping installations were less expensive when all fixtures were located together. So the toilet finally came into its own and was moved into the bathroom. The biography of the American bathroom on pages 146 and 147 shows what the evolution of this room has been.

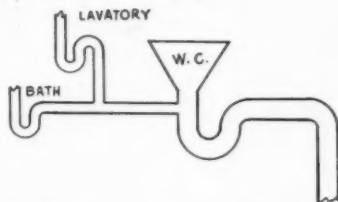
Today, bathroom fixtures and design have made good their escape from the tradition of strict utility that was popular 15 years ago. Attractive arrangements of fixtures and a pleasant harmony of colors is the new mode. Better planning—the development of the idea of compartmentalizing the bathroom—has increased the usefulness of the room, and is the trend for the future.

Kitchens (another end-product of plumbing development) also have come a long way since 1879. In the 1930's manufacturers began making time and motion surveys of work patterns in the kitchen, and the streamlined, efficiently arranged and equipped kitchen of today was born. Although the bathroom is still undergoing drastic changes in basic concepts, manufacturers feel that the major changes in kitchen function and layout have been made. Future kitchen improvements will be mainly in the form of refinements of present features. Added color in kitchens and kitchen fixtures—sinks, refrigerators, stoves—is definitely on the way. And of course we have not yet seen the end of new gadgets and labor-saving devices to be used in this room.

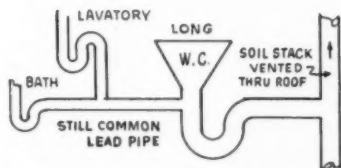
A major plumbing revolution, and



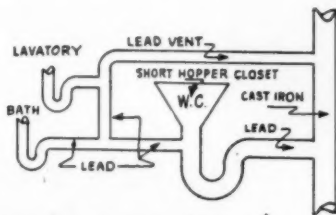
1870—Indoor plumbing was just coming into existence. No venting system; soil pipe was not extended through the roof; one trap served all fixtures in the house



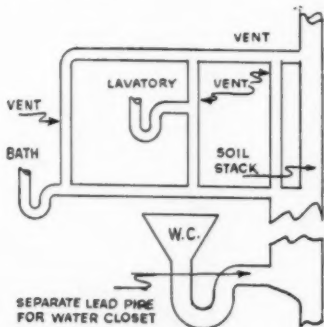
1880-1885—Biggest innovation was the introduction of a separate trap for each fixture



1887-1890—Soil pipe was extended vertically through the roof for the first time



1915-1917—Beginning of venting for the piping system. Waste line of the highest fixture (lavatory) was vented at upper bend of trap. However, all fixtures still used a common lead to the soil pipe



1938-1954—Began venting after the trap in every fixture. Today a complete venting system is used. Also, the water closet now has its own lead to the soil pipe, lavatory and bathtub being on another lead

one that is long overdue, will take place in the utility room. The generally dull and unattractive utility room of today will be transformed in the next 10 years into a light, colorful room as pleasant and cheerful to work in as the kitchen. Utility rooms will become larger and will eventually be partitioned into separate working areas, one for each function performed in the room.

Developments in plumbing fixtures have been paralleled by equally significant changes in piping, in installation techniques, and in the regulation of the installation of plumbing by municipal and state codes. Today piping materials are being mass-produced and are available in copper, brass, iron, steel, wrought iron and many new plastic materials. A significant recent development in piping has been the use of prefabricated assemblies in large housing operations.

We like to think of American plumbing as being at least a generation ahead of other countries, but that doesn't mean that modern plumbing is all our own idea.

Did you know, for instance, that a palace built on the Island of Crete more than 3,500 years ago had a complete drainage system of pottery pipes? Four to six inches in diameter, these pipes carried the waste from water closets of almost modern type that were installed on two floors of the palace. The Cretan plumbers did their work so well that they even provided their soil pipes with clean-out plugs. The water closets were flushed with water, and rain water from the roof was led down into the sewer pipes.

Even the modern trend toward a bath for every bedroom had its beginnings in 1,200 B.C., when the palace of Rameses III in Egypt included three apartments, each of which consisted of a living room, bedroom, bathroom and a closet.

And some 1,500 years before that, King Urnimar of Babylonia equipped his royal palace at Ashurnak with a 15 by 15-foot bathroom. The floor was of baked tile plastered with bitumen to make it waterproof, and equipped with drainage pipes to carry off the water. These earthenware pipes are still in good condition even after 5,000 years.

## the changing house

IN THE 1880's, complete bathrooms were rare indeed. The folding bathtub (below) in a room by itself was sometimes used. The water closet, later on, was added as a separate facility inside the house. By 1900, the three basic bathroom fixtures had been assembled in the same room

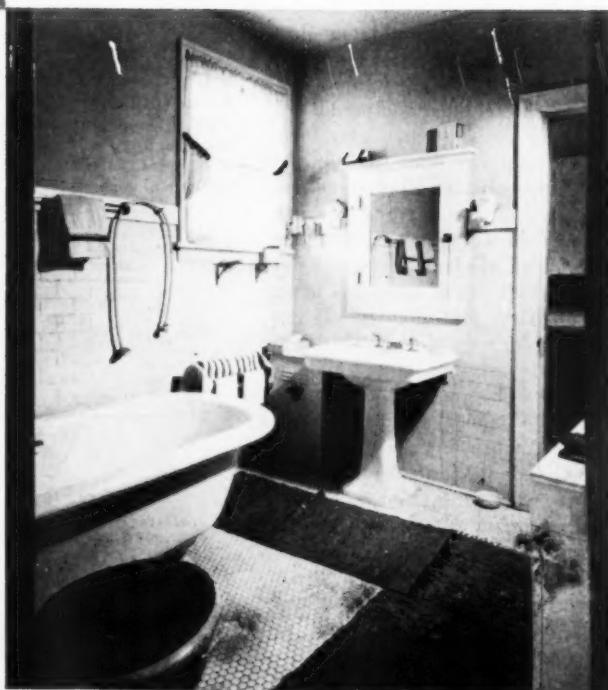


Photos by Plumbing and Heating Industries Bureau



1910 showed a distinct improvement in fixtures and styling. The cabinet-encased bathtub disappeared. Water closet tanks moved down from the ceiling to the fixture itself. Lavatories still had marble or wood countertops

ABOUT 1922, bathroom planning took a turn for the better. Pedestal lavatories became popular. There was some improvement in the design of bathtubs, which offered wider rims

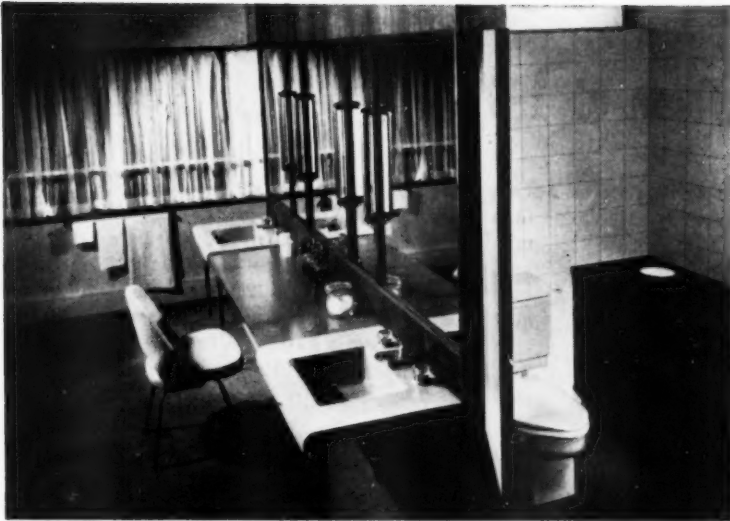


## BIOGRAPHY

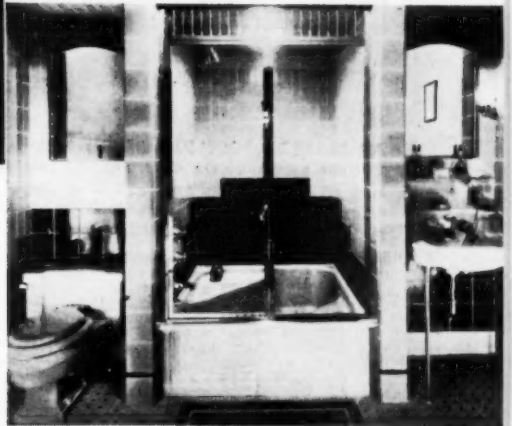
### 1879-1954



for a bathroom of 1979  
please turn page



**MULTIPLE-USE BATHROOM OF 1954** carries compartmentizing even farther. Main area of room is now carpeted. Toilet and bathtub are backed up in separate compartments which are closed off by sliding doors. Twin countertop lavatories provide maximum utilization of dressing table and mirror space



**COMPARTMENTALIZATION** began in 1940. Square bathtub with integral seats and bathing area cast on a diagonal is also a feature that has continued. Glassed-in showers using the bathtub as a receptor were an important innovation

of the

**American bathroom**



**THE DOUBLE-SHELLED BATHTUB** was introduced about 1925. Mounted flush with the floor it did much to improve the looks of the room



**A LUXURY BATHROOM, vintage 1928,** offered a recessed and sunken tub, tiled in. Metal legs were used for the lavatory. Marble countertop was thought to be more luxurious



**COLORLED FIXTURES** made an appearance by 1930. Chrome legs on lavatories and a generous expanse of mirror above were also features that were the very latest

the changing house

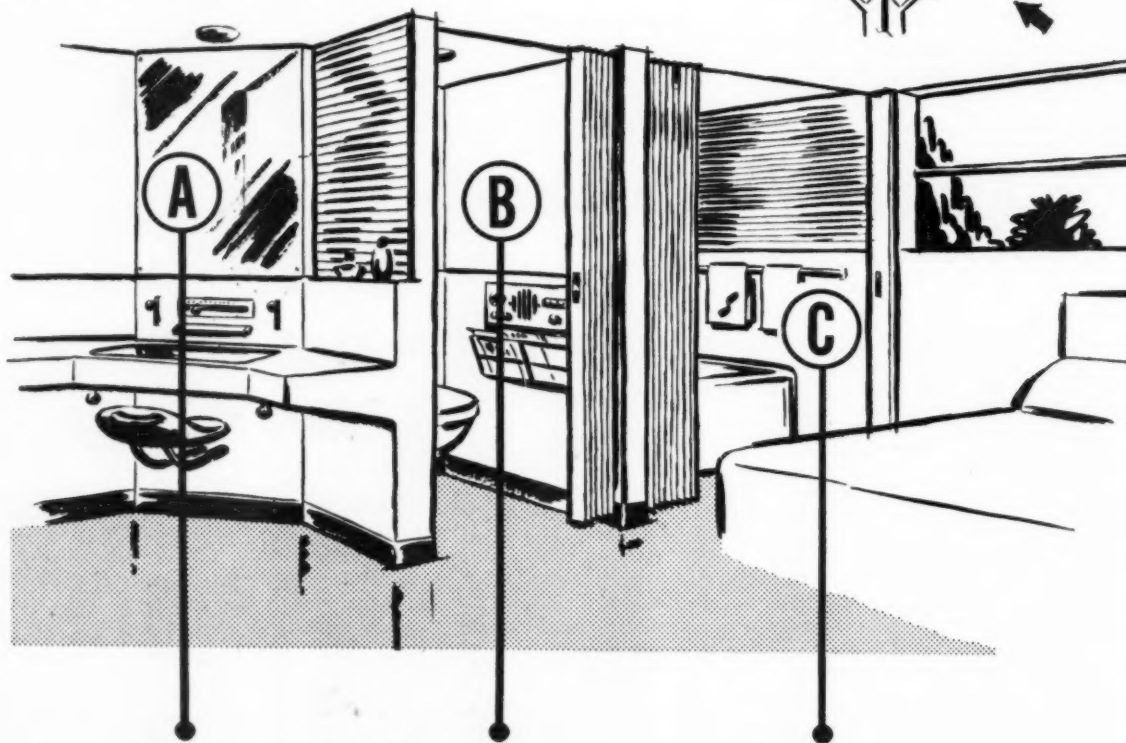
## Forecast—a bathroom of 1979

SEPARATE compartments for the various types of fixtures will be standard pattern. The room as a whole will be larger to combine dressing-room facilities, or it will be combined with the bedroom. The floor will be carpeted. Color will be universally used. The number of fixtures will increase. These will be important: twin lavatories, a dental lavatory, a bidet.

The number of bathrooms per home will increase.

Fifty years ago, people were satisfied with one bathroom in a home. After World War II, most houses in the middle and upper price range had at least a bath and a half. And since 1951 the trend has been to two or more bathrooms per house. In 1979, bathroom facilities for every bedroom will not be unusual, plus a powder room off the kitchen and a bathroom in the basement or off the utility room.

**A MASTER BEDROOM-DEN OF 1979.** Bathroom facilities are fitted into one section of the area. Fixtures and walls are blended together in porcelain-steel construction. Two of the plumbing fixture arrangements are very simply duplicated in back-to-back manner in the next bedroom, with the bathing unit serving two bedrooms. Design and sketch by Briggs Manufacturing Co.



**COLORFUL** combined dressing table and lavatory in a mirrored corner. Top has molded depression in its center. Gone is the pipe-and-drain look. In its place, the built-in furniture appeal

**PRIVACY AREA** concealed by folding door. In place of the toilet, a commode—a smooth, simple, wall-suspended closet bowl without tank or levers. Free floor underneath for easy cleaning. All done in dramatic color

**ANOTHER PRIVACY AREA.** Spacious tub and shower unit which is sunk below the room level to solve problem of splashing

**NOW**

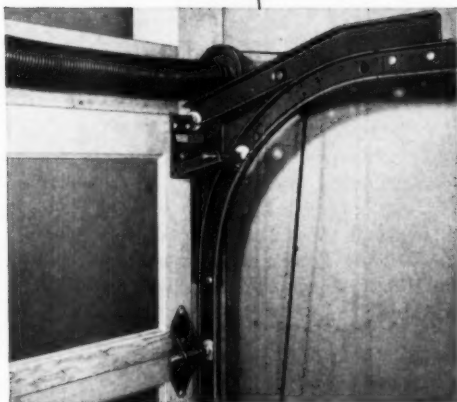
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**TORSION • SPRINGS**

**LOW • HEADROOM**

**1 AND 2 • CAR MODELS**



Here's good news from Ro-Way! A brand new line of torsion spring, sectional doors—high in quality, yet priced to save you money. Packed with features—ideal for low-cost homes, project developments, new and modernized garages. Just look:

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**TORSION SPRINGS!** For smooth, quiet, easy operation. Partially concealed—mounted on full length revolving shaft. Power-Metered to the weight of the door. Single spring on 1-car doors; twin springs on 2-car doors.

**NYLON ROLLERS!** Quietest, longest-lasting rollers available. Tests equivalent to 25 years of service show no measurable wear.

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**LOW-COST INSTALLATION!** Simplicity of design speeds installation time—takes only about 3 labor hours per door. That cuts installation cost.

**RO-WAY CRAFTSMANSHIP!** Same fine workmanship as on all Ro-Way doors. Taper-Tite tracks and Seal-A-Matic hinges for weather-tight closure.

Feature-for-feature, dollar-for-dollar, these new Ro-Way doors are outstanding values. See your nearby Ro-Way distributor—or write us direct—for full details.

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Nationwide sales and installation service. See your classified telephone directory for nearest Ro-Way distributor.



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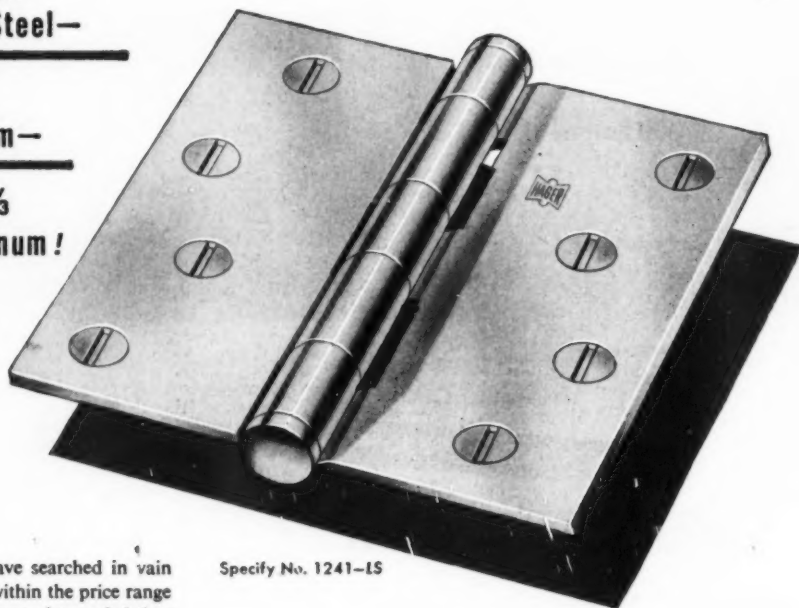
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The Rugged Strength  
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... At Less Than  $\frac{1}{3}$   
The Cost of Aluminum!



Specify No. 1241-LS

ARCHITECTS and builders have searched in vain for an aluminum hinge within the price range of steel. Hinge manufacturers have tried time and again to supply, at reasonable cost, a steel hinge that has the looks of aluminum.

Again, Hager sets the pace for the industry—now, a steel Hager hinge with new, permanized *LUMA-SHEEN* finish... the true aluminum color that matches other aluminum door hardware and trim!

Hager is the first to blend aluminum and steel successfully into a functional unit. The new Hager *LUMA-SHEEN* hinge costs less than solid aluminum (actually, less than  $\frac{1}{3}$  the cost). Looks like any quality aluminum hinge, yet the hinge itself is steel!

Specify Hager No. 1241-LS on jobs that call for matching aluminum hardware... you'll agree Hager achieves the perfect union of beauty and strength in the new permanized *LUMA-SHEEN* hinge!

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PERMANIZED *Luma-Sheen* FINISH<sup>®</sup>

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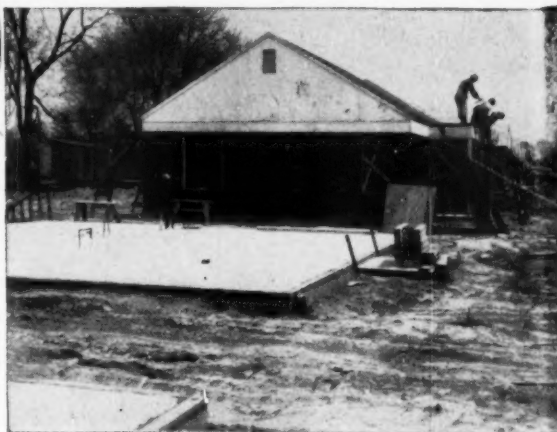


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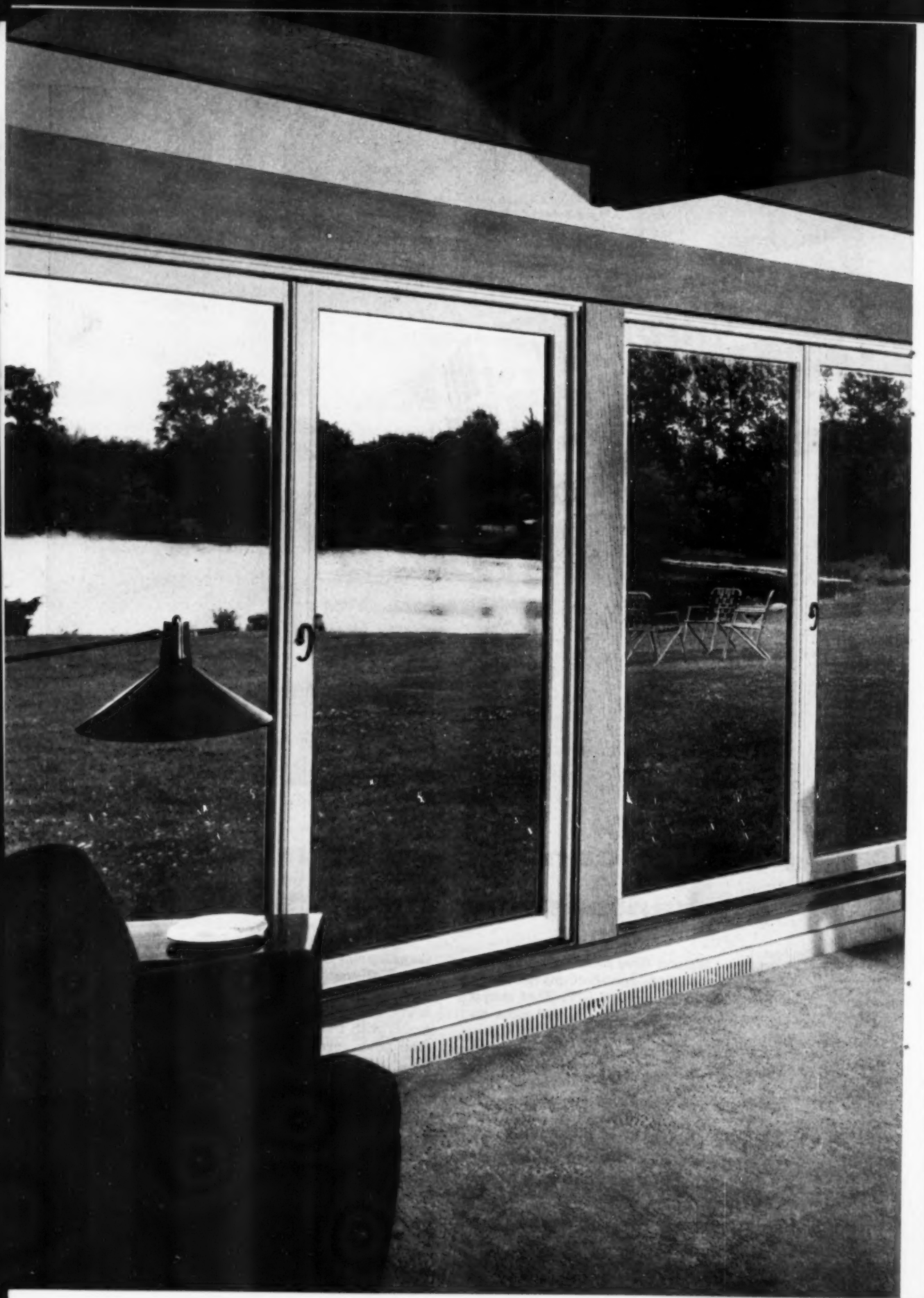
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WINDOWALL of Andersen Gliding Window Units

## PERFECT PLAN FOR OUTDOOR BEAUTY

Here's a home with an ideal setting to make outdoor beauty a part of family living. Architect Donald Grieb has used Andersen WINDOWALLS to accomplish this purpose effectively. You can do the same with WINDOWALLS in the homes you plan or build. Yes, Andersen WINDOWALLS, like these Gliding Window Units, capture outdoor beauty, flood the home with sunshine, bring in plenty of fresh air. Yet they're weathertight to serve as an efficient wall to wet or wintry weather. They're both windows and walls. They're Andersen WINDOWALLS...precision engineered of toxic-treated, insulating wood.

For more information see your millwork dealer, Sweet's Light Construction File, or write Andersen Corporation. WINDOWALLS sold by established millwork dealers throughout the United States including the Pacific Coast.

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COMPLETE WOOD WINDOW UNITS

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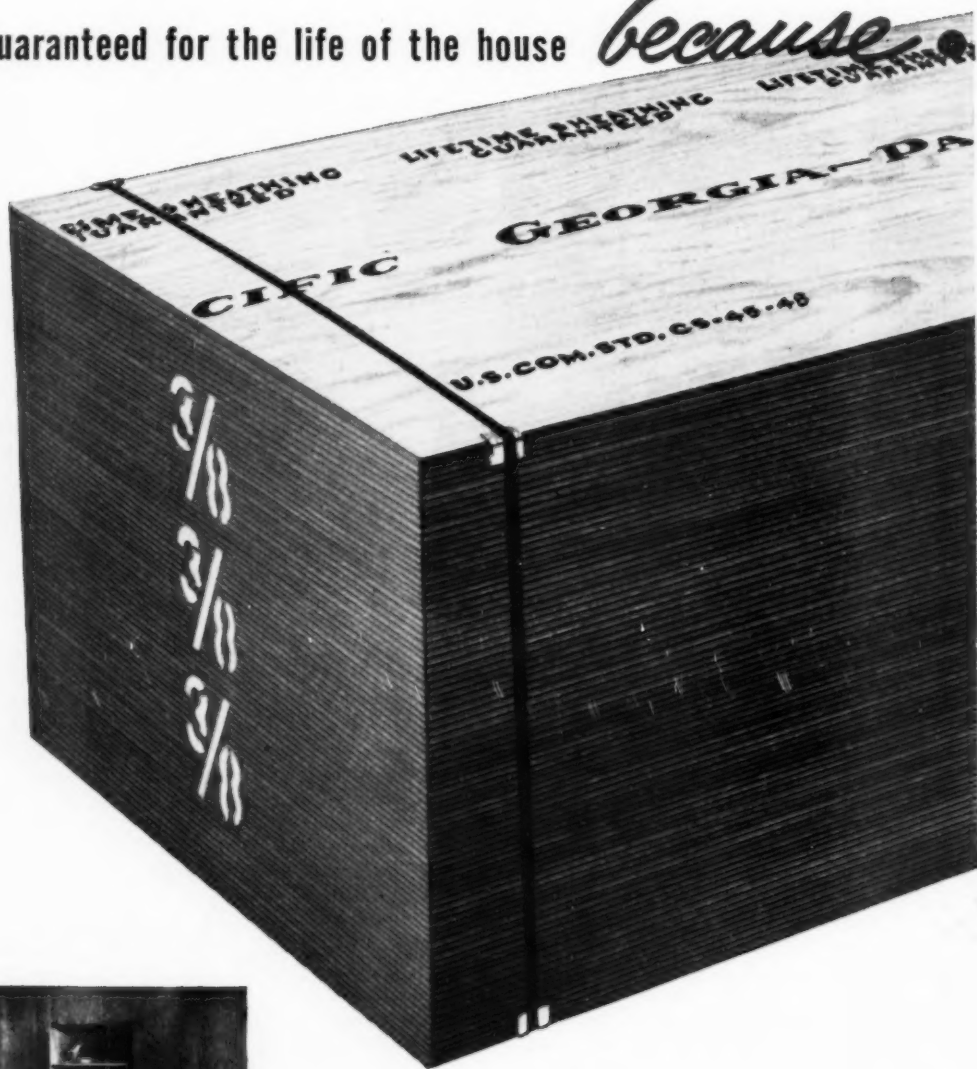


Now in Continuous, Dependable Supply . . .

AND AT NO EXTRA COST

# G-P LIFETIME SHEATHING

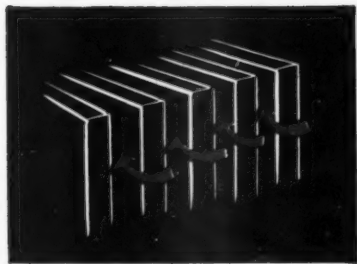
Guaranteed for the life of the house *because*



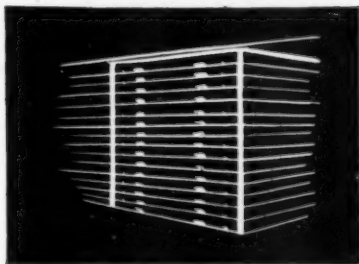
And For Distinctive Interiors It's G-P Ripplewood

It's exciting! It's beautiful! It sells on sight to prospects of every kind. G-P Ripplewood textured plywood brings the beauty and charm of genuine wood paneling to any room in the house at a real money-saving price. See it soon!

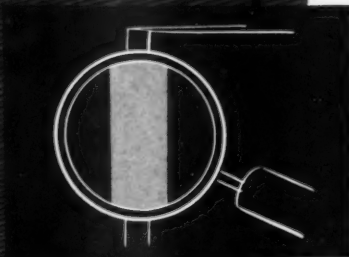
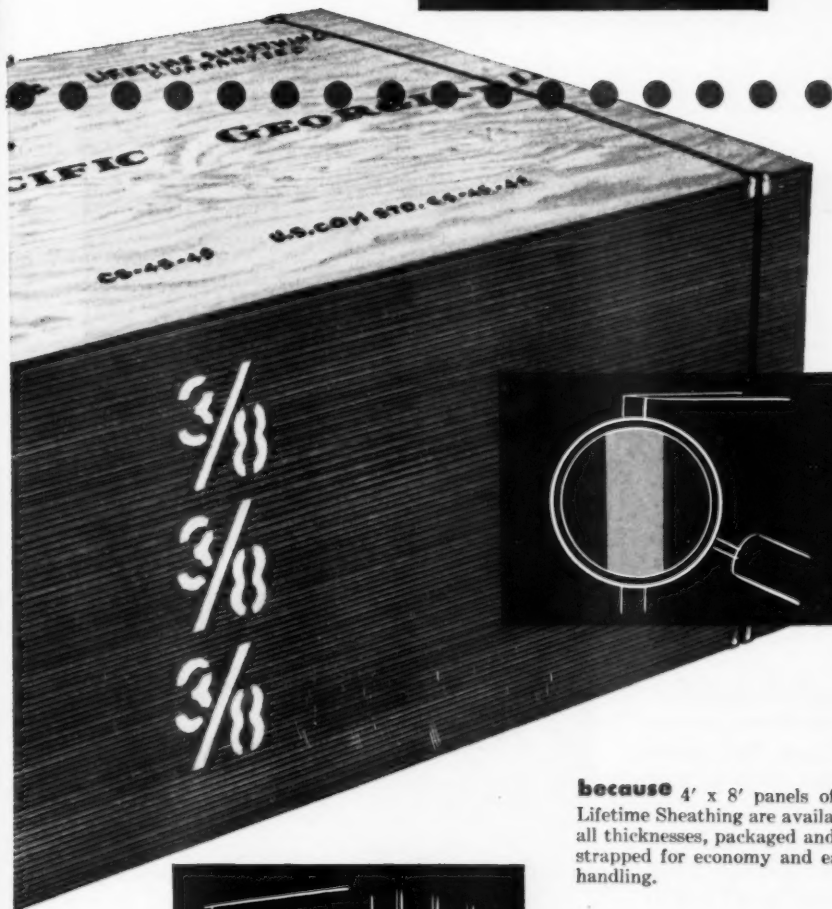




**because** GP-77, a new formula phenol-formaldehyde glue, has been developed with far greater strength. It has been tested and proven to have greater water, weather and mold resistance thus assuring a stronger, more durable sheathing.

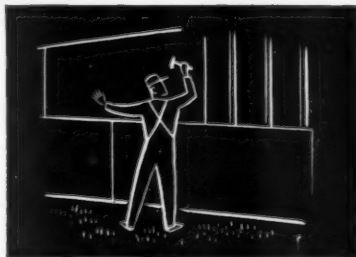
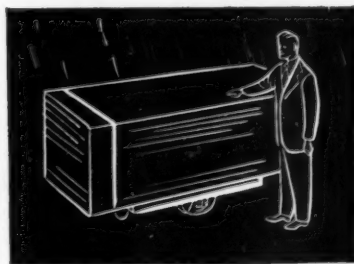


**because** all G-P Lifetime Sheathing is produced by hot plate pressing, resulting in a dryer, lighter, flatter, stronger panel of greater dimensional stability able to withstand weather changes without effect.



**because** edge sealing of G-P Lifetime Sheathing gives added protection at critical point . . . completely encloses vulnerable edges of glue line from outside elements. All panels are color-marked for easy identification of type and marked for thickness.

**because** 4' x 8' panels of G-P Lifetime Sheathing are available in all thicknesses, packaged and steel strapped for economy and ease of handling.



**because** G-P Lifetime Sheathing cuts costs many ways: the large panels go up faster, saving time and labor; are cheapest "in place"; there's less waste; they require fewer nails. Best of all, plywood is the strongest, most rigid sheathing obtainable—frequently eliminating the need for corner bracing and reducing framing requirements. And with dependable G-P Lifetime Sheathing, available the year around, it's guaranteed for the life of the house.

**Insist on the best! Specify G-P Lifetime Plywood Sheathing.**

For further information see your G-P plywood supplier or write:



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A billion-mile network of buried faith lies stretched across America. It's Vitrified Clay Pipe — the product that disappears underground . . . and *has* to be trusted. Clay Pipe is sealed in by streets and sidewalks . . . blocked off by building foundations . . . piled over with earth and rock.

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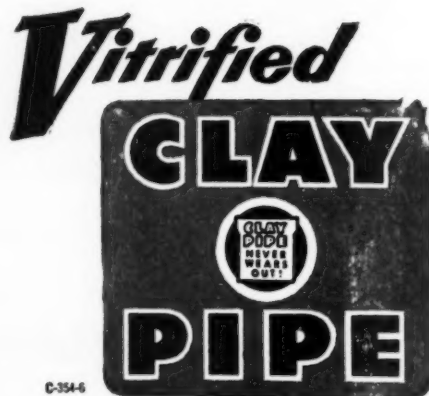
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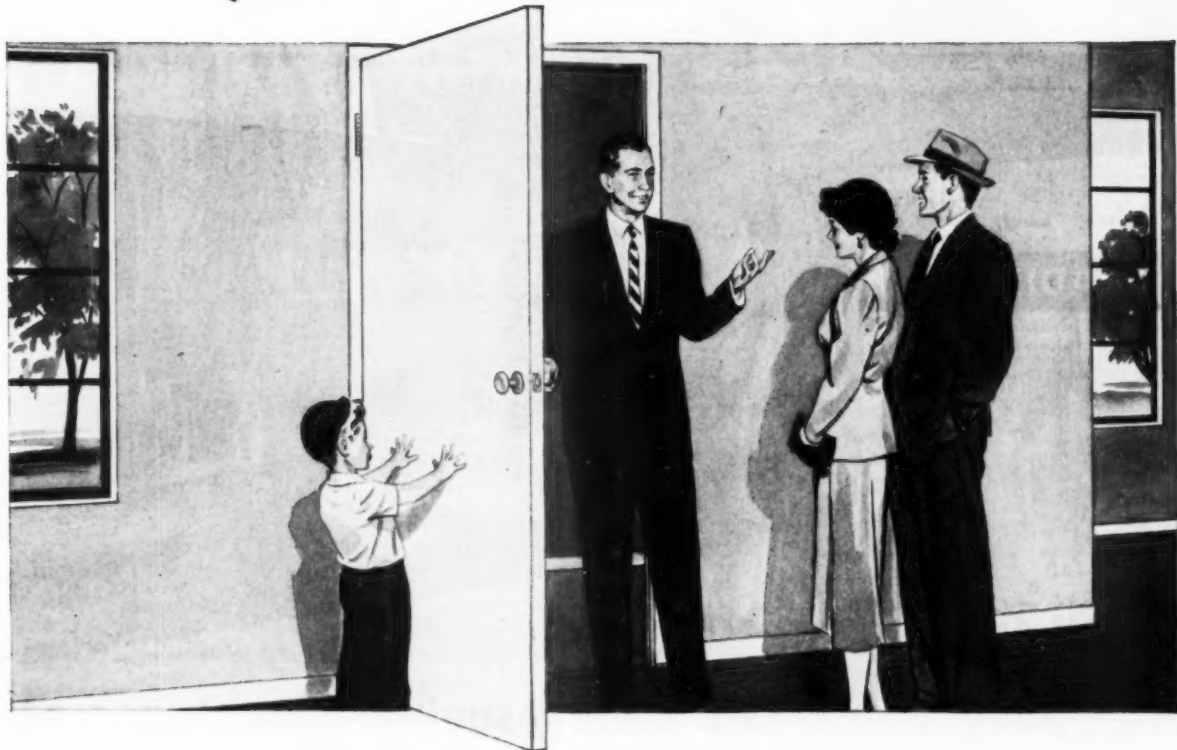


C-354-6

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In today's changing market for housing, one fact stands out strong and clear—*people are doing more shopping before they buy.* That's why the strong sales appeal of Fenestra\* Steel Doors means more to you than ever before.

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For complete details, call your Fenestra Representative, or write the Detroit Steel Products Company, Dept. AB-8, 2260 E. Grand Blvd., Detroit 11, Mich.

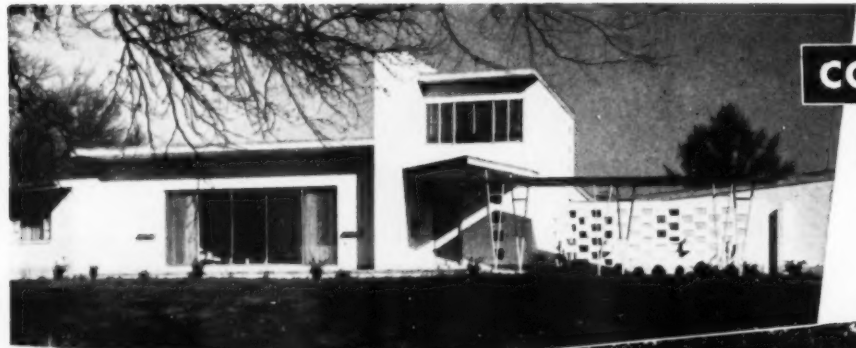


Add actual floor space to your rooms with these Fenestra Metal Sliding Closet Doors. They run smoothly, effortlessly on their nylon rollers to give quick, convenient access to closet space. Available in a beautiful birch finish or primed for final painting to match room decor. Completely packaged—installed in minutes with an ordinary screwdriver.

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DOOR • FRAME •  
HARDWARE UNITS



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S. Kendrick Lichty, Architect

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**everybody wants the money-saving advantages of**

# ALUMINUM WINDOWS

Windows that cannot rust or rot, that never need painting or other costly maintenance are "First Choice" with most everybody who is building or buying a new house.

Regardless of the style, size or price of the new houses you build—either under contract or for sale—your customers are bound to appreciate the money-saving advantages of "Quality-Approved" aluminum windows.

"Quality-Approved" aluminum windows are available through many manufacturers, in sizes and styles (double-hung, casement, projected and awning types) to fit any design treatment. Only those that carry the "Quality-Approved" Seal have been tested by the independent Pittsburgh Testing Laboratory and approved for quality of materials, construction, strength of sections and minimum air infiltration.

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74 Trinity Place, New York 6, New York



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## **AIR COOLED** . . . No Ducts, No Plumbing, No Floor Space

Here is your answer to the universal demand for *complete* home air conditioning at budget prices! The MARVAIR Air-Cooled Air Conditioner can be included in any conventionally built one-story home with a central hall, at *sensationally low first cost and installation cost!*

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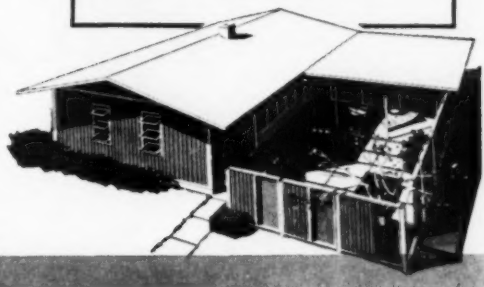
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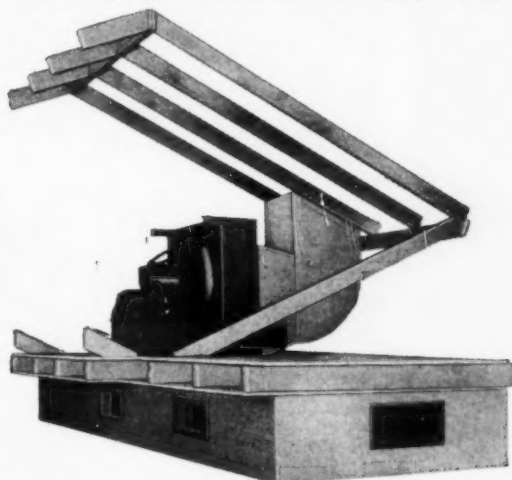
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**ALSO** . . . a Complete Line of Base Units for Furnace Manufacturers 2, 3 and 5-ton base unit air conditioners . . . for upright, duct or counterflow installations. These may be installed in specially designed cabinets as a companion unit or as part of the furnace itself. All units are hermetically sealed and warranted. Complete details and engineering service available on request.

NOW BEING INCLUDED IN THOUSANDS OF NATIONAL HOMES . . . as offered with the newest "Pace-makers" and other models.

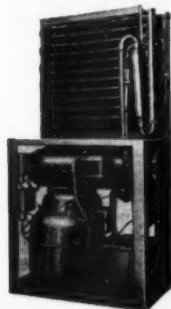


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*Here's How the Marvelous MARVAIR Works: Outside air is drawn in through roof vent by powerful fan, and forced across condenser. This air is then pushed out of attic through gable louvers, creating an "air wash" under roof to keep attic cool.*

*Return air from interior is pulled in through grille in dropped ceiling of central hall, cooled and dehumidified by unit, and forced into dispersal chamber in central hall, from which it flows into each room. Temperatures are controlled automatically by a thermostat.*





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*Impartial survey shows*

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*over the next leading brand*

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*Protects homes during construction*  
*by using Double-Waterproofed*  
**CELOTEX INSULATING SHEATHING**

"The asphalt 'raincoat' and integral treatment of Celotex Double-Waterproofed Insulating Sheathing prevent moisture absorption during construction, and eliminate the danger of building damaging moisture into the walls. In addition, Celotex Insulating Sheathing permanently seals our homes against wind and weather—never cracks, warps or shrinks. That's why we have been using it on an average of 175 custom-built homes per year—and will continue to use it!"

Henry C. Schroeder, President  
Schroeder Bros. Corp., Milwaukee, Wisconsin



Like Mr. Schroeder, hundreds of builders in every part of the country have found that Celotex Double-Waterproofed Insulating Sheathing adds important selling features—*without* adding cost! It provides the "plus" of fully insulated sidewalls. Its *practical job advantages* save time, labor and materials. Applied, Celotex Insulating Sheathing costs no more—usually LESS—than ordinary sheathing. Yet look at the important extra benefits it gives you . . .

**1. Insulates and Weatherproofs** as it builds. All at *one* cost. No building paper needed.

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**5. Excellent Base for Wood or Asbestos Shingles.** Use special methods for direct application; or apply over Celotex Impregnated Backer Board.

**6. Double-Waterproofed.** Outside, by protective asphalt coating. Inside, by special processing of the fibers. Yet has more than *twice the vapor permeance* advocated by government agencies.

**7. It is the Only Sheathing** made of tough, strong, long Louisiana cane fibers—protected by the patented Ferox® process from dry rot and termites.

**Mail coupon** for factual FREE new booklet, "40 Questions and Answers about Insulation Board Sheathing."

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## You'll benefit from our sixty years of clay tile experience

In 1894, The Mosaic Tile Company began manufacturing clay tile in four small Zanesville buildings. Our assets consisted of thirty hard-working people, a lot of get-up-and-go and a small pad of tile orders.

Today, Mosaic is known from Coast to Coast. In these sixty years we have developed a quality and a line of clay tile which a builder can be proud to feature in his homes. And we've extended our facilities from New Jersey to California to give the best service possible everywhere in the Nation.

Our showrooms and warehouses in twenty-five cities are complete clay tile centers, staffed to help you select your tile requirements efficiently. In still other cities, Mosaic Representatives are on the job to see that you get the Mosaic Tile you want when you want it.



Whether you build single units or develop large tracts, it will pay you to study the value of Mosaic Clay Tile in your homes. See Mosaic Tile today at your Tile Contractor's Showroom, or at the Mosaic Showroom near you. For helpful Mosaic Tile literature, write The Mosaic Tile Company, Dept. 35-20, Zanesville, Ohio.

### THE MOSAIC TILE COMPANY

Member: Tile Council of America and The Producers' Council, Inc.  
Offices, Showrooms and Warehouses from Coast to Coast  
Over 4000 Tile Contractors to serve you

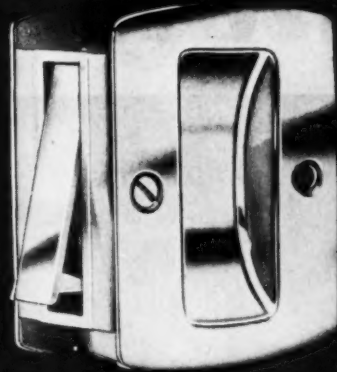


OFFICES: Atlanta • Baltimore • Boston • Buffalo • Chicago • Dallas • Denver • Detroit • Fresno • Greensboro • Hartford • Hempstead, L.I., N.Y. • Hollywood • Little Rock • Miami • Milwaukee • Minneapolis • New Orleans • New York • North Hollywood • Philadelphia • Pittsburgh • Portland • Rosemead, Cal. • Salt Lake City • San Francisco • Seattle • St. Louis • Tampa • Washington, D.C. • Zanesville



# NEW additions to the **WESLOCK** Line

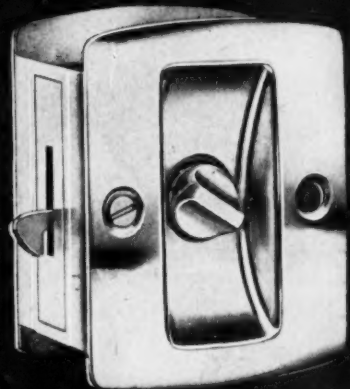
These new WESLOCKS are available for Sliding Pocket Doors. All outside trim is of solid brass. Locking levers on privacy locks are tempered steel and are retractable. No protruding bolts when door is in unlocked position. Reversible and will fit right and left hand doors 1 $\frac{3}{8}$ " to 1 $\frac{3}{4}$ ".



**New** PASSAGE SET

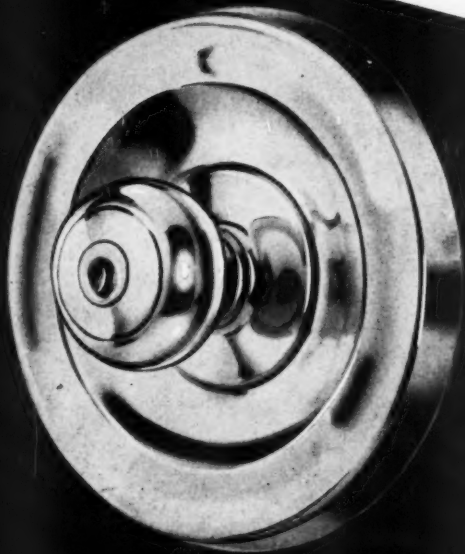


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CLOSED

**New** PRIVACY LOCK



**New** 5 $\frac{1}{2}$ " ESCUTCHEON  
WITH 5" BACKSET



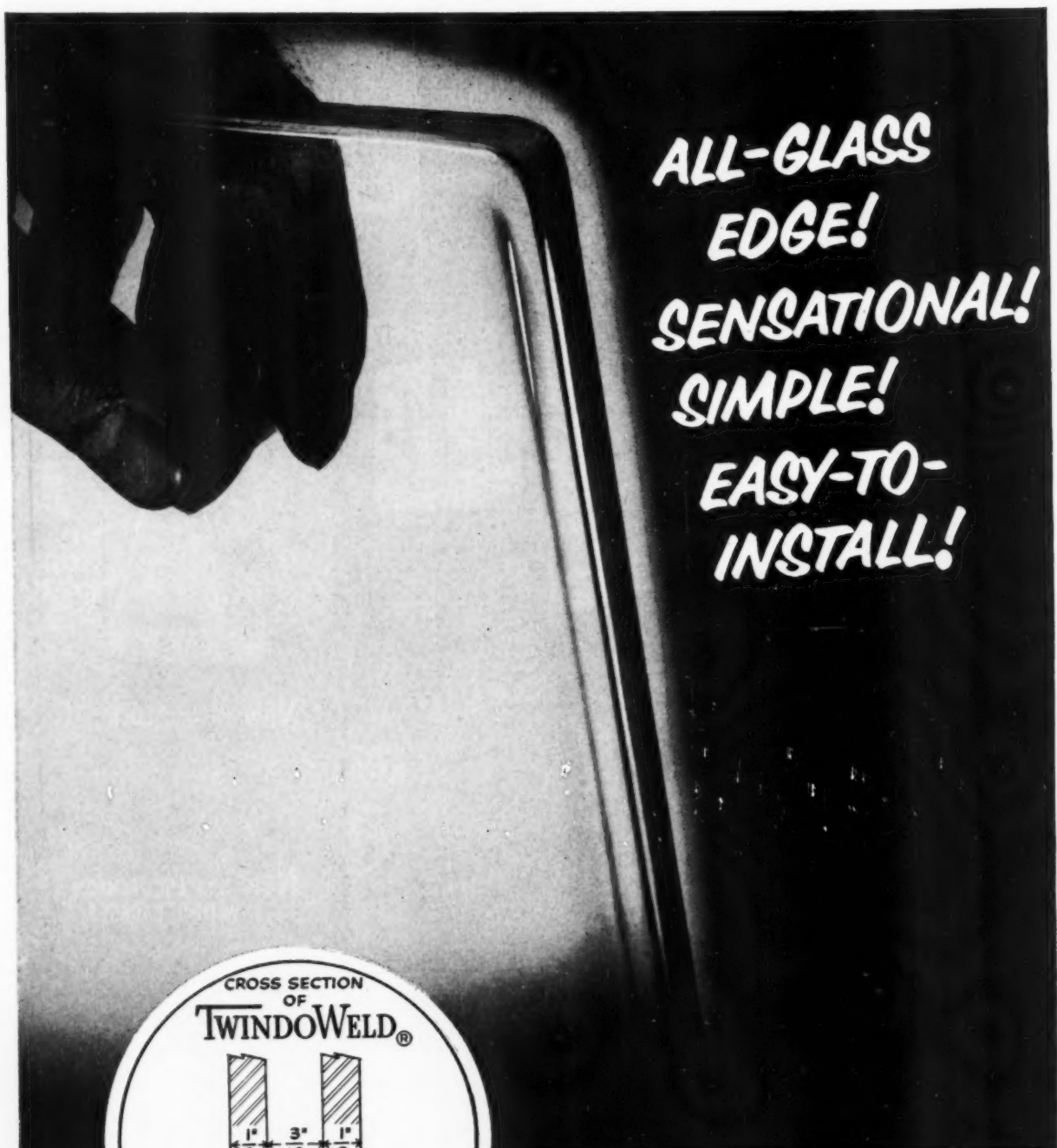
*Write for further information.*



GENERAL OFFICES: 211 NORTH MADISON AVE., LOS ANGELES, CALIF.

AUGUST 1954

# NOW AVAILABLE for



**ALL-GLASS  
EDGE!  
SENSATIONAL!  
SIMPLE!  
EASY-TO-  
INSTALL!**



THESE VIEWS of a TwindoWeld unit clearly show its construction. In the cutaway view in the circle, note the two panes of quality  $\frac{1}{8}$ " thick Pennvernon window glass, with  $\frac{3}{16}$ " air space between, which are fused electrically to form a glass-to-glass sealed edge. TwindoWeld is *all glass!* This means long life, excellent insulating properties and extreme ease of installation.

# window-wall construction

## TWINDOWELD<sup>®</sup>

... the first all-glass insulating window  
with electrically-welded all-glass edge

• Pittsburgh proudly presents TwindoWeld — the first electrically fused all-glass insulating window with glass-to-glass sealed edge. It is the result of years of research and test installations in scores of homes.

Here is a unit that is of tremendous importance to every builder in the country. It fills the big demand that exists for insulating windows for the currently popular window-wall construction.

TwindoWeld is simple in design. It's homogeneous, permanent, with an all-glass seal. It's composed of two panes of quality Pennvernon

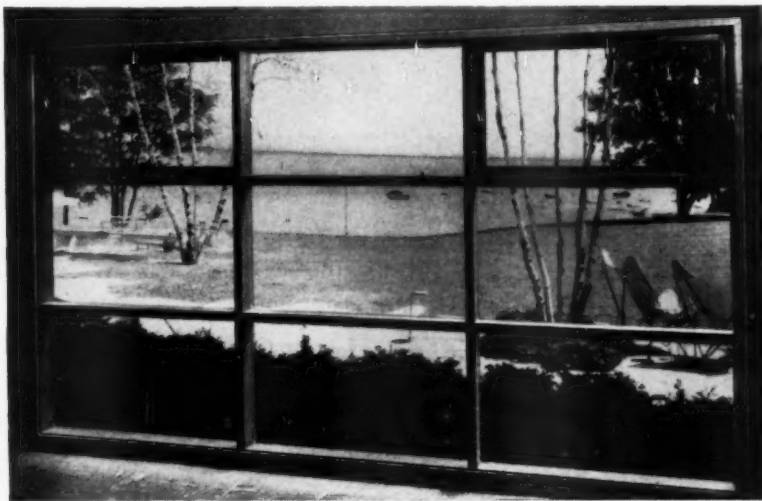
window glass ( $\frac{1}{8}$ " thick), separated by a  $\frac{3}{16}$ " air space. It is as easy to install as a single pane of glass.

Under average conditions, TwindoWeld will reduce the amount of heat transfer by nearly one-half that normally transferred through an equivalent area of conventional single-glazed windows. This means actual savings in home heating and air conditioning costs—a potent selling point you can use with new home buyers or families interested in remodeling their present houses.

TwindoWeld reduces condensation problems, too; there is less ten-

dency for room side glass fogging during winter months. And the vision it permits offers greater enjoyment of the outdoors from indoors. Fact is, the comfort and health of the occupants is safeguarded the whole year through.

If you've been wondering what "plus factor" to give your homes for more and quicker sales, why not install TwindoWeld? It will *show* the most, *do* the most, *impress* the most. It is a product of Pittsburgh, the most dependable name in *quality* glass. Ask your local Pittsburgh branch or glass jobber for complete details on this most exciting and easily handled unit—TwindoWeld—or write direct to Pittsburgh Plate Glass Company, Room 4251, 632 Fort Duquesne Blvd., Pittsburgh 22, Pennsylvania. Do it now!



IN THIS TYPICAL INSTALLATION, the use of TwindoWeld emphasizes to the home buyer added beauty, comfort and greater value. For TwindoWeld increases the pleasure of viewing outdoor scenes from the inside of the home; it reduces the tendency toward frosting and fogging; eliminates the need for storm windows; provides better temperature control and sound insulation.

### TwindoWeld Sizes

#### For Wood Window-Wall

45 $\frac{1}{2}$ " x 25 $\frac{1}{2}$ "

42 $\frac{1}{2}$ " x 22 $\frac{1}{2}$ "

#### For Metal Window-Wall

36" x 24"

34 $\frac{1}{16}$ " x 22 $\frac{1}{16}$ "

These sizes are commercially available at present through Pittsburgh branches and glass jobbers east of the Rocky Mountains.

\*TWINDOW, Pittsburgh's window with built-in insulation, is available in additional sizes.

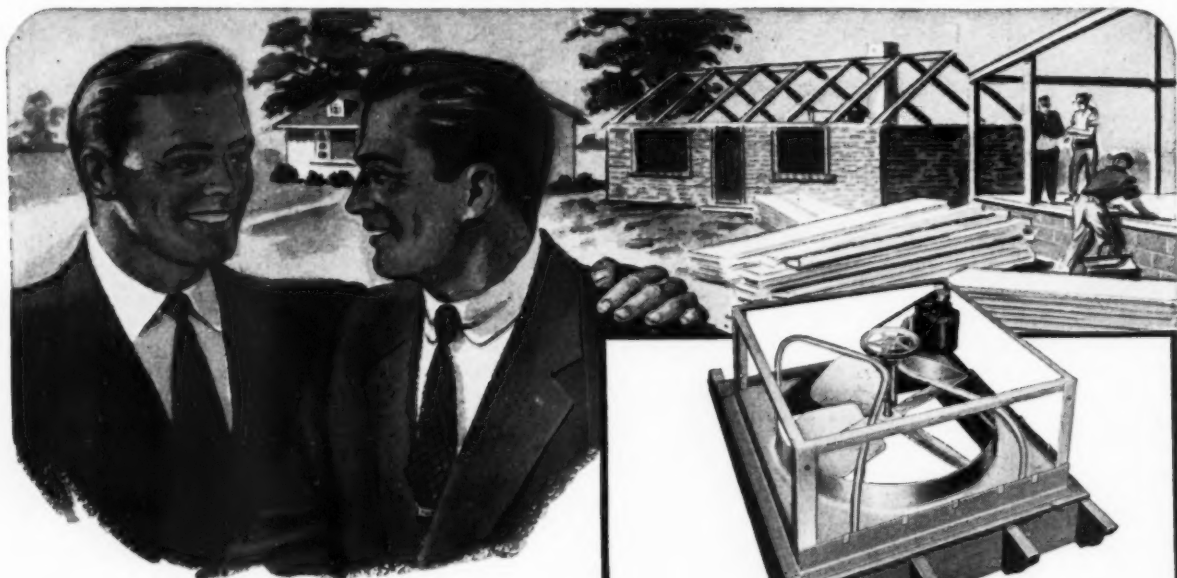


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PITTSBURGH PLATE GLASS COMPANY

# LAU 1954 Fan Facts

Try this **LOW-COST** way to make more friends and profits for your business!



You profit quicker... and sell easier when your homes and buildings feature "built-in extras" that add so much to the comfort and convenience of the buyer.

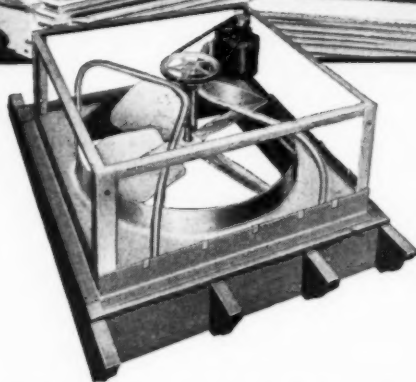
Make friends and customers of your prospects by installing LAU "Niteair" cooling. Just a flip of the switch and these superior fans send gentle, cooling, refreshing breezes flowing through the home. Hot, stagnant air is quickly expelled.

Quick... easy... and economical to install. LAU "Niteair" Fans make friends and really JUMP profits for you. Plan to install the tested, proven LAU "Niteair" now!

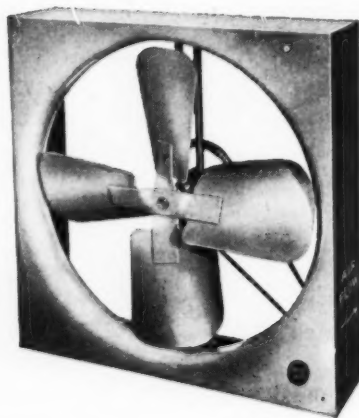


## Guaranteed 5 years

Lau fan ratings are Certified by the PFMA and carry UL approval. Fans are guaranteed for 5 years and motors carry a one-year warranty.



**LAU "Niteair" Rancher Fans.** Designed for homes with low-pitched roofs. Available in four sizes—24", 30", 36" and 42", with air delivery to meet every demand.



**LAU "Niteair" Panel Units.** Newly designed, ruggedly constructed. Discharge capacity for every requirement. Five sizes—24", 30", 36", 42" and 48".

**THE LAU BLOWER COMPANY,**

2008 Home Avenue • Dayton 7, Ohio  
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# SOLD

# ... EASIER!

because

# GLIDE-ALL

## Sliding Doors

### gave them extra Closet Space



#### WHY BUILDERS ARE SOLD, TOO!

##### LESS COST, MORE "HOUSE-APPEAL"

The low initial and application costs of Glide-All Sliding Doors give your houses the extra selling feature of more closet space for the money!



##### SIMPLE TO INSTALL— 3 EASY STEPS

1. Top track is screwed to ceiling. 2. Aluminum threshold is screwed to floor. 3. Doors are engaged in upper track, then in threshold. And they're installed.



##### FOR HOMES, APARTMENTS, HOUSING DEVELOPMENTS

Glide-All Doors are adaptable to any type structure. They can be painted, papered, varnished or waxed natural . . . complement any decorative scheme.



##### TYPES TO FIT ANY PLAN

Glide-All Doors are available in 8' floor-to-ceiling or 6'8" standard heights, overhead or bottom roller types, in modern flush or recessed panels . . . for every kind of installation.



Glide-All Sliding Doors & Perforall are products of

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NEW YORK, GLEN COVE RD., MINEOLA, N. Y.

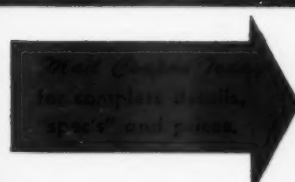
SAN FRANCISCO, 1970 CARROLL AVE.

*"Also Available in Canada"*



### PERFORALL® sells houses, too!

Perforall Perforated Press-wood Panels add "convenience-appeal" to the garage, closets, kitchen, basement, etc. With handy hooks everything is hung neat and orderly. Home buyers like this sales feature. Write for literature and details.



WOODALL INDUSTRIES, INC., (See above for address of plant nearest you)  
Gentlemen: Please send the free literature checked below.

GLIDE-ALL Sliding Doors  PERFORALL Perforated Panels

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COMPANY \_\_\_\_\_

STREET \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_



## **“CENTURY” Asbestos-Cement Roofing Shingles Compliment the Finest Homes!**

This splendid house has been given added beauty and distinction with a roof of “Century” No. 5 Green Asbestos Shingles. It is the residence of Mr. J. L. Heisl, 2616 Edge Hill Road, Ottawa Hills, Toledo, Ohio. Mr. Heisl is President of Heisl’s Greenhouse, Toledo, and also President of the Plant of the Month Club.

For any roofing need—from the most modest to the most elaborate home—“Century” Shingles are the outstanding choice. Because they are made from asbestos fiber and portland cement, they

won’t burn, rot, or corrode. They are long-lived, dependable and never need protective paint.

A house roofed with “Century” Shingles all but speaks for itself. Buyers can’t help but be impressed by the beauty, durability, economy, and freedom from maintenance that such a roof provides.

Ask your K&M distributor to show you the complete “Century” line of both roofing and siding shingles—the various styles, the many attractive colors. Or write direct to us for information.

**KEASBEY & MATTISON** COMPANY • AMBLER • PENNSYLVANIA

America’s first maker of asbestos-cement shingles

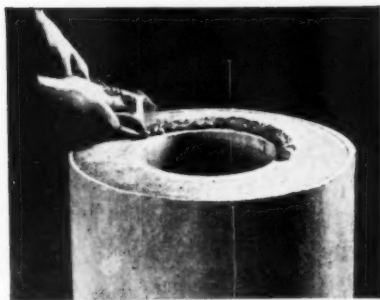




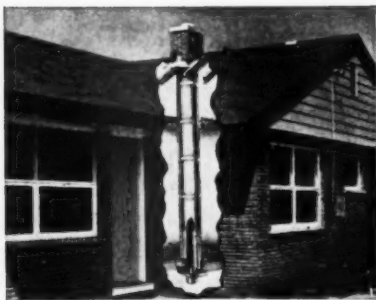
**Time and material** for chimney construction is being cut 30-50% on average new housing installations with the Van-Packer Packaged Masonry Chimney. It goes up with 2 ft. genuine masonry flue sections — installs with one man in 3 hours or less, with two men, 1½ hours. Ceiling or floor suspended (under

construction above), the chimney installs directly over furnace saving valuable floor space. No special skills required. Sections made of ⅝" fire clay tile inner lining, 3" vermiculite concrete insulating wall, and cement-asbestos jacket, Chimney's insulating value equal to 24" solid brick wall.

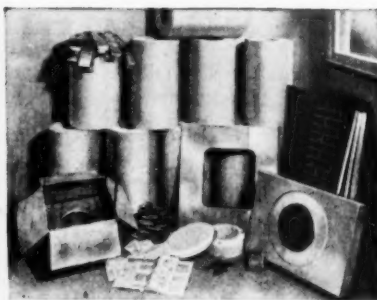
## Genuine masonry Van-Packer chimney goes up by sections in 1½ hours



**Easy-to-use** plastic squeeze bags provide the acid-proof cement permanently sealing each joint (above). Van-Packer Chimney withstands 2100° F., is UL listed for zero clearance.



**Approved** for all fuels—coal, oil, gas—the Van-Packer Chimney is FHA accepted, UL listed, approved by major building codes. "Brick-Panel" Housing has "buyer acceptance" of conventional brick.



**Completely packaged**, all parts needed delivered to the job. See your local classified telephone directory for listing of Van-Packer distributor. If none is listed, write Van-Packer Corp.

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**PACKAGED MASONRY CHIMNEY WITH "BRICK-PANEL" HOUSING**

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Phone: Central 6-9892 • Cable: VANPACK, Chicago

Send for all the facts on the Van-Packer Packaged Masonry Safety Chimney. Ask for Bulletin 12H-AF28.



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*as now*

# PAINE DOORS



*Still America's Finest*

Then, as now, "hidden quality" was featured in this Paine Miracle Door ad in the February, 1922 issue of AMERICAN BUILDER



Today . . .  
**REZO**  
Hollow Core Flush  
Doors are the choice  
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Paine Doors — for over a century — have set the standard for quality in the door manufacturing industry. Remember the Paine Kcrelock doors in 1898? The Klimax doors in 1908? The Miracle doors in 1921? No other door could touch them for quality and value!

Today, America's finest door is the Paine Rezo door. With face panels hand matched for color and grain . . . and air-vented, hollow core gridwork, Rezo is unequalled for beauty, quality and construction that assures a lifetime of trouble-free service. Styles and designs limited only by the architect's or builder's imagination!

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# PAINE

LUMBER COMPANY, LTD.

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4. Removal of excess moisture in summer
5. Cleaning of the air
6. Ventilation with outside air
7. Circulation of the air



2-ton Servel Wonderair is ideal for small homes. 72,000 Btu/hr. heating and 2 tons cooling. Takes 2½' x 4' of floor space.

## Servel two-ton Wonderair

*All-Year*® air conditioner **COOLS, HEATS, AIR-CONDITIONS!**

Occupies just 2½' x 4' of floor space; costs little more than a heating plant alone.

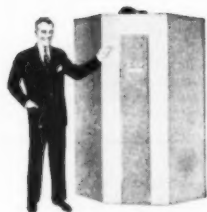
There is a Servel Wonderair model for every size home . . . and in any home, Wonderair adds tremendous sales wallop, at low cost to the builder.

Features that make Servel Wonderair *All-Year* air conditioners your strongest sales assist among air conditioners:

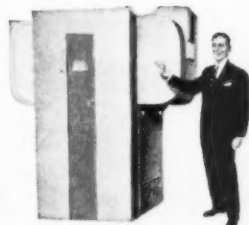
1. Exclusive Servel absorption-type system has

no moving parts—gives quiet, vibration-free, economical operation.

2. Two-ton unit uses only 2½' x 4' of floor space; other models also have modest floor requirements.
3. No moving parts means more dependable performance, savings in wear and repair backed by 5-year warranty.
4. Servel Wonderair *All-Year* air conditioners offer all *seven* important benefits of air conditioning, for little more than the cost of a heating plant alone!



**Big-home size** offers 3 full tons of cooling in compact space; also heats in winter, and conditions air year round.



**Large luxury homes** sell faster with air conditioning. 5-ton Wonderair offers big capacity, also heats and conditions air.

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the name to watch for great advances in  
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REFRIGERATION**

Send the coupon or see your Servel distributor for the facts.

SERVEL, INC., DEPT. AB-84, Evansville 20, Indiana  
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**Sibley Lumber Company Inc.**  
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Phone: Harvey 1500-1001... Minimum 5-5999

March 4, 1954

Long-Bell Lumber Company  
312 S. Michigan Avenue  
Chicago, Illinois

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This letter is unsolicited and our true feelings. We hope to continue to favor you with our orders for the next twenty years just as we have in the last two decades.

Sincerely,  
SIDLEY LUMBER COMPANY, INC.

*Morris Cohen*  
Morris Cohen, President  
*Sidney Cohen*  
Sidney Cohen, Manager

650/70

## when they order mixed cars!

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**We add our congratulations**

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# The Long-Bell Lumber Company

Established 1875 — Kansas City 6, Mo.

**DIVISIONAL OFFICES**

**EASTERN DIVISION — KANSAS CITY, MO.**

**WESTERN DIVISION — LONGVIEW, WASH.**



# VIKON TILE

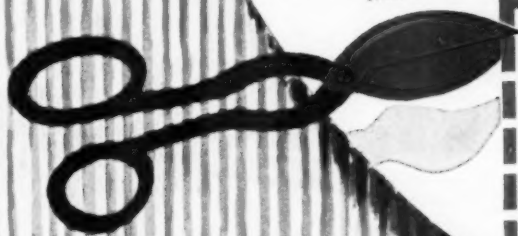
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It's here now . . . real copper tile . . . the first ever produced for a wall covering, and it's brought to you exclusively by Vikon whose leadership in tile research is always developing new and better products for your use. This solid copper tile is covered with a clear transparent enamel which is highly resistant to household chemicals. It will retain its copper coloring permanently. Tarnishing will never occur under any circumstances. Get in style with this high style tile . . . it's particularly handsome in combination with natural wood paneling and cabinets, and as a fireplace facing. Get yours today.

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Matching Electric Receptacle and Switch Plates



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*Coleman stands behind its line—stands behind you—with a program to help you sell homes faster. Remember, only Coleman guarantees your prospects satisfaction with a \$1000 Comfort Bond. See your Coleman distributor today—write us if you need his name and address.*

*Sheldon Coleman*  
President,

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GREATER FLEXIBILITY TO FIT ANY SPECIFICATIONS

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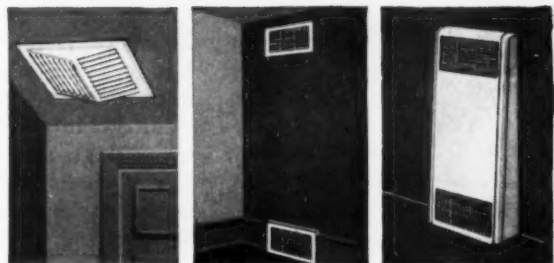
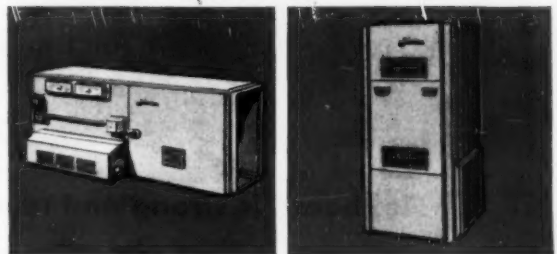
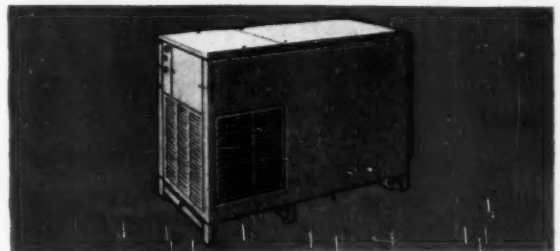
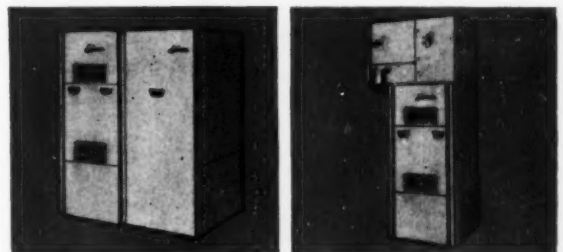
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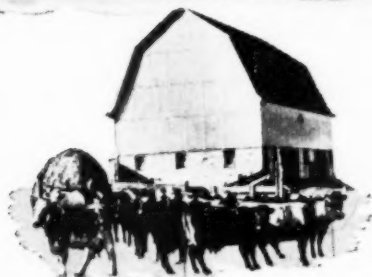
CONCEALED BLENDER

CABINET BLENDER

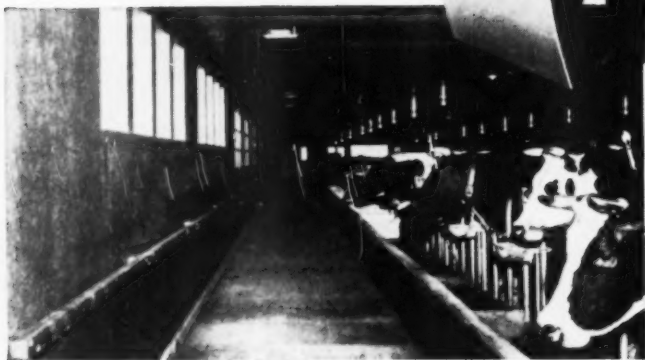
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### Meet Builders' need for low-cost Ranges in both 30-inch and 40-inch sizes

Builders of low-cost homes can now add the proved "buy appeal" of Westinghouse Speed-Electric Ranges with models suited to the price level of those homes.

Yet, though these ranges cost less than other Westinghouse models . . . they're "top-of-the-line" in quality and performance.

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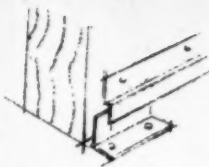
"Like I Said" Use  
Lawrence series "500"  
sliding door hardware  
once - and you'll stay  
with it - Look here"



"You mount all the hardware before hanging the door."



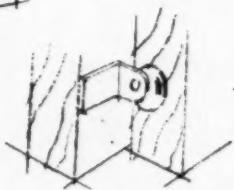
"One man can make adjustments. These serrations take out all the guesswork."



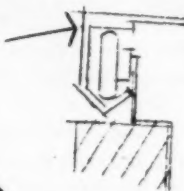
"There's no grooving the door bottom. The Guide Strip goes on back and engages the Door Guide, on the floor. No floor track, either."



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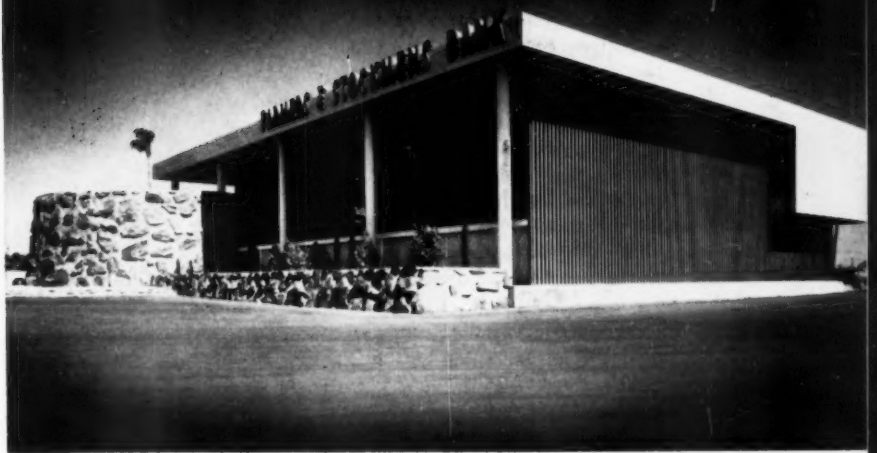
AMERICAN BUILDER



These bank buildings show the long way design has come in 75 years. (Bottom) Suburban store group in the early 1930's contrasts strikingly with the verticality of a Victorian department store front



Courtesy, Chicago Historical Society



## non-residential building and rental housing

By Raymond Stein

AMERICAN BUILDER wasn't even a year old when it launched an appeal for better-planned commercial structures. An article in the December, 1879, issue points out, with a slight note of impatience:

"Not only are superior conveniences for the transaction of business demanded, but some regard to the architectural appearance of the building is necessary. Trade is sometimes diverted from one establishment to another solely by the better appointments of the opposition . . ."

The article also reveals some of

the prevailing thought on the subject of costs versus an impressive structure: "It costs no more to roof a three- or four-story building than a one-story, and height (sic) in a store building gives it a commanding appearance."

Around 1890, sheet metal was coming into considerable favor: "The sheet metal front for a store building in Newark, New Jersey, so well embodies modern ideas in architectural design with sheet metal construction." The entire job was of No. 24 galvanized iron, various

portions being combined to conceal joints. Sheet metal lines were "enhanced by painting."

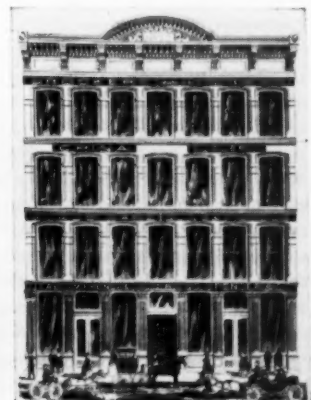
In 1914, it was terra cotta. This material inspired an article called *Building Boom Strikes Main Street*; the story of how a "little one-story, modern, terra cotta store building" became an overnight sensation in a midwestern town, forcing the other merchants to fall in line. Result: a face-lifting for the entire street.

Part of the eyewitness account: "Shining, white enameled terra

(Continued on page 182)



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cotta . . . a white terra cotta frame around a huge expanse of glass! For this was a modern store front! And when the storekeeper got his display arranged, the crowd that gathered nearly blocked the street."

An early example of concentrated shopping facilities combining offices into stores was Aquila Court in Omaha, Nebraska. This building was described in 1924 as being in line with the trend of the times, "a departure in the conception of commercial buildings." Aquila's features included a courtyard with shrubbery, a "residential" appearance, percentage-plan leases, and screening of prospective tenants.

The drift of population from city centers to outlying areas was first clearly indicated by the 1930 census. Business has tended, generally, to follow population. The result: wide interest in the new, integrated, suburban shopping center; less attention to established urban business districts.

Smaller suburban shopping centers are usually tailored to the needs of a particular housing project. The large but compact regional center may serve several hundred thousand persons. Several variations, of course, take care of intermediate requirements. All are relatively new developments, products of the automobile era. Their relation to a city's fringe population is much the same as that of central business districts to close-in city dwellers.

As large residential projects came to be pre-planned—J. C. Nichols' Country Club District in Kansas City is an early example—shopping centers were designed to keep pace with community needs. The problem was studied in an effort to achieve these results: most convenient location; the right kinds of stores and services; architectural harmony.

Planning of shopping centers today tends to become more and more an exact science, with few unpredictable factors. Adequate and easy parking are *musts*. Other features are unimpeded circulation among stores; protection in bad weather; and a general atmosphere of leisurely movement. Architecturally, the center is smartly styled to blend with its residential area; individual shops may follow one over-all theme, or choose their own design within certain broad limitations.



One of the early shopping centers—Market Square in Lake Forest, Illinois

## Forecast — stores, 1979

Stores, like superhighways, have a hard time keeping pace with the ever-expanding use of the automobile. Parking, it's safe to say, will remain a major problem for a long time to come. New situations will manage to dangle the solution out of reach. The best answer merchants have advanced so far: move customers through so fast that there will be space for others to park.

Retail executives often admit there aren't enough salespeople to-

day, and that if there were, stores would go broke paying them. They see the store of the future as an extension of the supermarket technique—self-service with check-out points or a similar system. Variety stores are experimenting with this idea; some drug stores use it for part of their merchandise; many department stores already have plans drawn up.

Construction-wise, the commercial building is a good bet to go



A strong trend for future stores—one big display room as completely visible as possible from the outside

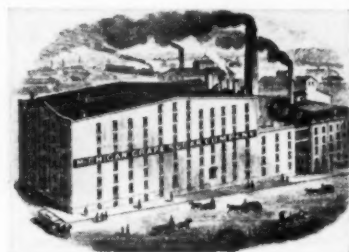
even farther in its tendency to become one big display room, as completely visible from outside as location will permit. There's an opposite trend, too. Stores such as chain groceries don't need display to attract patrons; some are beginning

to eliminate windows to make better use of the space.

The architect will enjoy wider and wider freedom in store front design. Panels of light metal will be larger, easier to work with. So will various types of compressed and

bonded boards and fibers. Glass block and the variety of clay products will become more interesting architecturally. Packaged or prefabricated units will be constantly improved. Their cost-cutting features will earn increasing acceptance.

## Industrial buildings show dramatic advance



Courtesy, Chicago Historical Society



A RECENT magazine article says, "Suppose an architect who designed a firm's factory building 100 years ago suddenly found himself inside the company's new plant. He'd run for the door before the fool building fell on him."

We do not know that the architect would actually exit in panic; professional curiosity might get the upper hand. But if he did bolt, we would not blame him; architect-engineers' techniques have advanced so rapidly in recent years that practically any mid-20th century design would be eyed with suspicion by a 19th century builder.

Structurally, the 19th century man would be confronted with these drastic changes:

A light, strong frame and curtain wall replacing the former heavy, bulky, load-bearing wall.

A one-story "horizontal" plant with a straight-line operation in place of the "gravity" production process which starts at the top and goes to the bottom of a multi-story building.

From the standpoint of efficiency he would find:

Roofs and walls of almost solid glass, plus highly efficient man-made lighting, replacing the small windows and inadequate artificial light which gave the old plant a general air of dinginess.

A building designed to keep the worker happy by controlling inside light and temperature.

The 19th century visitor might find this development the most incredible of all: A clear-cut trend to make the new plant the best-looking one in town. This is in keeping with current emphasis on good public relations. It is also a reaction against years of talk about industrial slums. Whether or not manufacturers feel responsible, they are tired of hearing about them.

Another important modern concept: *Factory buildings designed to fit the job*. The premise here is that the structure itself is an integral part of the production process. Thus, the architect's first planning step when he takes on an industrial building is a careful study of the kind of production work to be done.

## Forecast — industrial, 1979

ON THE STRUCTURAL SIDE, factories of the future can be expected to make increased use of prestressed concrete. This material permits lighter frames, wide spans; provides great flexibility in the use of space. Lightweight aggregate concrete promises to play an important part in this development.

Sidewall materials being introduced successfully today are seen as headline items in future construction news. Especially prominent are prefabricated and precast panels, usually of metal. Such panels may be *sandwiches*. For example, a sheet of carbon steel as an inside layer; a

filling of inert insulation and an outer layer of corrosion-resistant metal, such as aluminum or stainless steel.

Another possibility: Predominance of the complete suburban factory—a multi-building plant with relaxed, campus-like atmosphere. Two trends favor this: One-story horizontal operation, and the zoning of factories to city outskirts.

A few of these plants have been built. Units may include spacious, landscaped grounds, an administration building, several manufacturing plants and service buildings, laboratories, a cafeteria building.

There could be many more such installations if expansion warrants.

Tomorrow's factory probably won't fold up like a circus and move overnight from the area of an expected H-bomb attack, but there's a definite trend to what might be called *rearrangeability*. More and more we can expect designers to anticipate a need for later expansion; for changing existing layout; even for demounting and moving. The attention to flexibility, particularly in the case of walls, is prompting wider use of new, improved panels (plastics, light metal, etc.) in place of conventional materials.





As with single-family dwellings, apartments in the 1920's went through a period of trying to look like English manor houses, Spanish haciendas, Norman castles



For the future, skyscraper apartment construction will probably maintain an even pace, sticking mainly to central sites in large cities

## rental housing

WHAT WAS probably the United States' first apartment house was built in New York City in 1852. Its purpose: to provide cheap housing for the poorer classes. Philanthropist Richard J. Haight, who borrowed the idea from Paris, was financial backer.

Suites in the New York building averaged three rooms. Conveniences were not described but are believed minor, if any.

By 1880 the apartment-type building was fast becoming popular. New York City built 253 in 1879; many more went up in other cities.

Multiple housing being a rather novel subject at the time, an *American Builder* issue in 1880 devoted considerable space to the distinction between apartment houses and

tenements. The former had from four to ten rooms per suite with better class appointments—range, bath, water closet, window cornices, mirrors, etc. Tenements were bare structures with from two to four rooms and few or no conveniences.

Units in the apartment house classification showed a wide range of rentals—some from \$2,000 a year up, others from \$16 to \$20 a month. The buildings were often called *French Flats*. Another popular name was *Model Houses*.

Room sizes in the "middle price class" apartment showed these averages: parlor 14x14; bedrooms 10x10, 8x9, 6x9 (servant's); dining room 10x12; kitchen 10x10. Kitchen equipment usually included range and boiler, stationary tubs, sink, small icebox. The bathroom was less than commodious, just enough room for water closet and a very short tub. Each unit offered four smallish closets, located in corners.

Elevators were making apartments more livable by 1880, but the writer of the above-mentioned article was still withholding acceptance. "In too many," he said, "there is the hard work of climbing stairs (to reach home) after a hard day at the office or counting house—if home it can be called." He added: "The difference in the first and fifth floor suites is only in the number of stairs to be climbed."

By 1900, acceptance of the apartment house appeared to be complete.

*American Builder's* comment: "This style of building . . . designed in some measure to take the place of the home, furnishing all its conveniences and others the most pretentious home could never afford."

Apartment buildings existed in considerable numbers in all parts of the nation at the turn of the century. New construction was still lively, especially for the five-plus-story elevator building. The small apartment was seldom mentioned, except in its minimum tenement house version.

Like single-family dwellings, the apartment building went through a gingerbread period. A 1914 article had this to say about terra cotta as decorative material: "Modern apartment buildings, especially those built of red or brown brick, are greatly improved in outward appearance by using decorative inserts of white terra cotta. Some of the newer flat buildings show terra cotta trimmings in various forms . . . Wall coping of white terra cotta sometimes is elaborated with moulded gargoyles at the eave corners."

"Moderate Size Apartment Houses Prove Good Investment." This 1921 headline neatly summed up current feelings on the subject. The writer pointed out that "those (apartment buildings) with a capacity of an even dozen families—built in two-room construction with the efficiency of four—are proving



A Fifth Avenue apartment house, New York City, 1880





The 3- and 4-story type, often with English basement, became popular in the 1930's and 1940's. This one was built in 1948



The garden apartment type, expressing careful attention to site planning, low density, safe play space, ample parking, is in the forefront today

a real bonanza." Also that "as a proposition for leasing and renting nothing could be found better, and the financial returns are amply sufficient to justify construction *at this time.*"

The financial facts bore him out. Net income per annum amounted to 32 per cent of the actual cash investment.

Erection of multi-family dwellings hit its all-time peak in the mid-20's, according to the Bureau of Labor Statistics. Total units in multi-family structures started during 1926, 1927 and 1928 amounted to 737,000, compared to 1,381,000

non-farm one-family structures. There were 294,000 two-family building starts.

The two decades before 1930 saw considerable evolution in apartment building design. Greater emphasis was placed on site planning, on liberal daylight and cross ventilation. Progress was made in living comfort. Playrooms, playgrounds, adult recreation rooms began to appear. Controlled heating became standard equipment. Better class units boasted luxury bathrooms, gas or electric ranges, refrigerators, garages.

Still holding center-stage was the larger building, but the three- and

four-story English basement type was becoming more popular. The suburban apartment, forerunner of the modern garden type, was coming into favor as population moved toward city peripheries.

The suburban apartment development, as we know it today, is a highly specialized field. Planning techniques have accelerated, especially in the postwar years. These are typical features: varied exteriors; site planning to avoid a row effect; low population density; larger lots and greater privacy; quiet areas off heavily-traveled highways; curved streets to keep traffic slow.

## **Forecast — apartments, 1979**

**I**N THE YEARS immediately ahead we can predict that a major share of apartment building will be of the suburban type. Builders will strive to create the perfect "home away from it all," the country club atmosphere, the leisurely living pace. Greater attention will be focused on the planned community, completely integrated, with all needed facilities at hand. Skyscraper apartment construction will probably maintain an even pace, sticking mainly to central sites in large cities.

Construction-wise, we can look for continued progress in the technique of full-span framing. Drywall will find greater use. Increasingly, wood sheathing will be replaced by

use of large-area sheet materials.

Boards of resin- or plaster-bonded fibers will find wider application in sheathing, finished walls, ceilings, acoustical installations. The use of hardboard, already extensive, is expected to expand.

The apartment building of tomorrow will likely make broad use of large attractive low-maintenance panels for exterior walls. Stressed-skin panel construction is seen as important future competition for standard construction using joists, studs and beams. Such panels are also expected to be based on wood.

Prefabricated construction, either complete or partial, is seen as a significant future technique.



1880-1900. Typical bank barn. Two stories with large mow, gable roof, heavy timber framing mortised and pegged together. When a bank location wasn't possible, a ramp to mow floor was often built. Stable on lower level

## Flashback

Farm buildings of 75 years ago were mostly of wood construction, often with hand-hewn timbers and mortise and tenon joints. Foundations were brick or stone laid with lime mortar, or more likely they consisted of loose rocks or boulders topped by a heavy sill. Wood floors and wood shingle roofs were most common. Costs were kept low by the use of low-priced lumber, nearby timber supplies, low-wage labor and the practice of trading work within the neighborhood.

The great farm building era came about the turn of the century in the Corn-belt states, somewhat earlier in the eastern states, and later in the South and West. According to a University of Illinois study, more than one-half of the barns in the state were built between 1885 and 1914. The farmhouses still in use were largely built in those years. Other buildings came later as the agriculture of the region developed. About one-half of the double corn cribs were built from 1895 to 1924; half of the hog houses and machine sheds were erected between 1905 and 1934; the majority of the poultry houses and milk houses have been built since 1915.

Thus the typical farm buildings are not only past middle age but they are gradually being out-dated as new methods of farming are adopted and new materials and methods of construction become available. Looking back on the past, it is easy to point out the mistakes that were made and to put the blame on our grandparents for their lack of foresight. Actually, though, the old timers did an exceptionally good job of meeting the farming needs of the day. And the number of old buildings still in use testify to the high quality of materials and craftsmanship.

Moreover, a great deal of progress was made in construction. The timber frame gave way to the balloon frame and stud-wall construction. The self-supporting gambrel roof became an accepted type. Concrete floors replaced wood floors in barns. Concrete is used for most foundations and concrete and hollow tile masonry walls have been widely used. And building equipment was devised and used to reduce man labor in the dairy barn and for handling grain, hay and manure.

The period between World Wars I and II was relatively a slack time in farm building improvement. Low farm income, the depression, farm debt and the competing needs for the farmer's income prevented the farmer from getting needed buildings.

There are now on farms more than five million farmhouses and perhaps 25 million other buildings. The investment in these buildings is more than \$20 billion.

## construction



After 1900, the self-supporting gambrel roof with braced rafters became more common. Walls of more modern gambrel roof barns were often framed of lighter material such as 2 by 6's spaced 16 or 24 inch o.c.



By 1920, the gothic roof had appeared. Early examples used sawed rafters or bent rafters made up of small boards bent to form segments of the arch and nailed together. Later, rafters were glued up and were often prefabricated



With the advent of the hay baler and chopper, the large storage mow became outmoded. This led to the modern 1 1/2-story braced rafter barns and the

# on the farms

By Deane G. Carter,

College of Agriculture, University of Illinois

Contributor: J. Robert Dodge, U. S. Department of Agriculture

## Three great influences are at work to change the farm building picture

IT IS GENERALLY conceded that farm buildings were in worse condition at the outbreak of World War II than they had been 25 years earlier. And little could be done during the war for lack of labor and of materials.

For this reason, the modern era of farm buildings is barely 10 years old. To catch up on the needs, farmers today are spending at the rate of a billion dollars a year for production of buildings. An equal or even greater amount is being spent for the improvement of farm homes.

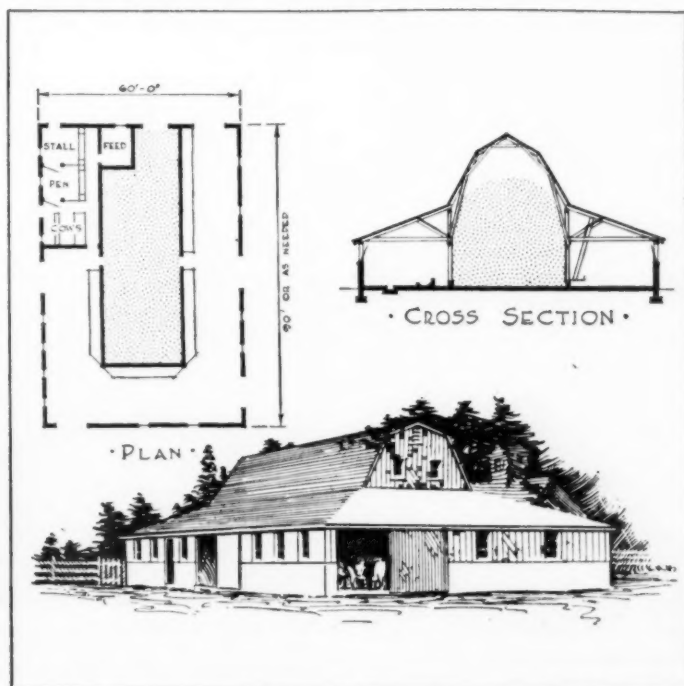
Today's farm buildings are radically different from those of pre-war years. The changes are not only in the kinds of structures needed for efficient production but in the sizes, styles, materials and methods of construction. They are the result of three powerful influences which are



The laminated arch is a characteristic modern development that provides ample post-free interior space and permits a wide choice in building materials



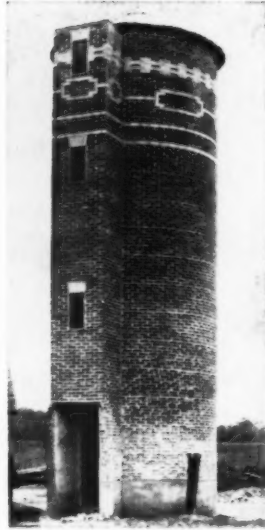
one-story multi-purpose barn designed for ground-level storage and arranged for economy of space and efficient operation



Drawing and photo above from "Farm Buildings," by Deane G. Carter, 4th ed., John Wiley & Sons



Farmers began to build silos about 1880. Some of the earliest silos were rectangular or octagonal wooden structures. Then came the tower type, built of wood staves, stone, brick, tile, and later of poured concrete, concrete block and concrete staves, and metal



at work to change the farm building picture.

Mechanization is the most significant, for machines and tractor power have reduced field labor, increased the capacity of the worker, allowed more free time for productive work at the farmstead, and affected methods of harvesting, handling and storing crops.

Second, the general adoption of soil conservation and improved cropping practices has given emphasis to grassland farming, legumes, rotations and fertilizers to increase yields. These, in turn, create a demand for better crop processing, more storage space for crops, and more barns and sheds for livestock.

Extension of electric service to farms is the third important influence in building changes. The farmer not only has electricity for light and appliances. He is now ready to use electric power for drying crops, ventilating buildings, providing supplementary heat, grinding feed, handling materials and mechanizing his chore operations to save time and labor.

Other developments also have contributed to the need for changes in farm building design. Examples are better seeds, sanitation practices, disease control measures, and improved livestock feeding and management methods.

These many changes in farming

systems, together with the age and condition of the buildings now in use, pose two highly significant problems for the future: *First*, an extensive program of remodeling, conversion and rehabilitation is necessary to make the best use of existing farm buildings. *Second*, well over one-half of the buildings now on farms must be replaced in the next generation with better, more efficient structures.

In construction practice, more prefabricated structures are being used, particularly for hog and poultry buildings and grain bins. Engi-

neering design makes use of stock lumber, timber connectors, gusset plates, and glue for fabricating trussed gable roof frames for buildings with clear spans up to 40 feet.

The general rise in costs has led the farmer to seek less expensive methods of building. Thus the pole frame and other light-construction types tend to replace heavier and more specialized buildings. The farmer also wants a versatile building design that can be modified readily to meet changing needs or which can be converted from one use to another.



Self-feeding barn (above) and low-cost pole barns for the storage and self-feeding of hay for beef cattle began to be built as early as 1900. They became practical only fairly recently, however, when pressure-treated lumber and poles helped solve the problem of poles rotting out





The double crib with center drive and overhead grain bins is still one of the most widely used types but will change drastically in the future (see Forecast below)

Trench silos or horizontal above-ground silos are now getting much attention. This one was built in 1953. Sides are 2x6 1&g planks, pressure-treated and lined with 55 pound roll roofing. Posts are set in concrete and floor is concrete

## Farm Buildings Forecast . . . 1979

More changes in farm buildings are likely in the future than we have seen in the past. But it is possible to predict what will probably happen, if we take account of present trends, together with developments that are now in the making.

(1) *The utility-type building will become the most widely used farm structure.* If built in widths of from 24 to 40 feet, with clear-span roof frame, one or two standard wall heights, and variable as to length, the same basic structure can be used variously as a machinery building, storage shed, hay barn, beef cattle shelter, loose-housing barn for dairying, or as a shelter for sheep or fattening hogs. The utility building can become a corn crib or grain bin with the addition of wall enforcement and drying ducts. It can become a hog farrowing barn or a poultry house, if insulation, lighting and sometimes supplemental heat are added.

(2) *One-story, ground level structures will predominate* in the future because they are more efficient and less expensive than buildings with overhead bins and lofts. Already, the upright-type silo is being replaced on many farms by horizontal silage stacks, trenches or ground-level bunkers.

(3) *Farm buildings will be larger.* Already poultry producers think in terms of minimums of 1,000-bird laying flocks and broiler

units of 5,000; many are far larger than this. Modern farm machinery requires large storage areas. Crop yields have increased and the amount of land handled by one operator is larger than ever, which calls for larger buildings on the majority of farms.

(4) *Crop storage buildings are due for extensive changes,* especially to handle the corn crop. More and more farmers plan to shell their corn directly from the field early in the season, to avoid bad weather and possible losses. Field shelling requires artificial drying and tight bin storage. This means a change from the conventional corn crib to

tight storage bins and drying equipment. The next logical step for the livestock feeder will probably be the addition of automatic feed grinding, mixing and feed distribution equipment.

(5) Operators of dairy farms are faced with the necessity of getting on a Grade-A market, increasing the typical small herd to a more efficient size and cutting down on labor requirements. In the majority of cases, this means that as old barns are replaced or as new dairy enterprises are started, *the elevated milking room and loose-housing shelter will displace the conventional stall-barn dairy.*

Poultry house and crib (above) from "Farm Buildings," by Deane G. Carter, 4th ed., John Wiley & Sons



This poultry house design shows the trend toward specialized, large-scale production. It utilizes mechanical equipment for efficiency and such modern elements as the low-pitched roof, insulating windows, protective shade, and controlled ventilation

# Build extra value into your construction



**Aluminum duct**, for heating and ventilating adds value by cutting heat costs as much as 10 per cent. Can't rust or streak, need never be painted. Permanently attractive. Its lightness makes it easy to install.



**Aluminum awnings** add value because they beautify homes and at the same time reflect sun's heat. They're strong yet light, easy to install. Can't rust, can't burn, need little upkeep.



**Aluminum windows** add value because they won't warp, shrink, crack, rattle or leak. They won't mar building exteriors with ugly red rust stains. And they'll keep their silvery beauty for years.



**Aluminum insulation** adds value because it gives the homes you build extra protection against the weather. It keeps houses warmer in winter, thus cuts fuel bills. And it reflects summer heat, thus gives year-round comfort.

# with ALUMINUM PRODUCTS!



**Aluminum shingle roofing** adds value because it can't rust or rot, keeps its modern good looks for a "housetime." Needs no paint or maintenance. Provides weathertight insulation against heat and cold.



**Aluminum nails** add value because they can never deface building exteriors with ugly rust stains, can never "rot out" ... thus help assure *permanent* beauty.

**WHEN YOU SPECIFY** aluminum products for your customers, your construction will have *greater sales appeal*—because aluminum provides a combination of advantages that no other material can match.

Among these advantages are light weight, strength, corrosion resistance, economy, and modern beauty.

Today, there is a plentiful supply of building products ... due in great part to our vast expansion. We now have the capacity to produce 30% of all the primary aluminum made in this country.

You will find that aluminum's great versatility makes it easier for architects and builders to develop the valu-

able new ideas you often have for future construction. This versatility also permits you to adapt aluminum to applications now calling for materials with fewer advantages.

Engineering assistance is available from our qualified aluminum engineers. Or for name of building products manufacturers who will be glad to work with you, contact any **Kaiser Aluminum** office listed in your telephone directory. **Kaiser Aluminum & Chemical Sales, Inc.**, General Sales Office, Palmolive Bldg., Chicago 11, Ill.; Executive Office, Kaiser Bldg., Oakland 12, Calif.

## ***Kaiser Aluminum***

**setting the pace—in growth, quality and service**

as white as snow



# The whitest white cement



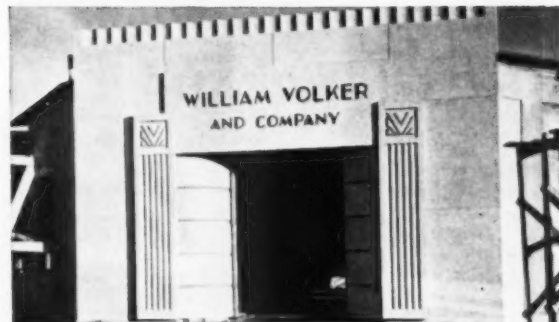
Meets all Federal and ASTM specifications . . . it's a true portland cement with the famed portland characteristics.

# TRINITY!

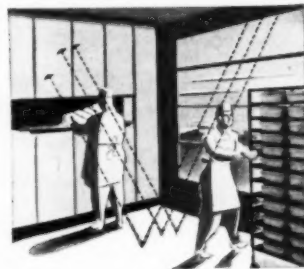


**STUCCO.** Portland cement stucco finishes grow in popularity every year on new jobs and remodeling work. Wide variety of colors and texture effects give appropriate and distinctive finishes for all designs.

Trinity White makes the finest portland cement stucco. The white is a brilliant scintillating white that has maximum eye appeal. This extra whiteness gives a beautiful clarity of color when tinting pigments are added. Prepared stuccos are recommended where possible. Leading stucco manufacturers use Trinity White.

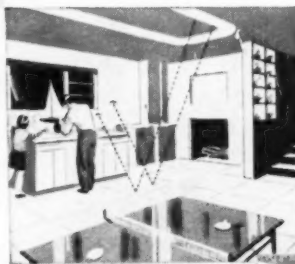


**ARCHITECTURAL CONCRETE UNITS.** One of the fastest growing building materials in the construction field. Used from small structures up to the finest and largest skyscrapers such as the Prudential Life Building in Los Angeles. Offers new and interesting economies. Wide range of colors and effects by choice of aggregates and by finish textures such as sawed; planer rubbed; bush hammered; brushed; hand rubbed; and acid washed. A products manufacturer near you can supply you with these modern units made of Trinity White cement.



**TERRAZZO FLOORS** (Not Illustrated). Famous for long life; low upkeep and maintenance. From simple designs to fine art. Use Trinity White for best effects—as is, it gives sharper contrasts. Gives purer colors when tinted.

**CEMENT PAINT.** Trinity White is the chief ingredient of leading brands of masonry paint. Gives a whiter white and truer color when pigments are added.



**LIGHT REFLECTING FLOORS.**

Use Trinity White for light-reflective floors where occupancy is suitable. It greatly increases available light and ability to do work. Adds to smart, cleanly appearance—fine for basement rumpus rooms.



**MISC. USES.**

Wherever beauty is paramount, Trinity White cement is the cement to use. It is a portland cement and works and handles with portland characteristics.



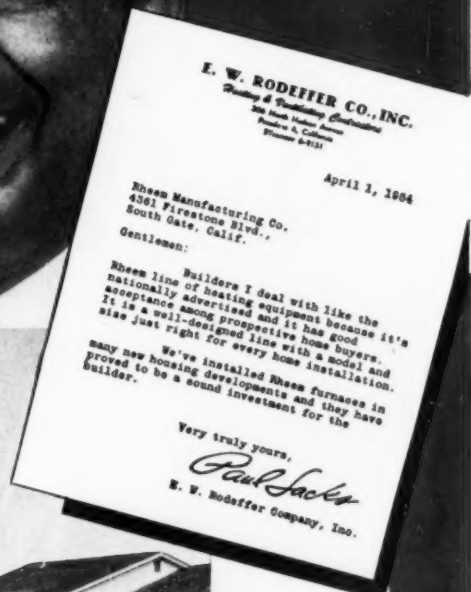
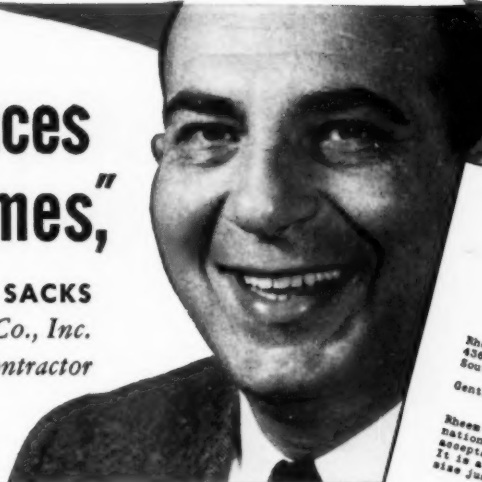
Trinity White cement is available at your dealers. Ask for it by name. TRINITY DIVISION, GENERAL PORTLAND CEMENT CO., 111 West Monroe Street, Chicago, Illinois; 305 Morgan Street, Tampa 2, Florida; Volunteer Building, Chattanooga 2, Tennessee; Republic Bank Building, Dallas 1, Texas; 816 West 5th, Los Angeles 5, California.

*the whitest white and best for colors*



# "Rheem Furnaces Help Sell Homes,"

Says **PAUL SACKS**  
 President of E. W. Rodeffer Co., Inc.  
 Pasadena Heating Contractor



A section of Whittier Highlands Estates in which Rheem forced-air furnaces have been installed in more than 200 homes by the E. W. Rodeffer Co., Inc., for Herbert B. Shapiro, prominent California home builder.

## You Can Profit by Installing Rheem Heating Equipment in Your Houses

You can make more sales faster by installing Rheem heating equipment in the homes you build says Paul Sacks. Read what he has to say:

"Builders I deal with like the Rheem line of heating equipment because it's nationally advertised and it has good acceptance among prospective home buyers. It is a well-designed line with a model and size just right for every home installation.

"We've installed Rheem furnaces in many new housing developments and they have proved to be a sound investment for the builder."

Get all the facts about the Rheem "Fire-Tested" Furnace line. Let your Rheem Dealer show you how Rheem heating equipment will help *you* sell *your* homes quicker and save you money. For complete details write the Rheem regional office nearest you.



# RHEEM

Manufacturing Company

Sparrows Point 19, Maryland  
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Chicago 29, Illinois  
 South Gate, California  
 Seattle, Washington





*"To have your roof last—  
Use Ruberoid Roofing first"*

## A Talk on Roofing

"I want to assure you as emphatically as possible that RUBEROID ROOFING is different from all others and possesses qualities found in no other roofing on earth.

"If anybody says this isn't so, ask him to show you any considerable number of roofs covered as long as 15 years ago with any roofing except RUBEROID, that are still in perfect condition, without having been repaired in the meantime. The result is sure—he can't do it.

"Why is this so? Simply because

## RUBEROID ROOFING

contains neither tar, rubber nor any other element or ingredient that will rust, rot, crack or melt. It is weather-proof, water-proof, acid-proof and so strongly fire resistant that sparks or burning brands will not ignite it.

"It outlasts metal or shingles and costs less, although it isn't to be classed among 'cheap' roofings. There is a difference between cheapness and economy and RUBEROID ROOFING is the most economical roofing your money can buy. Furthermore, it is

### 'The Only Permanent Roofing with Permanent Colors'—

colors that will last. It is made in RED, BROWN, GREEN AND SLATE COLOR

"Take your choice; they are all permanent. Anybody can lay RUBEROID ROOFING—all necessary materials come with each roll."

Write to-day for free descriptive booklet No. 14

### THE STANDARD PAINT COMPANY

Manufacturers of Ruberoid Roofing,  
Building and Sheathing Papers, etc.  
100 William Street, New York

Chicago, St. Louis, Kansas City, Boston, Philad'a, New Orleans

THE STANDARD PAINT CO. OF CANADA, LTD.

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23 Boulevard Richard Lenoir, Paris, France

THE RUBEROID CO., LTD.

25-27 Knightbridge St., London, England

## 1892

Ruberoid developed the first roll of ready-to-lay roofing. "The original and still the best"

## 1933

Ruberoid developed Tite-Ons—the first interlocking shingles. "The original and still the best"

## 1934

Ruberoid developed the first practical asbestos siding shingles.

## 1951

Ruberoid developed Color-Grained Siding—the first "shake"-textured, two-toned asbestos shingles in decorator colors. "The original and still the best"

## 1954

Ruberoid introduced the Color-Styled Home Idea—a complete exterior color styling plan, backed with a full line of color-related roofing and siding shingles, merchandised with the Ruberoid "Colorator" color selector.

## 19XX

In the future as in the past, you can count on Ruberoid for leadership in developing quality products to help builders offer more home beauty, comfort and economy.

The above advertisement appeared in Everybody's Magazine in September, 1908. Even then Ruberoid was a consistent national advertiser. The name Ruberoid was so well known that it had become almost a generic term for asphalt roofing materials. Today the Ruberoid brand is on more than 100 products serving the building industry.

## The RUBEROID Co.

### Asphalt and Asbestos Building Materials

500 Fifth Avenue, New York 36, N. Y.

Since 1886



## Short cut to Individualism

According to U. S. Government statistics the average house has four rooms, is one story high, and has neither basement, nor utility room. Chances are it **looks no different than the house next door!**

These days the buyer has the upper hand, and he's looking for something that's **better than the average!** How can you offer the individualism of a high priced house to buyers on a budget? One good way is to include Gate City Wood Awning Windows in your building plans.

Versatile, Gate City windows can be used in almost limitless combinations. Their smart design and clean horizontal lines give any dwelling a distinct, individual appearance. And they provide the home owner with advantages for year 'round comfort.

During warm weather, the full-vent area of Gate City windows permits complete ventilation control . . . invites fresh air from three directions. And the patented "Fixed Hinge" affords maximum rain protection. On colder days, the tight wood sash and complete weatherstripping keep **all** the warm air in . . . the cold weather out!

Complete information will be promptly furnished upon request.

See our Catalogue in Sweet's.

**Gate City** AWNING WINDOWS

*Perma-treated for Long Life*

**GATE CITY SASH & DOOR CO., DEPT. AB-85**  
P.O. Box 901, Fort Lauderdale, Fla.

Gentlemen: Please send complete information on Gate City Wood Awning Windows.

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"Window Craftsmen for over 40 years"

AUGUST 1954

195

# Speaking

## American Builder reports it . . .

Ever since there has been such a thing as a building industry, its progress has been steadily in one direction: *to provide better houses for more people, at prices they can afford.*

So the time naturally came when something had to be done about kitchens.

And Mullins Manufacturing Corporation did it. With the introduction of economical, mass-produced Youngstown Kitchens, the "dream kitchen" became a reality to millions.

Builders all over the country took advantage of it, made it a revolution.

Today, a prefabricated steel Youngstown Kitchen is the greatest sales aid a builder can have!

We don't know all that the *next 75 years* will bring. We do know that today's steel Youngstown Kitchen is *a step beyond a woman's dreams.*

And we intend to stay ahead!



**We put the cabinet under the sink,** thereby hiding pipes, creating storage space and a beautiful, more usable unit . . . the core of a dream kitchen. Now, Youngstown Kitchens Cabinet Sinks—ruggedly built of steel, with durable, easy-to-clean finishes—lead in sales by a *tremendous* margin. Proof enough that your prospects realize their value!



**We put cabinets and sinks together,** and the "Kitchen Business" was born. They were mass-produced to reduce prices. Youngstown Kitchens then sold the *idea* of modern steel kitchens to the public. And they were made available to builders with overnight delivery . . . a great advantage when coupled with their ease of installation.



# of progress . . .

## Youngstown Kitchens is part of it!



# NOW . . .

CABINETS OF STEEL FOR LASTING APPEAL

We have revolutionized kitchen equipment by letting the builder select features he wants to go into each kitchen, features that go together to give the *custom* appearance. These new Diana-style Youngstown Kitchens offer streamlined, unbroken

contours . . . smooth, uninterrupted work surfaces . . . all the features of a built-to-order kitchen at just a fraction of the expense!

We have always been willing and anxious to help you solve your kitchen problems. We still are. Contact your Youngstown Kitchens distributor, or write: Dept. AB-854, Builder Sales Department, Mullins Manufacturing Corporation, Warren, Ohio.



# STEEL Youngstown Kitchens

MULLINS MANUFACTURING CORPORATION • WARREN, OHIO

World's Largest Makers of Steel Kitchens



**"I'm lining up with *SARGENT* ALIGNALOCK  
to sell my houses fast!"**

Yes, builder after builder says, "It's ALIGNALOCK for me!"

And *you* can't do better than use ALIGNALOCK . . . whether you are planning to build *one* new home or a *thousand!*

Here's *why*:

. . . ALIGNALOCK is a high quality, beautifully balanced lock that you buy at a *low cost*

. . . ALIGNALOCK's self-aligning assembly and other features make it possible for even *non-skilled* help to install it easily, quickly and economically. *No other lock can be installed faster!*

. . . ALIGNALOCK is backed by a long respected name . . . SARGENT of NEW HAVEN . . . a recognized brand that indicates to home buyers that quality products are being used *throughout*

. . . ALIGNALOCK is available in all functions, and is finished in handsome brass, bronze, aluminum and polished chrome for split finishes

. . . ALIGNALOCK is made only of *quality* materials. No brittle, easily-cracked die-cast parts.

. . . "Automatic unlocking" and "emergency unlocking" give the Sargent ALIGNALOCK an extra safety appeal to home-owners.

*See your supplier today. Compare ALIGNALOCK, feature by feature, with any low cost lock. We'll rush you full particulars if you'd like. Write us, Dept. 9H*

**SARGENT & COMPANY**

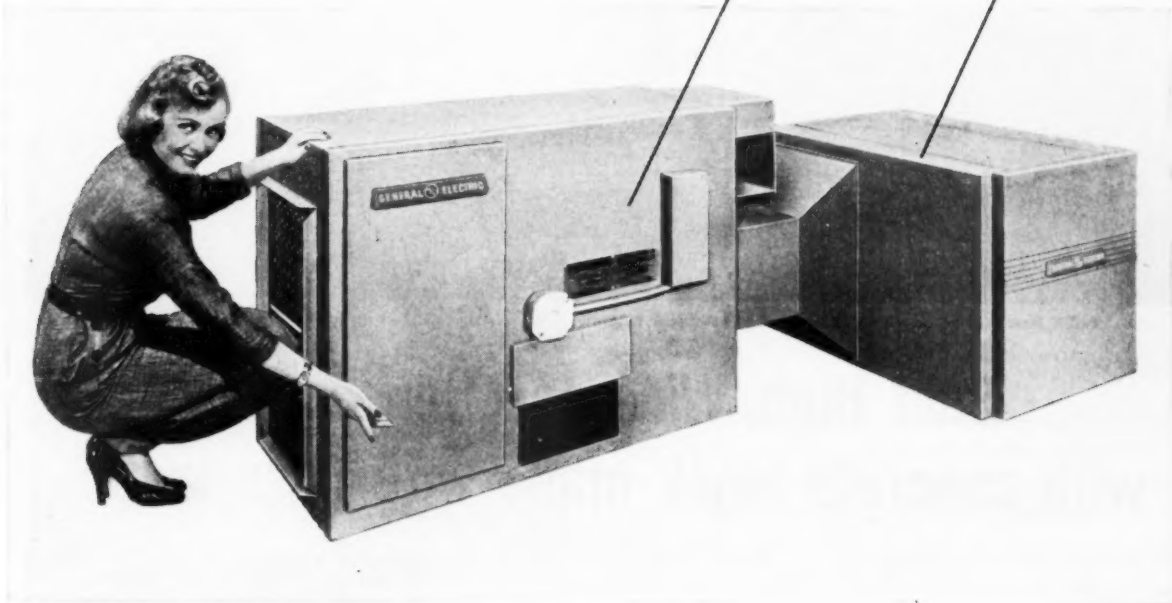
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**Hardware of Character**

**AMERICAN BUILDER**

# New G-E Year-Round Air Conditioner Takes No Floor Space



## G-E Horizontal Unit for homes with or without basements

Here's a new G-E year-round air conditioner that's shallow enough to suspend in crawl space, attic, utility room—no floor space needed. Heats with gas or oil, cools by electric refrigeration. (Now air-cooled models

too!) G-E furnace can be installed first and cooling added later. **ONLY \$13 PER MONTH FOR COOLING** Average cost of cooling 1150 sq. ft. G-E-equipped homes during 1953 record-breaking heat, according to Dallas utility survey.

### IT PAYS 8 WAYS TO SELECT G. E.

1. Factory-assembled and tested units cut installation time.
2. Compact size saves valuable space.
3. Most flexible and most copied heating-cooling line on the market.
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5. Every unit G-E warranted—cooling, 5 years; dealers everywhere.
6. G-E Air-Wall\* System—ideal for both heating and cooling.
7. G. E.'s consistent national advertising pre-sells your prospects.
8. General Electric's high consumer preference helps you sell your homes.

HEATS WITH GAS OR OIL; COOLS BY ELECTRIC REFRIGERATION

 **AIR WALL\*** SYSTEM  
HOME HEATING and COOLING

\*Reg. trademark of General Electric Co.

### G-E UNITS TO FIT ANY SIZE, SHAPE or STYLE HOME



**UPFLOW UNITS**  
For homes with basements.



**DOWNFLOW UNITS**  
For basementless homes, particularly slab construction.



**HORIZONTAL UNITS**  
For any home where space is tight. For crawl space, attic, garage installation.

**GENERAL  ELECTRIC**

Find out today how G. E. can help you save time, attract bigger crowds, sell more homes faster. Write:

Home Heating and Cooling Dept., Sec. AB-11  
General Electric Company, Bloomfield, N. J.

Please send complete information:

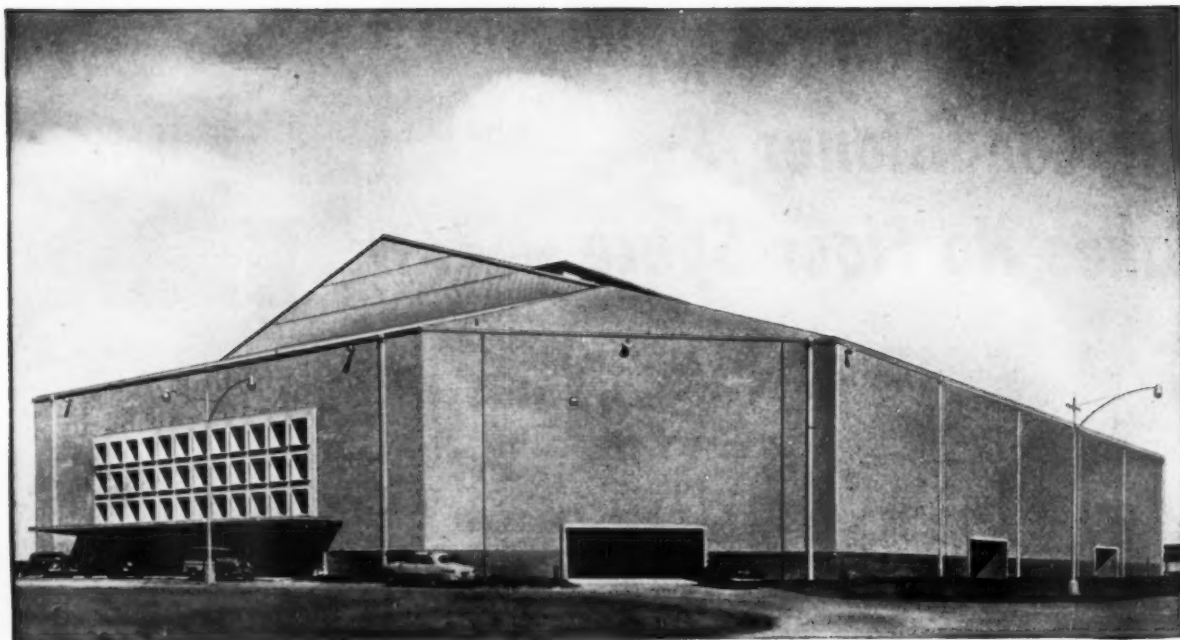
I am a Builder  Architect  Homeowner  Other occupation

NAME .....

COMPANY .....

ADDRESS .....

CITY..... COUNTY..... STATE.....



Heart O' Texas Coliseum, Waco: Owner, McLennan County; Contractor, Farnsworth and Chambers Co., Inc., Houston; Architect, Harris N. Roberts, Waco.

## Built High, Wide and Handsome with concrete block made with Duraplastic\*

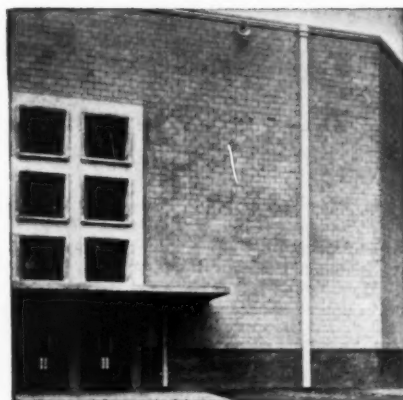
Built high and wide enough to seat 11,500, Waco's Heart O' Texas Coliseum matches size with good looks. To achieve good looks on such a large scale, the builders specified concrete block—98,000 of them—all made with Duraplastic air-entraining portland cement.

More and more builders, with an eye to appearance and durability, are choosing concrete block made with Duraplastic cement. They like the clean, true edges . . . the richer face texture. Another desirable feature of such block is their high resistance to the passage of water.

Many contractors specify Duraplastic cement for their regular concrete work because it provides greater plasticity and workability, aids proper placement and increases durability.

### YET DURAPLASTIC COSTS NO MORE

It sells at the same price as regular cement and requires no unusual changes in procedure. Complies with ASTM and Federal Specifications. For descriptive booklet, write Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Avenue, New York 17, N.Y.



**42'-HIGH** wall shows fine masonry wall of Duraplastic-made block. True edges, pleasing color and texture of Duraplastic block help assure better-looking block jobs.

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\*"Duraplastic" is the registered trade-mark of the air-entraining portland cement manufactured by Universal Atlas Cement Company.

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**DURAPLASTIC**

AIR-ENTRAINING PORTLAND CEMENT



AB-D-157

**Makes Superior Concrete Products at No Extra Cost**

UNITED STATES STEEL HOUR—Televised alternate weeks—See your newspaper for time and station.



Before you specify any wall covering,  
anywhere, see . . .

**New, Vinyl**

*Bolta-Wall*  
(IN 8" x 8" FLEXIBLE TILES AND BY-THE-YARD)

**MAHOGANY**

**COSTS FAR LESS THAN VENEER...**

**IS FIRE-RETARDANT...**

**LASTS YEARS LONGER...**

New Bolta-Wall Mahogany pattern has the rich look and texture of the finest wood veneer at a fraction of the cost. No product comparable in quality, durability or luxury is available at anywhere near the price of Bolta-Wall. It's ideal for homes, offices, institutions — any area where you want to combine a luxury look with low maintenance costs.

Made of the finest vinyl, laminated to a rubber-saturated backing, Bolta-Wall is highly resistant to fading, scuffing and scratching as well as to fats, oil, grease, alcohol and other staining agents. It will not crack, chip or peel, is dimensionally stable, and is readily cleaned with a damp cloth. Tests by New York Test Laboratories, Inc. indicate Bolta-Wall is fire-retardant, conforming with Paragraph E-3B of Federal Specifications SS-A-118a.

Low initial cost, ease of installation and maintenance, and lasting durability make Bolta-Wall an ideal specification for new construction or for modernizing hospitals, theatres, restaurants, schools, etc. Other nationally advertised patterns include Bamboo and Leathergrain, both in a range of colors. Write for samples

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*Div. of The General Tire and Rubber Co.*



LEATHERGRAIN PATTERN  
(by-the-yard only)

BAMBOO PATTERN  
(in 8" x 8" tiles and  
by-the-yard)

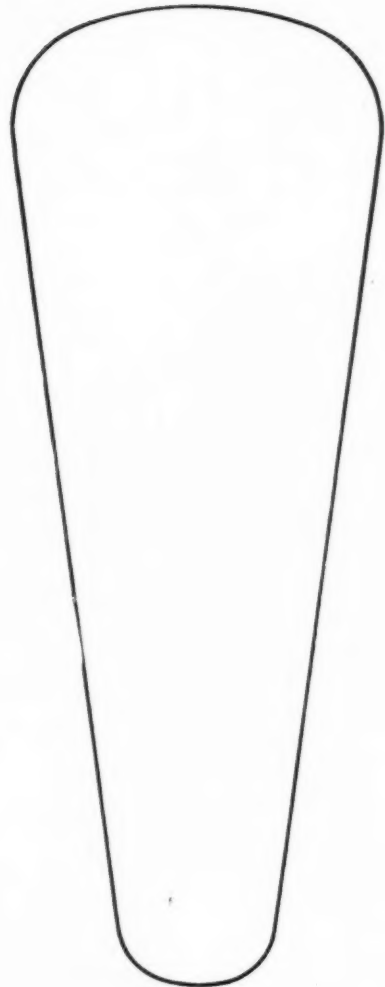
Ask for swatches of the brand new Bolta-Wall

**GEORAMA LINE**

It's available by-the-yard only, in a range of cool, modern, solid colors with a soft-to-the-touch finish. It's ideal for institutions!



# new



**and FULLY AUTOMATIC...  
the calculator that PRINTS!**

Completely new...completely different! The Model 99 Printing Calculator. It multiplies, divides, adds and subtracts. It performs every one of these calculations with greater efficiency than any previous machine of its kind. Above all, among its many other features, it provides *automatic multiplication* and *credit balances plus simpla tape*, the two-color printed record of each and every calculation.

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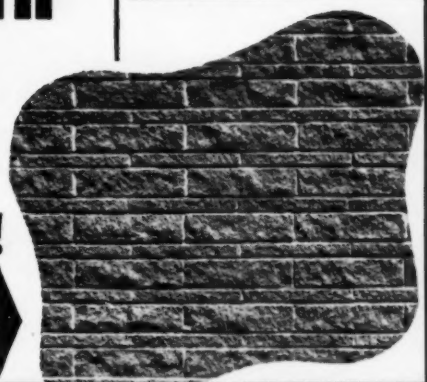


***Remington-Rand***

**To be sure...build with**

**BES-STONE**

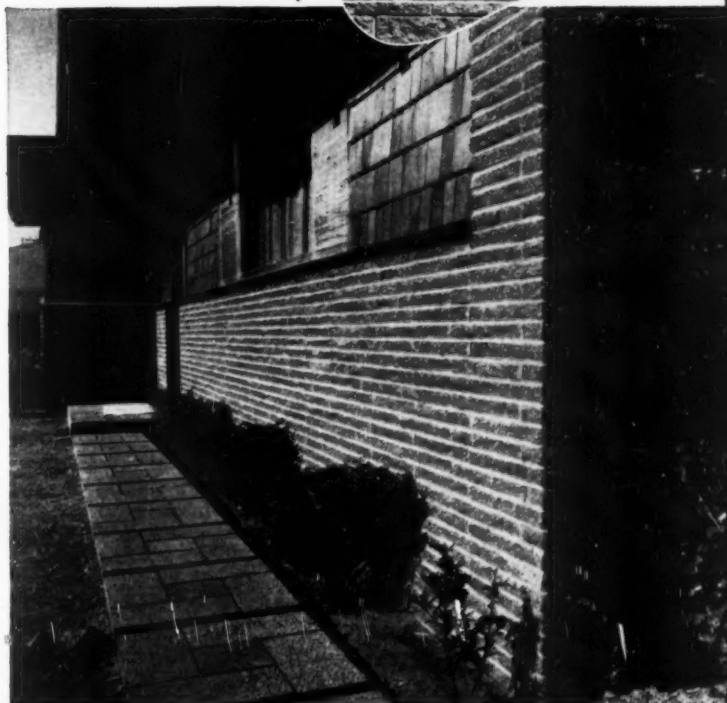
**...the Split Block with Character!**



**Its "QUARRIED STONE" CHARACTER**

**Combines BEAUTY and  
PERMANENCE at Low Cost!**

To be sure, it pays to plan and build with BES-STONE Split Block. Pleasing, permanent colors . . . distinctive sizes for varieties of modular Ashler patterns satisfy the creative aims of architects, builders and owners. As veneer or solid masonry, they are RIGHT for homes and many other structures . . . commercial, public, industrial, institutional buildings . . . exteriors and interiors! You'll think of many more uses in terms of garden walls, planting-areas, fireplaces, barbecues. BES-STONE is fire-safe and storm-safe . . . makes a very attractive wall . . . is immune to vermin or rodent attack. And it's economical . . . requires no maintenance.



BES-STONE is the product of the BES-STONE Block Splitter. Contact your nearby Products Plant for literature, or write to the Besser Mfg. Co., Box 183, Alpena, Mich.



Architecturally and structurally simplified by MODULAR SIZES.



**BESSER**  
50th Anniversary  
1904-1954

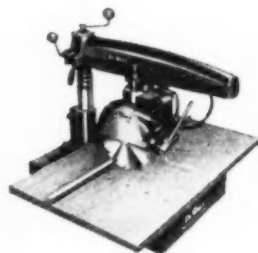
**..a Half Century of Concrete Masonry Progress!**

# New AMF DeWalt Power Saws Give You Biggest Capacities... Biggest Values!

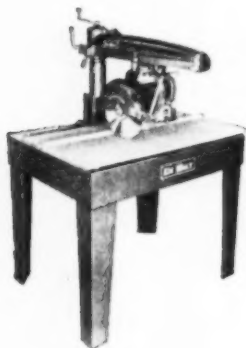
This is the complete DeWalt® line for builders—every model specifically designed for fast, accurate, low-cost operation.

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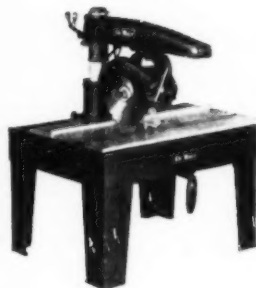
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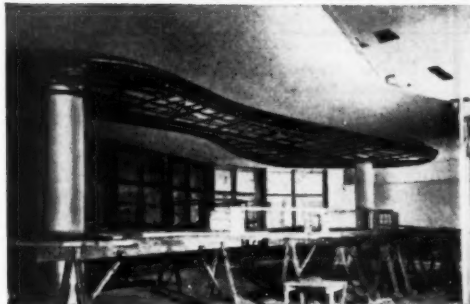
DE WALT INC., LANCASTER, PA.

IN CANADA: DeWalt Canada Ltd., Guelph, Ontario • Subsidiary of American Machine & Foundry Company, New York

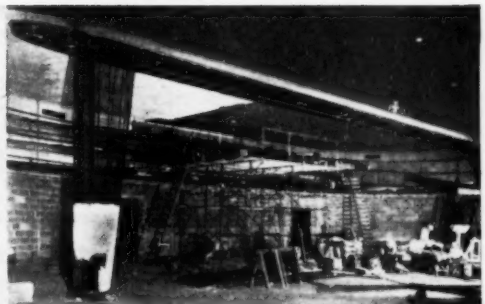


# MILCOR\* Metal Lath and Plaster

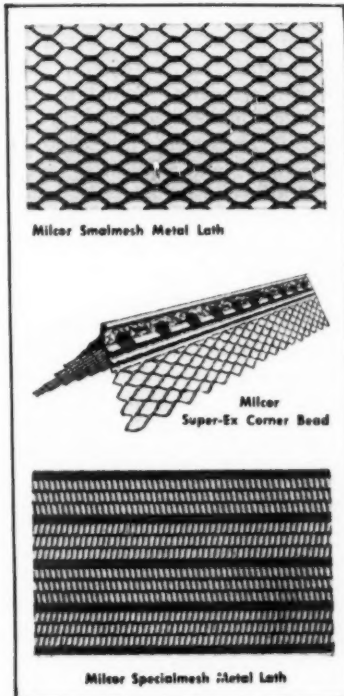
help you give home and building owners better walls and ceilings in 10 ways



The pictures at left show how Milcor Metal Lath and plaster were used to form a lighting cove in the Peter A. Brooks Memorial Union of Marquette University.



The pictures at right show how Milcor Metal Lath and plaster were used in the same building to create a modernistic column and protect it from fire and impact. Dead loads were reduced, because Milcor Metal Lath and plaster weigh less than masonry and concrete fireproofing.



Milcor Smallmesh Metal Lath

Milcor Super-Ex Corner Bead

Milcor Specialmesh Metal Lath

**1. Fire Resistance** — Fire-resistance ratings as high as 2½ hours have been awarded to partitions of Milcor Metal Lath and plaster.

**2. Design Freedom** — Milcor Metal Lath can be formed to any contour, to faithfully express the architect's conception of interior design.

**3. Adaptability** — Milcor Metal Lath is as practical for remodeling as it is for new construction. It can be nailed through old lath and plaster into the wood studs of joists without removing the original surface.

**4. Space Saving** — With Milcor Metal Lath, you can erect a 2-inch, solid-plaster partition — the thinnest of all partitions in common use — and save as much as 7% in floor space.

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**6. Strength and Resiliency** — The union of Milcor Metal Lath and plaster creates a monolithic slab that is safe-guarded against sudden stress or prolonged strain.

**7. Crack Resistance** — Milcor Metal Lath doesn't swell or warp when wet plaster is applied—or shrink, when the plaster dries out.

**8. Sound Insulation** — Two inches of solid plaster on Milcor Metal Lath have a sound-transmission loss of 40 decibels. This exceeds the rating for hollow-block partitions and is equal to or better than other types of heavier wall construction.

**9. Fireproofing** — Columns, beams, and fabricated structural members are effectively fireproofed by enclosures of Milcor Metal Lath and plaster—at savings in weight, materials, and time.

**10. Shock Resistance** — Plaster on Milcor Metal Lath partitions, furring, and suspended ceilings has survived earthquake shocks which did irreparable damage to other types of construction.

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# mortgage patterns

By Hugh Askew

Director, Mortgage Finance Department,  
National Association of Home Builders

**The revolution in home financing since the 1920's can be classed as one of the most important technological advances in our time**

## **Flashback . . .**

SEVENTY-FIVE YEARS ago, residential mortgage financing was largely an individual matter, arranged for on individual basis by the owners, even as it had been all through the 19th century. There were virtually no large financial institutions, such as we know today, specializing in financing housing. With the increasing movement of population from farms into cities and towns, new techniques of mortgage financing came into being. Financing techniques varied widely, of course, from the more settled areas, such as New England where the mutual savings banks played an important role in financing home building, to the western frontiers where there were practically no institutional financing sources.

Beginning about 1890, the permanent type of savings and loan institutions began to assume prominence in home mortgage financing. Also, after the turn of the century, as cities grew in size, special financing arrangements developed for specialized types of properties. For example, bond financing came to be used particularly after World War I as a means for raising from among many investors the large amounts of capital necessary for apartment developments. Another method that had considerable vogue in the New York and New Jersey area at this time, also involving the raising of large sums of money from many small investors, was the guaranteed mortgage certificate participation plan.

Thus, throughout the 19th cen-

tury and the early part of the 20th century, individual lenders were the largest source of residential real estate financing. Today, while individual lenders still account for an important part of the market, they represent only about one-sixth of total home mortgage lendings.

Indeed the mortgage patterns under the revolution in home financing which has taken place since the 1920's can be classed as one of the most important technological advances of our times.

To realize that this is so, it is only necessary to take a brief glance at the financing methods in common use prior to the depression of the 30's.

First mortgages were usually written at from half to two-thirds of value. Hence the average borrower was forced to obtain a second mortgage loan, and often a third.

Initial financing was costly. Fees or discounts were ordinarily charged for making each of these loans; and in addition there were multiple charges for title examination, recording, and so on.

Interest rates were high. For first mortgages 6 per cent was about the average, and for second and third mortgages, even higher rates.

Periodic amortization was not typical. Most loans contemplated repayment in a lump sum at maturity—usually three or five years from the date of the loan.

Because of these short terms, frequent renewals were necessary, and each renewal called for more fees, discounts, and other charges.

Borrowers were mainly dependent upon local sources of money. Only a few insurance companies made

home loans in any considerable amount at long distances from their home offices.

Various plans of home financing requiring the purchase of stock in local building and loan associations were practiced in some states, based upon the theory that the prospective home owner would draw six per cent dividends on the stock which he "purchased" with money borrowed from the association at eight per cent interest.

The main results of all this were that the sources of mortgage money were few and might not be available when the need was greatest, and borrowing was exceedingly expensive. Considering initial discount, nominal interest, and renewal premium or assessments instead of dividends, a total equivalent interest rate sometimes was as much as 12 per cent or even higher. Also, the whole system was full of danger to borrower and lender alike.

The latter point, at least, was fully demonstrated when the economic storm broke around 1930. Borrowers, who had been led to expect a repeated renewal of their loans, were unable to meet the required lump sum payments. Lenders, with their assets depleted by withdrawals, were unable to make renewals. Money for new loans just did not exist. Business stopped. Home foreclosures had mounted at an alarming rate until, in 1933, the Home Owners' Loan Corporation threw its weight against the tide, to the tune of three billion dollars.

## **The Home Loan Bank system**

Actually, major reforms in the mortgage system had been started a

year before with the establishment of the Home Loan Bank system; but the disaster was too far advanced for them to be effective at that time. Nevertheless, the bank system with its affiliated Savings and Loan Insurance Corporation (created in 1934), has made the following significant contributions to modern mortgage lending practices.

1. By establishing Federal Savings and Loan Associations, it has created a new source of local capital for residential mortgage lending.

2. By creating a reserve credit system for federal associations and for state-chartered associations that joined the system, it has helped to distribute mortgage funds more broadly and to provide protection against the effects of drastic withdrawals.

3. Through its supervision of member institutions, it has strength-

ened savings and loan institutions and improved their practices.

4. By insuring the accounts of shareholders, it has gone far toward assuring that the flow of savings into these institutions will not be subject to panic.

#### The FHA sets a new pattern

Other important contributions were made in 1934, with the establishment of the Federal Housing Administration. The FHA offered substantial insurance against loss to lending institutions of all kinds that agreed to make residential mortgages within the limitations it laid down, including low down payments, regular monthly amortization and lower rate of interest.

The various safety features of the FHA system combined with the mortgage insurance, attracted a large volume of funds particularly from commercial banks, mutual

savings banks, and life insurance companies and greatly aided in making these institutional funds widely available.

After World War II, there was created in the Veterans' Administration a new system for guaranteeing home loans for veterans, similar to that of FHA.

In order further to assure that money, first for FHA-guaranteed and later for VA-guaranteed loans, would be widely available, the government established the Federal National Mortgage Association (familiarily known as Fanny May) to aid in providing a market at times and in places where funds from banks and insurance companies were not available.

The provisions of loans which are not insured or guaranteed by the federal government—conventional loans—have been influenced by the practices of the federal agencies.

## Today . . .

TODAY A NEW kind of mortgage financing has emerged with characteristics quite different from those of mortgage financing of the 1920's. Here are the five outstanding features: a single loan, without supplementary financing; low down payment; regular amortization over a long period of time; payments carefully limited by the borrower's ability to pay; reduction in the cost to the borrower by eliminating dup-

licate fees for placing loans, title examination, recording, etc., and the repetitions of the charges which occurred when mortgage loans had to be renewed frequently.

All considerations of government insurance or guarantee aside, this type of loan is much safer for the borrower and the lender than the earlier kind of financing. It is safer for the borrower because he does not commit himself beyond a reasonable estimate of what he can pay for, and because he is never confronted with the necessity of meeting

a large lump-sum payment. It is safer, too, for the lender because he obtains a constant return of the money he has loaned and is not faced with the uncertainties affecting the collection of large payments.

The low down payment feature has made it possible for families with small incomes and savings to own their own homes—to buy as they use, and to take advantage of their saving in rent, to pay off their debt. This feature in itself provides an element of safety to borrowers

(Continued on page 209)

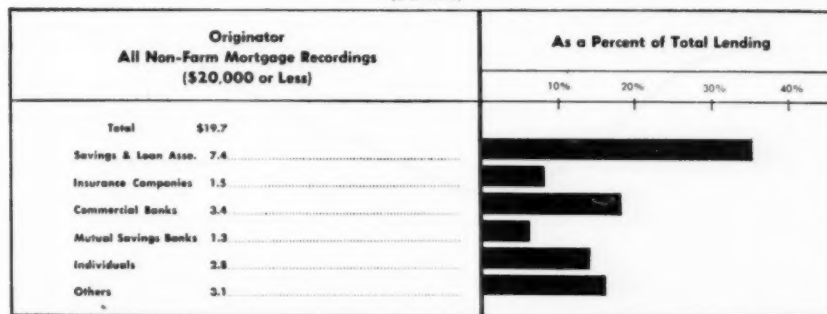
## WHO LENDS THE MONEY FOR TODAY'S HOUSES

### NON-FARM MORTGAGE LOAN ORIGINATIONS IN 1953

(\$20,000 or Less)

(1 to 4 Family)

(\$ Billions)

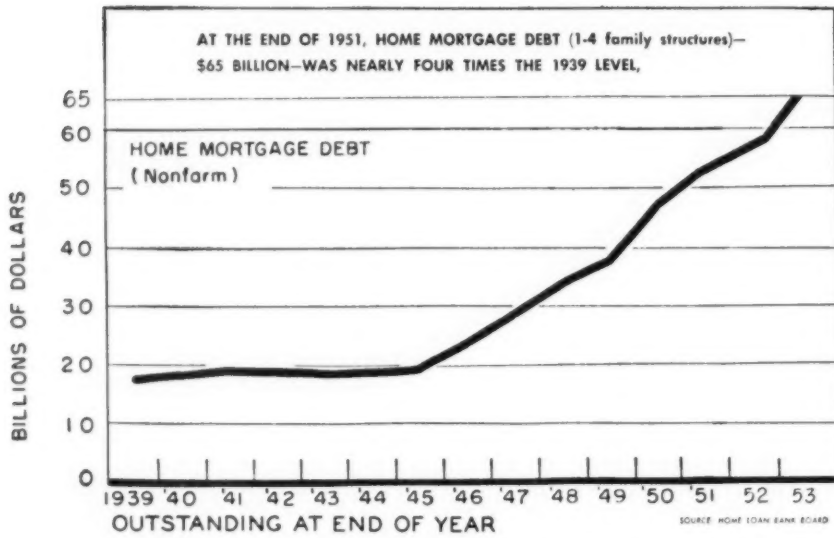


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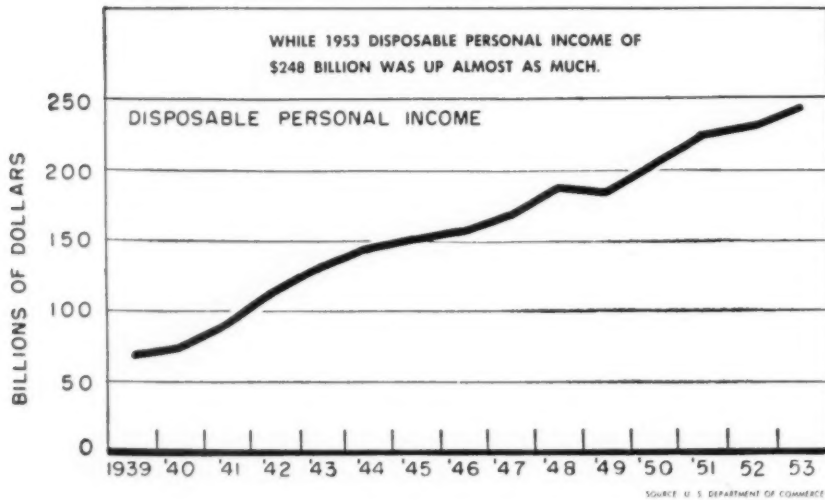
Savings & Loan	37.3%	Mutual Sav. Bks.	6.7%
Insurance Co.	7.5%	Individuals	14.4%
Commercial Banks	18.6%	Others	15.5%

GRAPH BY JIMMY WATSON

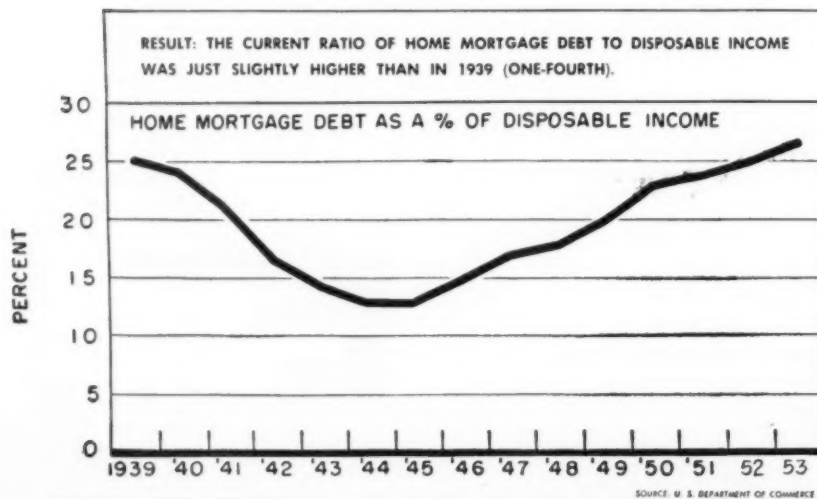
## INCREASE IN HOME MORTGAGE DEBT IN LAST DECADE AND A HALF PARALLELS RISE IN INCOME



HOME MORTGAGE DEBT (Billions of dollars)	
1939	\$17.6
1940	18.4
1941	19.4
1942	19.2
1943	18.9
1944	18.8
1945	19.2
1946	23.6
1947	28.6
1948	33.4
1949	37.2
1950	46.9
1951	51.9
1952	58.2
1953	65



DISPOSABLE PERSONAL INCOME (Billions of dollars)	
1939	\$ 70.2
1940	75.7
1941	92.0
1942	116.7
1943	132.4
1944	147.0
1945	151.1
1946	158.9
1947	169.5
1948	188.4
1949	187.2
1950	205.8
1951	225
1952	235
1953	248



HOME MORTGAGE DEBT AS A PER CENT OF DISPOSABLE INCOME	
1939	25.1%
1940	24.3%
1941	21.1%
1942	16.5%
1943	14.2%
1944	12.8%
1945	12.7%
1946	14.9%
1947	16.9%
1948	17.8%
1949	19.9%
1950	22.8%
1951	23.1%
1952	24.8%
1953	26.2%



(Continued from page 207)

and lenders. Because only a small equity is required, the borrower, in case of a miscalculation or an unexpected mishap, is often able to make a quick sale without loss to himself; while even in case of a foreclosure, the lender, because of the broadened housing market, finds his risk much diminished.

### The "packaged" and "open-end" mortgage

Other new financing features, less generally used than those already described, are becoming increasingly popular. Under certain conditions, some of these features are adaptable both to insured and guaranteed mortgages, and to conventional mortgages. One of these is called the packaged mortgage. This type of financing permits a single loan to cover the financing of all the features necessary to complete a house, such as the range, refrigerator, home freezer, and laundry equipment, and allows the value of these features to be included in the total value of the house in estimating the amount of the loan. Under the mortgage laws of most states, this arrangement is made possible by listing in the mortgage instrument those items not ordinarily considered to be real estate, which borrower and lender agree are to be covered by the mortgage.

Objection has sometimes been made to this plan on the grounds that the probable life of the special items covered is not as long as the repayment period of the mortgage. The answer to this, of course, is that there are a number of features in a house that are not likely to last that whole period—the roof, the heating equipment, the paint, and many other items for which repair or replacement may be called for. All the protection the lender requires is that the rate of amortization is sufficient to assure that the payments on the principal exceed the average rate of depreciation of the structure as a whole; and the usual maximum period—20 to 25 years—is generally short enough to permit this.

The advantage of the packaged mortgage is very real. It permits the home buyer to finance his total requirements in one loan, instead of having to finance the special equipment separately. Furthermore, it permits him to obtain mortgage terms and interest charges for the

## SOME SELECTED MORTGAGE CHARACTERISTICS OF THE MID-CENTURY HOUSING SUPPLY

No. of 1-4 family mortgaged properties,	9.4 million
owner-occupied 1-4,	8.3 million
and owner-occupied 1 family	7.0 million

(NOTE: What follows is based on these 7.0 million owner-occupied 1 family mortgaged dwellings.)

### TYPE OF LOANS

Proportion with conventional loans	69%
with FHA insured loans	17%
with VA guaranteed loans	14%

### AVERAGE MORTGAGE DEBT OUTSTANDING

On all properties	\$4,100
On those with conventional loans	\$3,200
On those with FHA insured loans	\$5,400
On those with VA guaranteed loans	\$5,900

### ANNUAL PAYMENT ON THESE LOANS (INTEREST PLUS PRINCIPAL ONLY)

On conventional loans	\$432
On FHA insured loans	\$452
On VA guaranteed loans	\$495

### OUTSTANDING MORTGAGE DEBT AS PERCENT OWNER ESTIMATED VALUE

For properties with conventional loans	27%
For properties with FHA insured loans	62%
For properties with VA guaranteed loans	70%

### MEDIAN INTEREST RATE ON THESE LOANS

(all 1-4 family mortgaged units)

All loans	5%
Conventional loans	5%

NOTE: VA guaranteed loans were at 4 percent and FHA insured at 4 to 4.5 percent.

### PROPORTION OF LOANS ON FULL AMORTIZED SCHEDULE

(i.e., periodic repayment schedule calling for full amortization)

(all 1-4 family owner-occupied units)

Conventional loans	77%
FHA insured loans	100%
VA guaranteed loans	100%

Source: Bureau of Census, 1950 Census of Housing Residential Financing, Volume IV.

equipment instead of the higher rates and shorter payment periods customary for consumer financing. From the lender's point of view, there is an advantage in having the entire indebtedness under control and in avoiding a weakening of the mortgage loan because of high additional payments for equipment.

The second important new financing feature is called the open-end mortgage, which, though not permitted at the present time for gov-

ernment-insured or guaranteed mortgages, is possible with conventional mortgage financing. The purpose of the open-end mortgage is to permit a home owner to obtain money for needed repairs or replacements or for an alteration or addition to his house without either making a secondary loan or going to the expense of refinancing an existing mortgage loan. The 1954 housing legislation provides for this procedure under

(Continued on page 210)

(Continued from page 209)  
government-insured loans.

There are two ways in which this contingency may be provided for. The mortgage agreement may be written to provide that from time to time additional amounts may be borrowed not in excess of the total amount previously repaid; or the agreement may actually permit advances in addition to the original amount of the mortgage to be secured by the same instrument. The first method is generally more acceptable to lenders. Either plan may permit the payment period to be extended so as not to increase the amount of the monthly payment.

As with the packaged mortgage, the open-end mortgage makes possible substantial savings to the borrower, who would otherwise have to incur additional expense by making secondary loans on more costly terms or by refinancing the existing mortgage. The lender loses nothing by this kind of transaction, but, in fact, is benefited by the economical means it provides for keeping the property in good condition and by insuring that he will not lose a good loan by refinancing.

Both packaged and open-end features may sometimes be combined; and it is desirable that, where possible, this combination be made. These provisions, however, must be included at the time the mortgage is

first entered into in order to be fully effective. If they are added later, it is necessary to rewrite and re-record the instrument—a procedure that involves expense.

A third desirable feature in a modern mortgage is a provision permitting any advance payments on principal to be credited against later amortization payments, where, for good reason, the borrower needs temporary relief from the regular payment schedule. This provision—which, again, must be written into the mortgage agreement at the time it is made—permits the borrower to protect himself by paying larger amounts when circumstances are favorable and by reducing his obligation during a period of sickness or unemployment.

#### **What the new methods are doing**

The changes in mortgage financing methods have had profound results. First of all, they have made it possible for more families than ever before to own their own homes. In 1930 the number of owner-occupied nonfarm homes was 10,503,000 and they represented 46 per cent of all occupied family dwellings; in 1940 the ratio had dropped to 41 per cent (11,358,000 in number).<sup>\*</sup> In 1950, the number of owner-occupied homes had increased to 19,528,000 and the ratio to 53 per cent of all oc-

cupied dwellings.<sup>\*\*</sup> This change was partly due to the increasing prosperity of the country and the growth of a real housebuilding industry. But in any event it could not have been accomplished without low down payments and easy, regular terms of payment.

The growth of the home building industry itself has been largely attributable to the new methods of financing. In this the FHA system made a signal contribution. For it was not only the fact that the new financing opened a vast market that had never been tapped before, important as that was, but also that the FHA (and later the VA) procedure for giving commitments to merchant builders made it possible for builders to obtain large construction loans. It was these facilities that made possible the large neighborhood developments that have been so characteristic of the postwar period.

But it is not the mere increase in home ownership or the development of a strong industry that is the most outstanding result of the modern financing. The best result is that this larger number of home owners have been accommodated in greater security than would otherwise have been possible.

<sup>\*</sup> 1940 Census of Housing, Vol. II, Part I, p. 3, Table III.

<sup>\*\*</sup> 1950 Census of Housing, Preliminary Reports, Series HC-5, No. 1, Table 2.

## **Mortgage Forecast—1979**

**T**HE HOME FINANCING SYSTEM is still in evolution. The packaged mortgage features and open-end mortgage features need further development. Looking ahead at mortgage financing for the next quarter century, it is obvious that there will be problems not only in obtaining the additional funds required, but also in assuring a stable flow of these funds in all sections of the country.

The spectacular home building achievements of the postwar years would not have been possible without the considerable improvement in the mortgage money situation

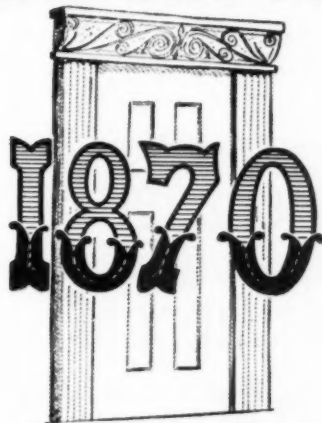
that took place in the past twenty years. For the remainder of this decade alone, to increase the volume of home building to the levels required—according to NAHB estimates—a one-third increase in mortgage funds for new housing will be necessary. Pension funds and group participation plans are among the possible sources of additional funds now being given serious study. Other sources will have to be explored and developed to permit home building to make its full contribution to a better America.

The 1954 housing legislation, covering the improvement and expansion of the FHA mortgage insur-

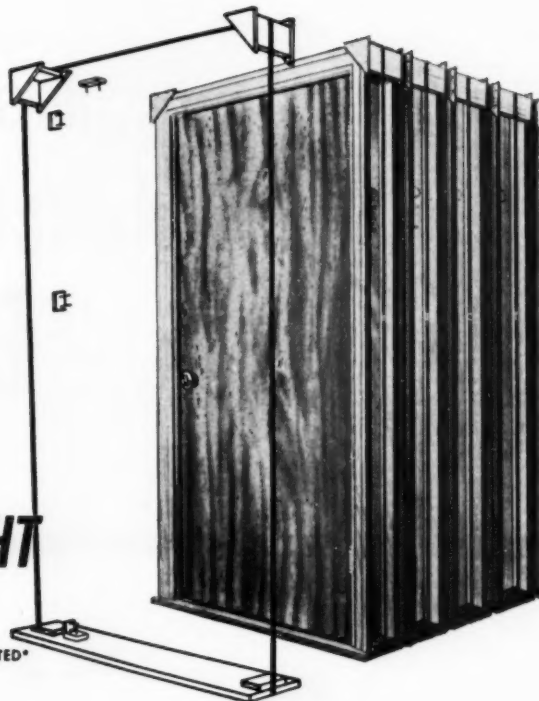
ance system, the improving of secondary market facilities, and conservation and rehabilitation of the existing supply, will provide important tools for doing the job in the future.

The pattern of future mortgage lending has been pretty well set—a fully amortized loan, payable in regular monthly installments over a long period, involving a high loan-to-value ratio and a total amount sufficient to meet requirements for financing the complete house. It will be a pattern which will encourage the continued growth of the home building industry and the spread of secure home ownership.

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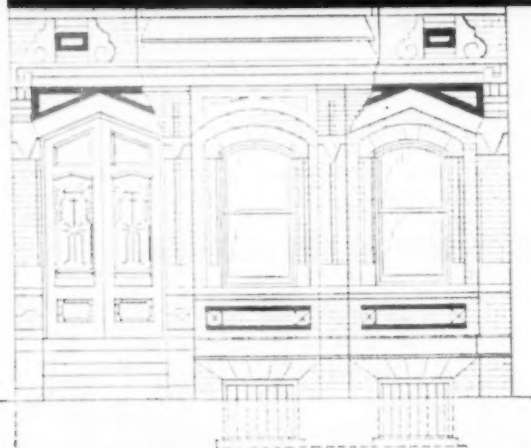
1879

City Residence By Frederick T. Camp (from American Builder, Nov. 1879)



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- \* *Flexibility of color,  
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Send for folder describing free literature available for your reference files.  
West Coast Lumbermen's Assn., 1410 S. W. Morrison St., Portland 5, Ore.



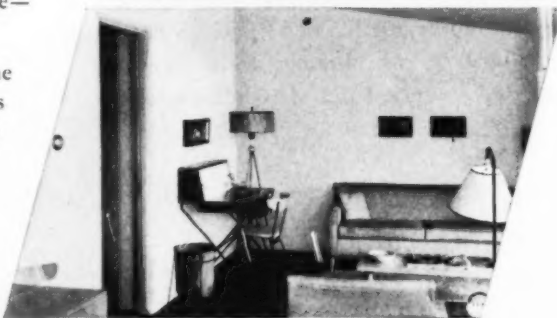
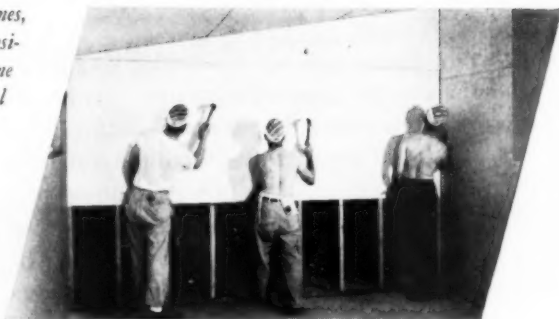
# "No problem to get SMOOTH SEAMLESS INTERIORS with Gold Bond Gypsum Wallboard"

says **Builder V. A. PLACE** of Place Homes, South Bend, Indiana; member and past president of the South Bend-Mishawaka Home Builders Association; Director, National Association of Home Builders.

Place Homes use hundreds of thousands of square feet of Gold Bond Gypsum Wallboard each year in large residential developments like Miami Hills, Twyckenhams Hills and McKinley Terrace—over 1200 Gold Bond Homes.

"Gold Bond Wallboard saves us time and money," says Mr. Place. "It gives us fast, trouble-free construction. The uniformity of taper means we can offer customers smooth walls and ceilings that take any type of decoration. And Gold Bond Hard-Edge cuts down our damage loss. That tough, rigid gypsum core builds sound, fireproof interiors... yet there's plenty of flexibility in the panels for fast, easy working."

"It's a real pleasure to show prospects through our homes and point out the kind of walls and ceilings Gold Bond Wallboard gives them. Best of all, Gold Bond Wallboard costs no more than any other gypsum wallboard!"



**NATIONAL GYPSUM CO., BUFFALO 2, N. Y.**



Gypsum Board Products



Plaster and Lime



Insulation Plank and Tile



Rock Wool



Paint Products



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Asbestos-Cement Products

... GYPSUM WALLBOARD PRODUCTS

# NEW LOW COST QUALITY FOLDING DOOR

**\$19<sup>95</sup>** LIST COMPLETE  
2' 8" x 6' 8 1/2"

Also available in  
.3' x 6' 8 1/2" and 4' x 6' 8 1/2"

**Durable Construction!** Expect a lifetime of trouble-free operation from FOL-BAK. In tests, FOL-BAK has been opened and closed 142,725 times—about 30 years of normal use—without noticeable wear! *It's a quality door, by the makers of FOLDOOR.*

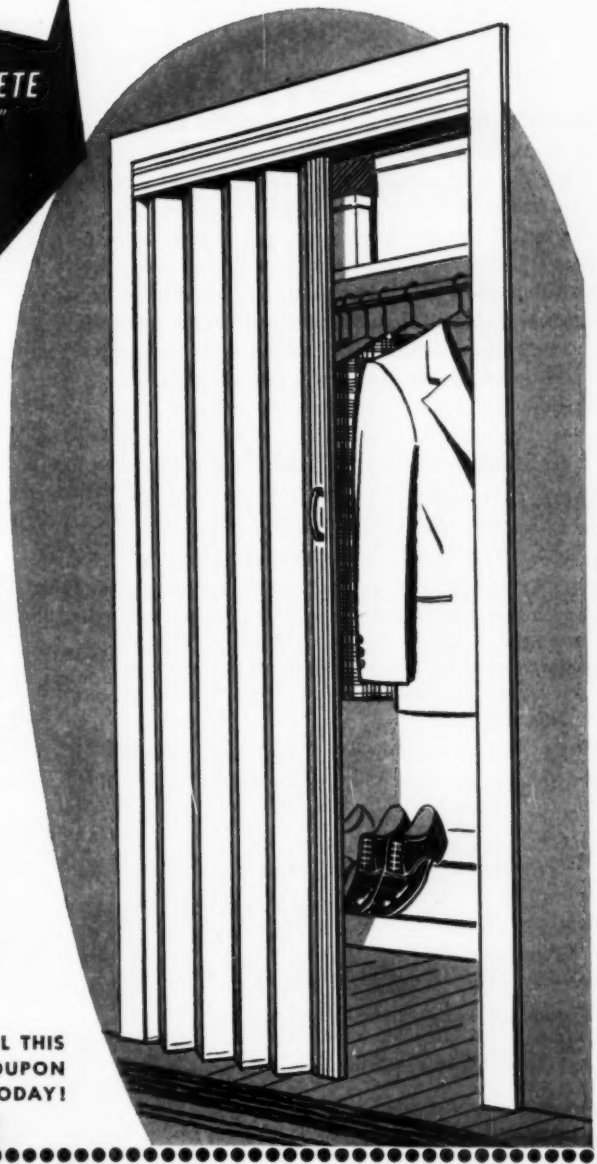
**Quality Fabrics!** FOL-BAK vinyl fabrics feel like cloth, look like expensive drapery material—are easy to wash with soap and water.

**Choice of Colors!** Attractive, harmonizing colors that blend with and beautify any interior—chosen by leading decorators. Handsome cornice and positive latch included.

**Wonderful Space Saver!** FOL-BAK is ideal for wardrobe or closets—wherever more floor space is desired. Special non-rigid construction allows FOL-BAK to take rough treatment, hard blows.

**Easy Installation!** Takes only a few minutes. Cornice, screws and instructions included with each individually packed door.

**New, Low Price!** No other fabric-covered folding door matches the \$19.95 price of FOL-BAK! Slightly higher on West Coast.



MAIL THIS  
COUPON  
TODAY!

HOLCOMB & HOKE  
**Fol-Bak**  
FOLDING DOOR

HOLCOMB & HOKE MFG. CO., INC.  
1545 Van Buren Street, Indianapolis 7, Indiana  
Please rush me descriptive literature on FOL-BAK  
I am a  dealer     builder

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Address.....  
City..... State.....

# KENFLEX vinyl tile floors can be installed below grade... over concrete in contact with the earth

A.I.A. 23-G

**Specify KenFlex** for below-grade basements with complete confidence. Once down, it is amazingly durable...outwearing other types of resilient floors of equal thickness. KenFlex is easy to clean, too...with a smoother, non-porous surface that is impervious to spilled greases and oils, inks and detergents...acids, alkalis and alcohols. Yet, normal residential maintenance consists only of a damp mopping...and KenFlex doesn't require waxing except to make the crystal-clear colors shine a bit more.

## Specifications and Technical Data

**INSTALLATION:** Over any smooth, firm interior surface: wood, plywood, radiant heated concrete slab, concrete in contact with the earth—on or below grade.

**THICKNESSES:** Laboratory and in-use tests have proven the wear-resistance and durability of vinyl flooring. Consequently, Standard Gauge (1/16") is recommended for normal residential and commercial uses. Where traffic will be very severe 1/8" KenFlex is suggested.

**SIZES:** Standard tile size is 9" x 9"...also available are 9" x 9" decorative ThemeTile inserts, and 1" x 24" Feature Strip in four solid colors.

### Approximate Installed Prices (per sq. ft.)

	Standard (1/16") Gauge	1/8" Gauge
KENFLEX—all colors	40¢	65¢

KenFlex is available in 15 colors, all of which are marbled. Costs shown above are based on a minimum area of 1,000 sq. ft. over cement underfloor.

**Samples and Literature available** on request from nearest Kentile, Inc. office listed below. Or, contact the nearest Kentile Flooring Contractor. He's listed under FLOORS in the Classified Telephone Directory.



*KenFlex is the floor your clients know and want...*

**BACKED BY MORE FULL-COLOR ADVERTISING THAN ANY OTHER VINYL TILE FLOOR**

**KENTILE \* SPECIAL KENTILE \* KENCORK \* KENRUBBER \* KENFLEX \* KENFLOR**

\*Reg. U. S. Pat. Off.

**KENTILE, INC.**, 58 Second Avenue, Brooklyn 15, New York • 350 Fifth Avenue, New York 1, New York • 705 Architects Building, 17th and Sansom Streets, Philadelphia 3, Pennsylvania • 1211 NBC Building, Cleveland 14, Ohio • 900 Peachtree Street N.E., Atlanta 5, Georgia • 2020 Walnut Street, Kansas City 8, Missouri • 4532 So. Kolin Avenue, Chicago 32, Illinois • 4501 Santa Fe Avenue, Los Angeles 58, California



Interior design, Stanley Haggart...Photography, Maurice Bauman Studios

# KENFLEX

VINYL TILE







saws like wood  
because it is wood



nails like wood  
because it is wood



resists moisture



won't split, shatter  
or crack

**it is wood...**

— from the Douglas fir  
forests of Oregon

*Tough fibers bonded with natural lignin interlock in all directions — give Allwood Hardboard strength, dimensional stability, resistance to wear and hard knocks.*

# allwood\*

## HARDBOARD

is a BETTER Building Material

Allwood's ease of handling speeds every job — saves you money, time and labor. It's perfect for interior or exterior use in homes, offices, shops, and on the farm. For walls, ceilings, partitions, built-ins, underlayment, porch decking, soffits, siding, garages and other outbuildings. All types of finish go on fast — look better on — won't chip or peel off Allwood's hard, smooth surface.

See your dealer TODAY for full information on Allwood Hardboard. If he doesn't have it, write us his name... we'll send a jobber to call on him.

**Dealers:** There's a market, ready and waiting, for Allwood Hardboard. Get set now to serve *your* customers with this *better* building material. Contact your jobber right away... or write direct.

Builders — try speedy, convenient and top-notch quality John Day Packaged Ponderosa Pine Trim for doors and windows. Ask your dealer about it — or write for full details.



### Oregon Lumber Company

Hardboard Division

DEE, OREGON

\*T.M. Oregon Lumber Co.

**low-cost housing needs the**

**EXTRA STRENGTH  
and FIRE SAFETY  
of lath and plaster**

This housing project in Peoria, Illinois, is a fine example of building wisely, though economically. Extra strength and fire safety are not considered "luxuries" here, not when you are going to house 360 families. To get the extra strength and safety they wanted, Architects J. Fletcher Lankton, John N. Ziegele and Associates specified plaster for all the walls and ceilings, and approved the use of Keycorner and Keybead wire reinforcing lath at corners and junctures.

These plaster walls are much stronger than "dry wall" and give extra strength, longer life and better service to this housing development. And, of course, fire safety is greatly increased when you build with plaster, especially reinforced plaster.

Every day, more architects and builders realize that the use of reinforced lath and plaster is the best way to build housing that has the durability, protection, beauty and long-range economy that assures satisfaction to both dweller and owners. Ask your plastering contractor to figure your jobs with the "3 Keys to Stronger Plaster"—Keymesh, Keycorner and Keybead.

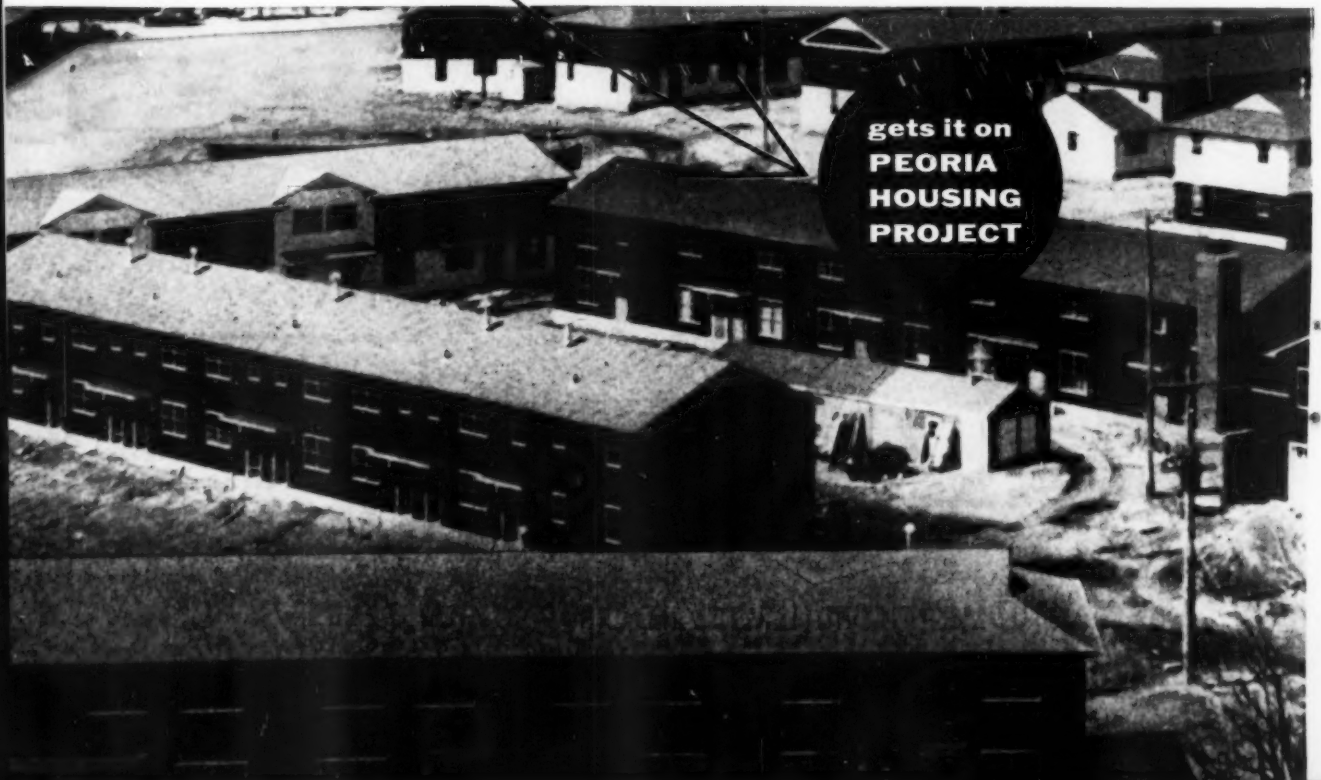
**3 KEYS TO  
STRONGER PLASTER**



**KEYSTONE STEEL & WIRE COMPANY**

Peoria 7, Illinois

Makers of { Keymesh • Keybead • Keycorner • Keystone Nails  
Keystone Tie Wire • Keystone Welded Wire Fabric



**Peoria project  
architects say:**

"When we want the best plastering job, we specify reinforced plaster, and we know Keymesh, Keycorner and Keybead do exactly the job we want. Even when price is a major consideration, we like to use lath and plaster because it is superior to "dry wall" construction and assures the durability, protection and long-range economy that makes the best investment."

*J. Fletcher Lankton  
John N. Ziegele and Associates  
Architects—Engineers  
Peoria, Illinois*

**C. S. Miller, President  
of Mid-States Plastering  
Contractors, says:**

"If you want a good, strong plastering job, I recommend the 3 Keys to Stronger Plaster—Keymesh, Keycorner and Keybead. These three wire reinforcement products give very good protection against cracking. They're easy to work with, too. Keymesh and Keycorner unroll flat, don't cut the hands, and are put up easily, quickly. Keybead is easily applied for a straight, solid corner. You can't beat the 3 Keys to Stronger Plaster."



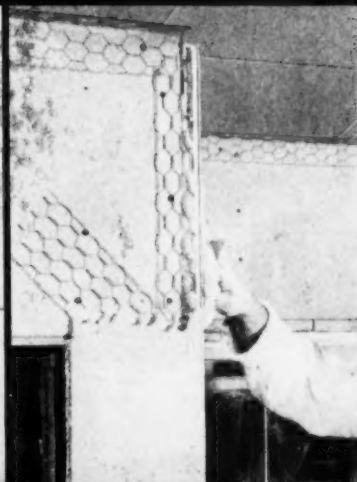
**Easy to use**—Keycorner unrolls flat, cuts easily, handles easily, speeds the job. Cuts down waste, too.



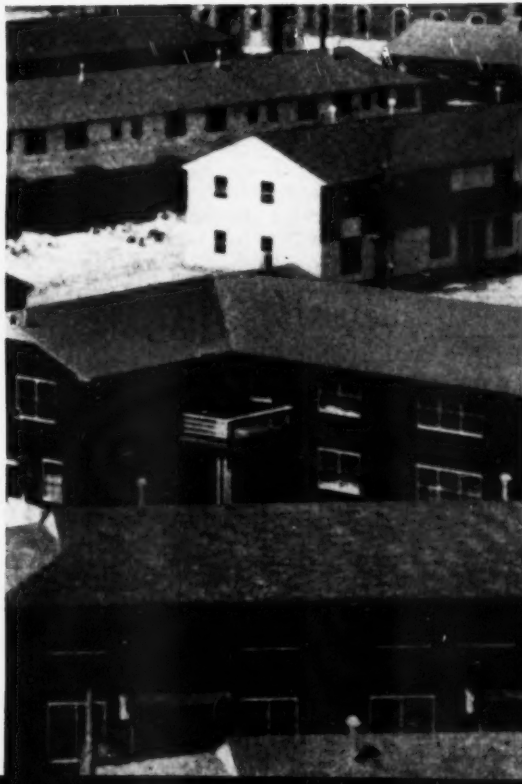
**Preformed**—Keycorner is preformed for corners, joints, ceiling junctures. Flex it and it fits right in.



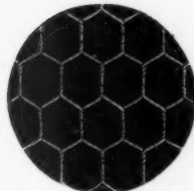
**Solid Corners**—Keybead's precision-formed bead on open mesh fits all outside corners, quickly, easily. Full, solid corners result.



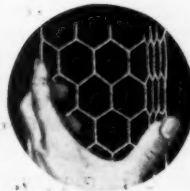
**Easy Trowelling**—Plaster flows evenly through open wire mesh; easy trowelling. Multidirectional reinforcing is backbone of strength.



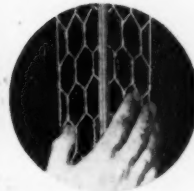
**KEYMESH**



**KEYCORNER**



**KEYBEAD**



**When you use the 3 Keys to Stronger Plaster, your finished job beats "dry wall" for strength, fire safety and beauty. The 3 Keys stop plaster cracks before they start. The superior strength and protection of your construction will last far longer. Be sure your constructions get the extra strength and fire safety of lath and plaster. And get the best plastering job! Insist on Keymesh, Keybead and Keycorner.**

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24 11a



# New Chevrolet Trucks

deliver more power, more ruggedness, for less money!



Making sure the truck you buy has plenty of power and chassis ruggedness is good business in any man's book. Getting the money-saving extra power and ruggedness of Chevrolet trucks is *better* business in any man's bookkeeping.

#### EXTRA POWER MEANS BIGGER SAVINGS

No doubt about it, the extra power you get from new high-compression Chevrolet truck engines means you're going to pay out less for gasoline. Over a year, that adds up to a sizeable savings. Increased power brings time-saving benefits, too—greater acceleration and hill-climbing ability . . . you haul faster, get the job done quicker!

#### GREATER RUGGEDNESS CUTS OPERATING COSTS

Heavier axle shafts and wheel hubs on two-ton models; bigger, more durable clutches on light- and heavy-duty

models; stronger, more rigid frames on all models. These features pay off in extra-low upkeep costs . . . extra miles of dependable truck life.

But these *while-you-drive* savings aren't all, by a long shot. You even save *when you buy*. For Chevrolet is America's lowest-priced line of trucks. Stop by your Chevrolet dealer's soon to see the "savings" trucks on the road. He'll show you models ideally suited to your job, with facts to prove you'll get more for your money. Chevrolet Division of General Motors, Detroit 2, Mich.



**MOST TRUSTWORTHY TRUCKS  
ON ANY JOB!**

#### CHEVROLET ADVANCE-DESIGN TRUCK FEATURES

**THREE GREAT ENGINES**—The new "Jobmaster 261" engine\* for extra heavy hauling. The "Thriftmaster 235" or "Loadmaster 235" for light-, medium- and heavy-duty hauling. **NEW TRUCK HYDRA-MATIC TRANSMISSION**—offered on 1/2-, 3/4- and 1-ton models. Heavy-Duty **SYNCHRO-MESH TRANSMISSION**—for fast, smooth shifting. **DIAPHRAGM SPRING CLUTCH**—improved-action engagement. **HYPOID REAR AXLE**—for longer life on all models. **TORQUE-ACTION BRAKES**—on all wheels on light- and medium-duty models. **TWIN-ACTION REAR WHEEL BRAKES**—on heavy-duty models. **DUAL-SHOE PARKING BRAKE**—greater holding ability on heavy-duty models. **NEW RIDE CONTROL SEAT**\*—eliminates back-rubbing. **NEW, LARGER UNIT-DESIGNED PICKUP AND PLATFORM STAKE BODIES**—give increased load space. **COMFORTMASTER CAB**—offers greater comfort, convenience and safety. **PANORAMIC WINDSHIELD**—for increased driver vision. **WIDE-BASE WHEELS**—for increased tire mileage. **BALL-GEAR STEERING**—easier, safer handling. **ADVANCE-DESIGN STYLING**—rugged, handsome appearance.

\*Optional at extra cost. Ride Control Seat is available on all cabs of 1 1/2- and 2-ton models, standard cabs only in other models. "Jobmaster 261" engine available on 2-ton models, truck Hydra-Matic transmission on 1/2-, 3/4- and 1-ton models.



# PRODUCT NEWS from AMERICAN-Standard

*A review of products in the news and important features worth remembering*



## HEATRIM PANELS

Attractive, space-saving Heatrim baseboard panels provide even, steady, draft-free comfort—the kind of modern comfort that appeals to your prospects. Specifically designed for forced-circulation hot water heating, they take the place of conventional wood baseboards . . . can be installed against walls or recessed to the depth of the plaster. They save floor space, leave the walls unbroken . . . permit greater latitude in designing and decorating. Heatrim panels are quiet-operating . . . hanger-supported heating element always “rides free.” The front panels are easily and firmly secured with spring steel clips . . . will not rattle.



## ARCOLINER OIL BOILER

The compact, dependable Arcoliner boiler is highly popular with builders of small to medium-sized homes. This versatile boiler, with its wet base construction, is ideal for either basement or first floor installation. The wet base keeps floors cool and increases heating efficiency. Among the customer-pleasing features of this popular boiler are its durable cast iron construction, its dependable automatic operation and its heavy insulation which minimizes heat loss, saves fuel, keeps the jacket cool. And the Arcoliner is famous for its rapid heat transfer and quick pickup.

**For further information on American-Standard products see Sweet's Light Construction File**

### American-Standard

Dept. AB-84, Pittsburgh 30, Pa.

Without obligation on my part, please send me literature on:

Heatrim Panels     Arcoliner Oil Boilers

Name.....

Firm.....

Address.....

City..... State.....



# AMERICAN-Standard

**American Radiator & Standard Sanitary Corporation, Dept. AB-84, Pittsburgh 30, Pa.**

*Serving home and industry: AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS & WALL TILE • DETROIT CONTROLS • KEWAUNEE BOILERS • BOSS EXCHANGERS • SUNBEAM AIR CONDITIONERS*

**AUGUST 1954**

**221**



"Does the G-E Kitchen really

**We sold 30**



**This is Mrs. Peggy Rathe**, recent purchaser of a Carol Estates home, in the kitchen that *really* sold the house to her. She is delighted with the gleaming G-E appliances that lighten her work every day. She is *completely* sold on her

wonderful G-E Kitchen, which includes: a big G-E Range, the timesaving Dishwasher, Refrigerator, handy G-E Disposall,<sup>®</sup> and spacious Cabinets. For Mrs. Rathe, it's a marvelous kitchen at an *amazingly low price!*

**Regardless of price range, your houses can have a G-E Kitchen-Laundry**

(See your G-E distributor for answers to your builder problems)



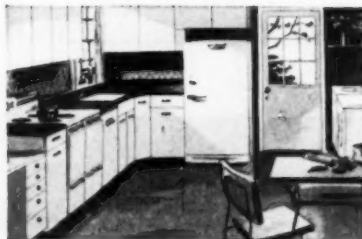
**IN YOUR \$9,995 HOUSES**

Include G-E Refrigerator, G-E Range, G-E Automatic Washer, G-E Disposall, and G-E Cabinets. They add as little as \$3.26 monthly to the mortgage payments.



**IN YOUR \$12,500 HOUSES**

Include G-E Refrigerator, G-E Range, G-E Dishwasher, G-E Disposall, G-E Automatic Washer, G-E Cabinets. They add as little as \$5.31 monthly to mortgage payments.



**IN YOUR \$16,000 HOUSES**

Include G-E Refrigerator, G-E Range, G-E Dishwasher, G-E Disposall, G-E Automatic Washer, G-E Dryer, G-E Cabinets. They add as little as \$6.31 to mortgage payments.

# help sell houses faster? We know so! houses in 10 days!"

**Mr. Frank Manfredi**, president of Manfredi Bros., Inc. says: "We were flabbergasted—and delighted—at the swarms of people that went through our model house on opening day.

Furthermore, we found that we spent most of our time in the G-E Kitchen, where most people congregated, and asked questions. Folks are certainly sold on G.E. . . . and they were amazed to learn they could own this complete kitchen for less than 5 dollars extra a month on regular mortgage payments.

The G-E Kitchen certainly *does* help sell houses

faster. This was our first experience with G.E. . . . and from now on we'll be depending on G-E Kitchens for the kind of terrific house sales we've had here."

G.E. can be a solid sales-maker for you, too. Your G-E distributor-builder specialist will work with you with promotional and merchandising plans for *your* home openings, as he has with so many alert builders. He can help you sell your houses *faster in today's tough competitive market.*

See your G-E distributor, or write: Home Bureau, General Electric Company, Louisville 1, Kentucky.

## ***Carol Estates, in Teaneck, N. J.***



HOME BUREAU

GENERAL  ELECTRIC

*Modern as the jet age!*

*New as tomorrow!*



**World's  
most  
modern  
trucks!**

**Yours only with DODGE TRUCKS!  
Advanced POWER-DOME V-8's!**

You get efficient power! Unique dome-shaped combustion chamber makes new Dodge truck Power-Dome V-8's the most efficient of all V-8's! Thrifty time-tested 6's, too!



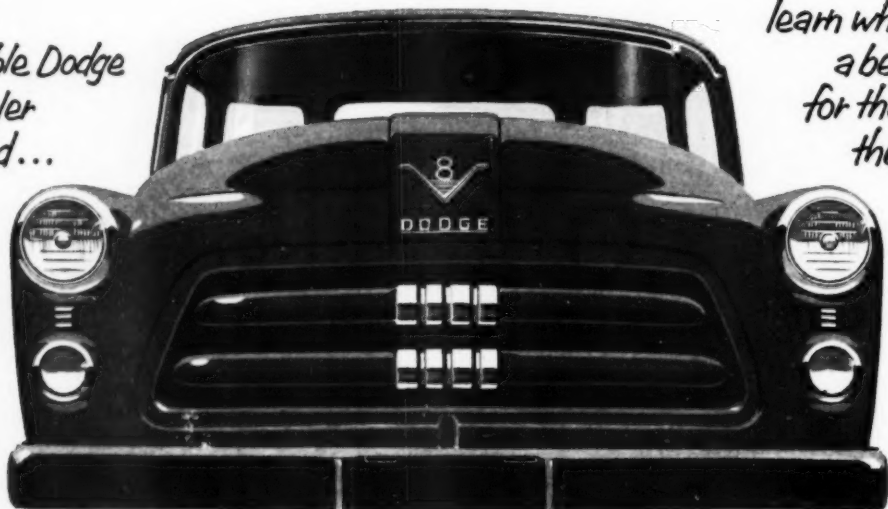
**You enjoy greater cab comfort!** More hiproom (61 3/4"), more shoulder-room (58 3/4") than any other leading make! Plus 2261 sq. in. of vision area—most of any trucks!

**You travel in high style!** You get the sleekest, lowest built lines of any truck . . . smart new colors inside and out! And these are the easiest handling trucks of all!



# DODGE *"Job-Rated"* TRUCKS

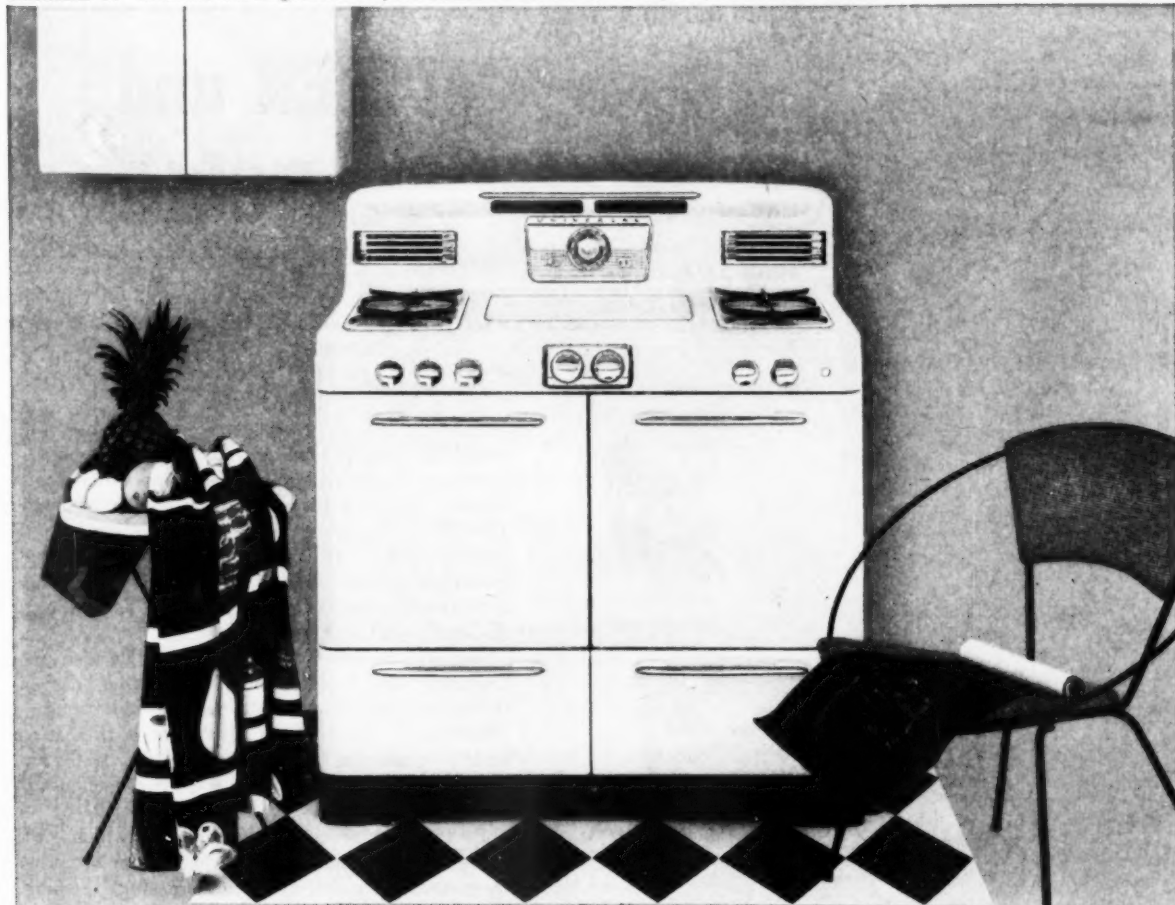
*See your dependable Dodge truck dealer today and...*



*learn why there's a better deal for the man at the wheel!*



UNIVERSAL "CP" automatic Gas range shown is by the CRIBBEN & SEXTON CO. Cabinet by AMERICAN KITCHENS.



## Here's why GAS is your smartest buy to sell houses

The new Gas ranges are not only modern-looking; they have every modern advantage. They're *cooler*—heat never lingers on the top burners. They're *easier to clean*—there are no protruding parts in oven or broiler, and top burners come out for easy sudsing. Then, too, consider the economy, the speed, the flexibility and the familiarity of Gas cooking. But beyond all that, look at the unmatched choice of features you get with Gas!

AMERICAN GAS ASSOCIATION

Your local Gas company will be happy to work with you on any problem.

GAS—the modern fuel for automatic cooking, refrigeration, water-heating, house-heating, air-conditioning, clothes-drying, incineration.

- 18½" to 58" ranges
- White ranges, colored ranges, stainless steel ranges, chrome-top ranges, colored handles
- Wonderful new separate range units in white, colors, steel or copper finish
- 3, 4, 5, 6, or 8 burners
- Automatic clocks, automatic timers, automatic lighting
- Built-in griddles, deep well cookers, even built-in dishwashers
- Simmer center burners, safety push-in burner controls, back splash burner controls
- Swing-out broilers, barbecue-oven broilers, separate high broilers
- Double ovens, oven door windows, one-piece oven liners with no cracks
- Staggered tops, divided tops, right or left hand clusters

Only

Gas 

gives so many  
modern features



In 1979 as in 1879, the great thing is the craft spirit

## of MEN and TOOLS



As THE 1880's dawned, the men and skills which had been producing American structures were caught up in the new industrialization which began rapidly sweeping through American life after the Civil War. For generations, housebuilding had depended upon skilled mechanics trained in the craft traditions of Europe. And for 20 years or so more, the great emphasis would continue to be on the individual's skill with hand tools.

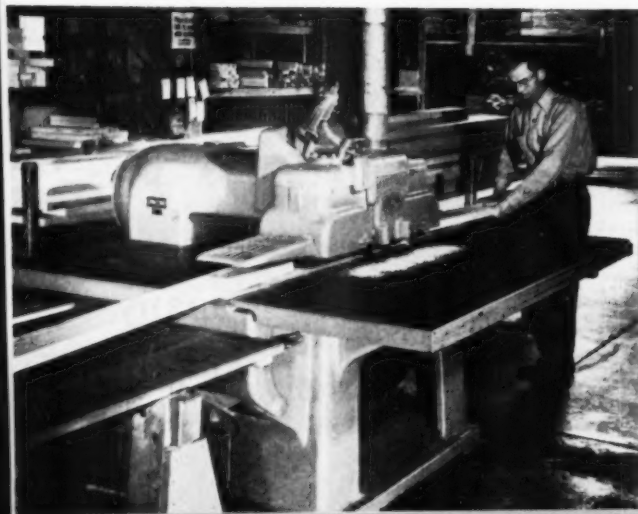
But even as early as 1879, *American Builder*, then *Carpentry and Building*, could report that "carpentry at the present day is made easy through the use of machinery." And by 1886, "machine-work is more and more entering into the housebuilding trade, and the tendency of the times is toward shorter hours of labor."

By 1900, the process of specialization which is the mark of our modern machine age began to gather the momentum which has been increasing ever since. The old skills and methods were no longer of themselves adequate to meet the demands of the new materials and tools that were appearing to transform building technology. The controlling consideration of design has more and more come to be its suitability for the machine.

So the mechanic has had to learn new skills with the machines, and his skill with hand tools, while still basic, has gradually ceased to be the all-important factor. Thus the mechanic of 1979 in housebuilding will bear little resemblance to his predecessors in the 19th century—except in this one thing: *He must be taught to love his trade for its own sake and to practice it in the honest spirit of the high craftsmanship of that more leisurely day.*

The change in immigration laws was also an important influence in changing the character and background of manpower in the building trades. The entrance into this country of labor from abroad was sharply curtailed. The old trade groupings of mechanics dominated largely by national backgrounds and sympathies were dying out. The building industry as a whole faced the healthy necessity of devising and establishing programs for the systematic training of mechanics who were purely products of American method.

The rise of the American apprenticeship-training movement began in the 1920's, got its biggest boost in the mid-30's when the Bureau of Apprenticeship





was established in the Department of Labor. This apprentice-training system, operated jointly by employers, the trades and the schools, is the most important factor in the manpower picture for the next 25 years in building.

The 1880's were a high point in the history of successful labor organization throughout American industry and in the building trades especially. The carpenters had succeeded in organizing themselves on a national basis as early as 1881. (The American Federation of Labor was also formed in that year; its Building Trades Department was organized in 1907.) The Bureau of Labor was set up within the Depart-

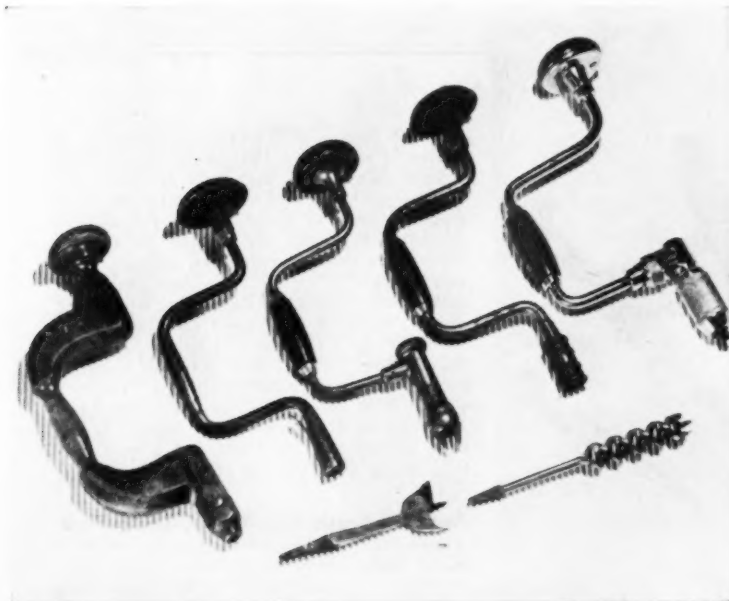
ment of the Interior in 1884, and became, with Commerce, a Department in 1888, reaching independent departmental status in 1913.

The year 1886 in the building trades was a time of great unrest and agitation. A succession of strikes occurred in the big cities. The 8-hour day (cut down from 12) was a burning issue. By May 1, 1886, the total number of workmen in industry committed to it was estimated by Bradstreet's at 325,000. The trades in which this movement was most successful were those connected with housebuilding, agricultural implement making, furniture making, and machine building. But it was not until 1893,

for instance, that the bricklayers of Boston won the 8-hour day, by peaceful arbitration between the Master Builders Association and the Bricklayers Union. For employers in the building trades also organized, to resist the trade unions. And in 1887 occurred the first meeting of the National Association of Builders of the U. S. of A.

The spirit of these critical times in labor relations is vividly expressed in this abbreviated account from *American Builder* of a strike of bricklayers and stonemasons in Chicago in the spring of 1887. The

(Continued on page 230)



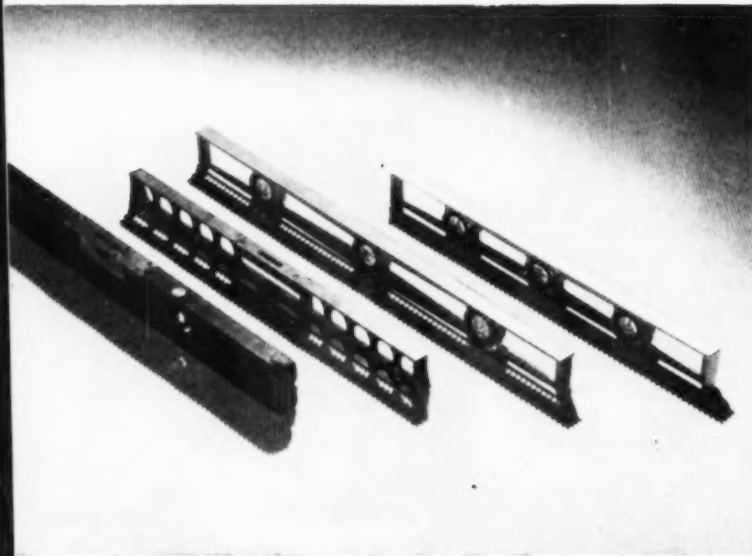
Still in use by 1879 were bit braces made of wood with a metal square socket chuck (left). By 1864, chucks had a pin-locking device to hold the bit in place (2nd from left), and the iron bow was developed. Then came the revolving handle on the bow to facilitate turning, and movable jaws in the chuck to hold various sizes of bit tangs. Universal jaws were designed to hold straight or tapered shanks, round or square. The ratchet brace followed, of which the far right model is the latest—an engineered tool with ratchet to eliminate a full swing, ball-bearing head, tropical hardwood handles and chrome-plated parts. Two types of bits are shown—the early flat spade-type and the modern double twist auger bit

To see how hand tools have changed  
—please turn page

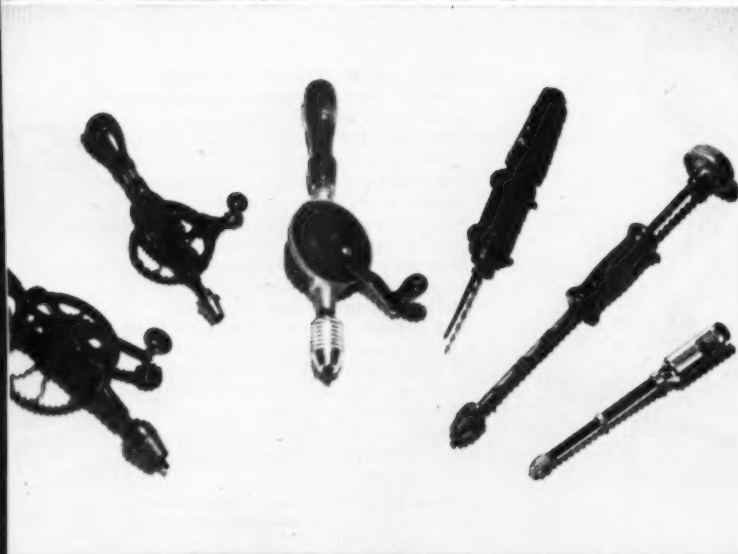


## changes in hand tools

**BENCH PLANES** were originally made of wood (far left in upper row). Then an iron bottom was put on to eliminate wear. The first successful iron plane, invented by Leonard Bailey, appeared as early as 1869, but some craftsmen objected to it, so a plane was made with a wooden bottom and an iron top (third model top row). But Bailey construction principles won out. The design allowed the use of a thin blade instead of the heavy wedge-shaped blade of the old-style planes. Also, it was less expensive to manufacture. Far right upper row shows the latest model bench plane. To its left is today's rabbet plane, which has superseded the two models shown immediately to its left. In foreground is a 3-stage development in circular planes for planing curved surfaces. The Victorian model (left) gave way to the one made of sheet metal, and today we have the iron casting plane.



**LEVELS** have gone from wood to iron to aluminum to magnesium. Early wooden ones (left) were heavy and cumbersome and susceptible to warping. However, new manufacturing methods, kiln drying, planing and sanding are today producing superior wooden levels. The iron level (next) was developed for stability and ruggedness but was too heavy. The aluminum level appeared in 1917, stood abuse, was stronger and less subject to wear. By 1954, the magnesium level (far right), even lighter than aluminum, was the leader in popularity.



**DRILLS** used in 1879 had two jaw chucks. In center of row is the 1954 model, with aluminum housing. Enclosed gears are protected from dust; hands and clothing will not catch. Ball bearings on spindle carry the drilling pressure. The jaws are positive because of three jaws and concealed jaw springs. First tool to right of center is the bow drill, still used in other countries. Bow string is wrapped around the drill and sawed back and forth. Next tool is a two-handed spiral drill produced about 1900. It does not have a return spring. The modern chrome-plated "Yankee" push-drill at far right is used with one hand and contains drill points in the handle. It has been refined and shortened, has a quick return spring and a positive chuck.

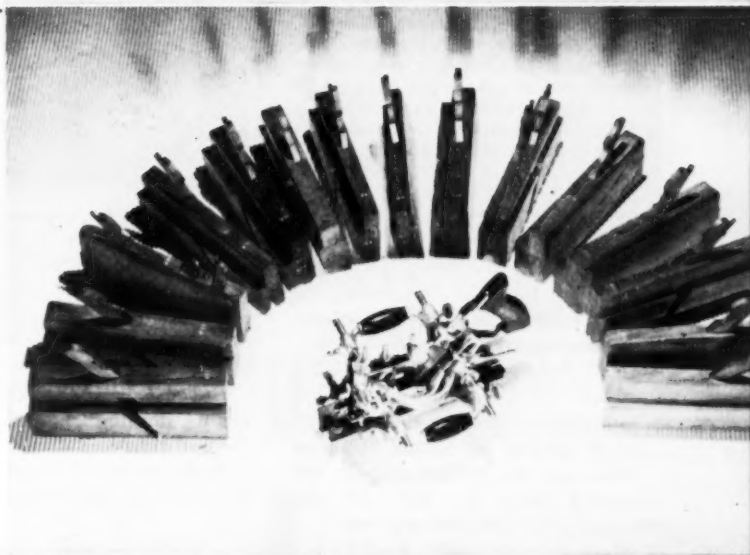
*Photos and data by E. C. Benfield, Stanley Tools*



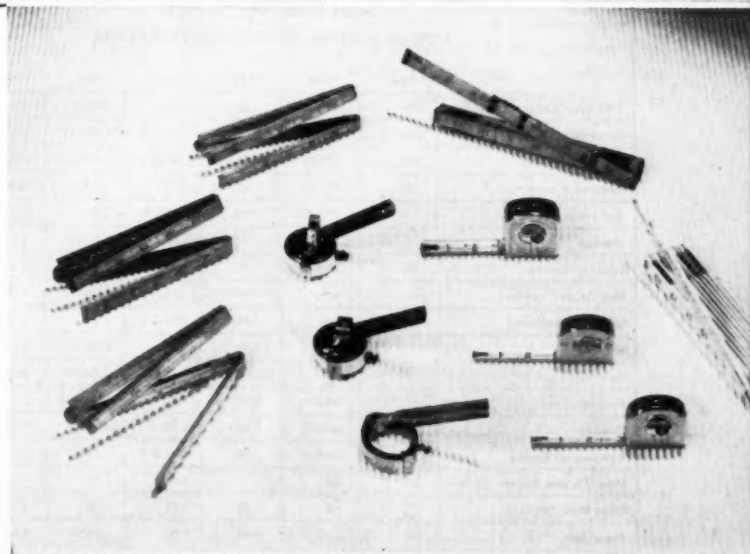
**SCREW DRIVERS**, factory made, began to appear about 1850. They resembled earlier hand-forged types with flat blades. A flat hardwood handle was locked to the blade with molten lead. The blades were straight carbon steel, hard and strong, but brittle. In 1901, George E. Wood and John Hurley began making the "Hurwood" (fourth from left) in Plantsville, Connecticut. This driver was designed to be used as a pry bar as well as for driving screws, and could also be pounded on. It was the first of the modern screw drivers with blades of alloy-steels carefully heat-treated. Later model, stamped "Stanley", has cross-grinding for accurate fit of slots in screws. The spiral ratchet driver was first made by North Bros. about 1900. 1954 "Yankee" model (right) speeds up installations. Shockproof plastic handles came along as use of electricity increased, replacing the hickory used for chisels and drivers.



**PLANES** by the dozen were required by the master carpenter who produced the Victorian house with its elaborate woodwork. The wooden planes in the semi-circle are only a few of the tools replaced by the Stanley "55", in the center. The "55" is literally a planing mill within itself. Its predecessor was the "45" in 1884. The "55" came along in 1893 and is still in demand for matching ornate mouldings of the Victorian period and for producing decoration on cabinet work and furniture.



**RULES** reflect many changes and a trend toward compactness. The folding ivory rule (lower left) was the ultimate in its day for beauty and black markings on a white background. German silver mountings gave it richness. Then boxwood was found to be more desirable than ivory as a material. But carpenters demanded a longer length, with compactness. So the zig-zag extension rule with a spring joint (1899) was developed (top right). Next step was to provide black numbers and graduations on white paint, as shown by the rule at extreme right. This rule also has a graduated brass slide for inside measurements, and the sticks end in even measurements. Greater compactness, rigidity for measuring straight, and flexibility for measuring curves and angles were achieved in the first pull-push rule, invented by Hiram A. Farrand in 1926. The "shooting out" feature of this rule was eliminated in 1931. Today, these rules have strong cases, clear black markings on white backgrounds.





1855 and 1874 are significant dates in the development of American-made hand saws. In that former year, Henry Disston cast the first crucible steel made in America, and in 1874 designed the skew-back saw. Until then, hand saws had straight backs

(Continued from page 227)

men struck ostensibly to have their payday changed.

"They believed themselves strong enough to force the concession . . . But they reckoned without their host. The carpenters' strike, the hod carriers' strike and a number of other strikes of less consequence had gradually worked the employers up to a fighting pitch, and this last strike was the straw that broke the camel's back. On May 12, the

builders' association ordered all building to be discontinued."

The strike closed on July 8. An arbitration committee, selected by master masons and the striking bricklayers, was "well done and resulted in a restoration of harmony." A joint standing committee, representing each organization, with an umpire, was set up to hear all grievances between organizations, and the great bone of contention—the Saturday pay day—was dropped "as being of no consequence."

By 1900, with the times prosperous and wages generally advanced,



An early (1932) finishing sander made by Porter-Cable. It had a drum on which an abrasive sheet was mounted

serious labor troubles were far and few between.

By 1954, one of the most powerful factors affecting labor relations was the Taft-Hartley Act.

(For forecast of future labor relations turn to page 319.)

### Changes in Tools

At the turn of the century, new materials, new fastenings, building booms and new methods of construction had their impact on tool design and use. Woodworking mills minimized the need for many special hand tools such as beaders, scrapers, moulding planes, spoke shaves and circular planes. Fiber and other wall boards required tools having razor edge cutters for slitting and beveling. Power sanding machines replaced scrapers for use on flooring.

As new and better materials have become available for tool manufac-



1924—The first Skilsaw, one of the pioneers of a whole new era of power tooling on the building site

ture, the tools themselves have become stronger and lighter in weight. The aluminum and magnesium levels are a good example. And plastics are very much in the forefront of tool design for the next 25 years.

Electrically-powered portable machines brought in a whole new period of tooling beginning in the 1920's. The theme was and is speed of construction and high volume of production. In this picture, hand tools are still basic but at a secondary level.

The router alone, one of the most versatile of power tools, is gradually replacing the many single tools which accomplished specific cutting jobs in the past.

The power tool future is, of course, part and parcel of the whole prospect of new developments in the production of power and of new developments in materials used for building. Perhaps the time is not too far distant when an electric drill will not be "electric" in the sense in which that term is understood today. Perhaps we will insert an atomic pill in the handle and go to work.

WAGE RATES 1900 TO 1953							
CHICAGO BUILDING AND CONSTRUCTION TRADES							
	1900	1910	1920	1930	1940	1950	1953
Bricklayers and Stone Masons	.50	.67-1/2	1.00	1.70	1.70	2.55	3.325
Carpenters	.42-1/2	.60	1.00	1.62-1/2	1.62-1/2	2.55	3.05
Cement Finishers	.42-1/2	.57-1/2	1.00	1.62-1/2	1.62-1/2	2.45	3.05
Electrical Workers	.50	.68-1/2	1.00	1.70	1.70	2.65	3.18
Gas Fitters		.68-3/4	1.00	1.62-1/2	1.70	2.60	
Glaziers				1.70	1.94-2/7	2.65	3.215
Laborers, Common	.25	.37-1/2	.70	.97-1/2	1.02-1/2	1.85	2.275
Hod Carriers' Laborers		.40		.97-1/2	1.02-1/2	1.85	2.275
Laborers, Plasterers		.60	.76-1/4	1.02-3/4	1.10	1.975	2.40
Luthers		.65	1.00	1.70	1.70	2.70	3.30
Painters	.37-1/2	.60	.87-1/2	1.75	1.66-2/3	2.475	3.00
Plasterers	.50	.68-3/4	1.00	1.70	1.70	2.75	3.30
Plumbers	.50	.68-1/2	1.25	1.70	1.70	2.60	3.00
Composition Roofers	.50	.68-3/4	1.00	1.62-1/2	1.75	2.55	3.20
Stone, Tile and Asbestos Roofers	.50	.60		1.75	1.75	2.55	3.20
Sheet Metal Workers		.60	1.00	1.70	1.70	2.55	3.05
Pipe Fitters	.50	.68-1/2	1.00	1.70	1.70	2.60	3.06

# Why take chances on Hot Water?

**This builder doesn't!**

This house at Shanopin Highlands, Pittsburgh, Pa., was built by Mr. G. K. Meyer. He says: "Although I'm building in a more conservative part of the country, I find home buyers here eager to accept progressive ideas. That's why I put an *Electric Water Heater* in every house I build. It keeps me out of 'hot water' by keeping my customers in it."



## QUIZ FOR BUILDERS

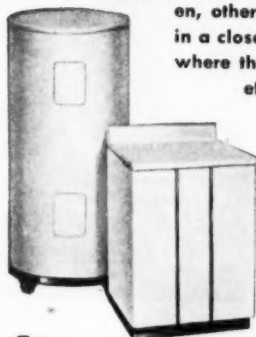
Why risk any question about the hot water supply in the homes you build? You can sell them easier by installing *Electric Water Heaters*.

Home buyers want to be modern *electrically*—so they will want this water heater that automatically assures an ample supply of hot water at any hour of the day or night. They'll like the fact that it's clean in operation, and doesn't heat up the area where it's installed, because the tank is so completely and heavily insulated.

The *Electric Water Heater* is good for the builder—as well as his customer. Since it can be installed anywhere, hot water lines can be short—to reduce installation cost and minimize radiation loss. That's why you should . . .

**Q** ■ Where is the water heater installed in this house?

**A** ■ Here it is installed in the basement. Some builders install it in the kitchen, others in the garage—or even in a closet. It can be installed anywhere that's most convenient and efficient—without regard to flue or vent.



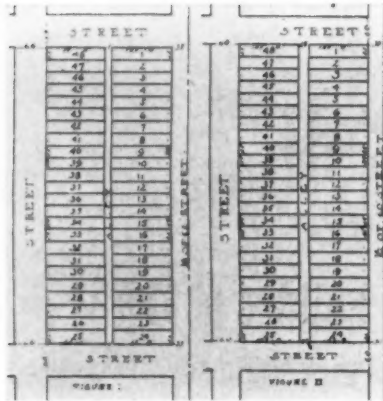
Be modern . . .  
live *Electrically!*

*Equip your homes with*  
**electric water heaters**

**THEY'RE WHAT  
PEOPLE WANT!**

**ELECTRIC WATER HEATER SECTION**  
National Electrical Manufacturers Association  
155 East 44th Street, New York 17, N. Y.

ALLCRAFT • BAUER • C-E HEATMASTER • CRANE-LINE SELECTIC • CROSLY • DEEPFREEZE  
FAIRBANKS-MORSE • FRIGIDAIRE • GENERAL ELECTRIC • HOTPOINT • HOTSTREAM  
JOHN WOOD • KELVINATOR • LAWSON • MERTLAND • MONARCH • NORGE  
PEMCO • REX • RHEEM • SEPCO • A. O. SMITH • THERMOGRAY • WESTINGHOUSE



1979 . . . Typical subdivision of 5-acre tracts. Streets 60 or 66 feet wide, lots 25 feet wide

# high points in the

By Max S. Wehrly

Executive Director, Urban Land Institute



## Forecast — 1979

New community planning over the next 25 years will develop these basic points: integrated neighborhoods built around a focal community facility serviced by a well-located shopping district, and tied together with an intelligent system of local, collector and major streets in proper relation to each other. Extremely important will be adherence to natural topography, preservation of natural amenities, pleasing street alignment, judicious use of the cul-de-sac, discouragement of through traffic, and more attention to the neighborhood concept and neighborhood organization combined with adequate and workable protective covenants. Plan shown here is for Belmont, now building at Pueblo, Colorado



# development of land planning

**T**O SAY that the history of land planning in the United States is based upon a square is probably an over simplification of fact. However, the square has been a most important factor in influencing subdivision development. It all started with Thomas Jefferson in 1785 and the fact that the surveyor's compass, forerunner of the modern transit, made the layout of straight lines and right angles on the ground a relatively simple process. Hence the adoption by Congress of the great Government Land Survey which blanketed the country north and west of the Ohio River.

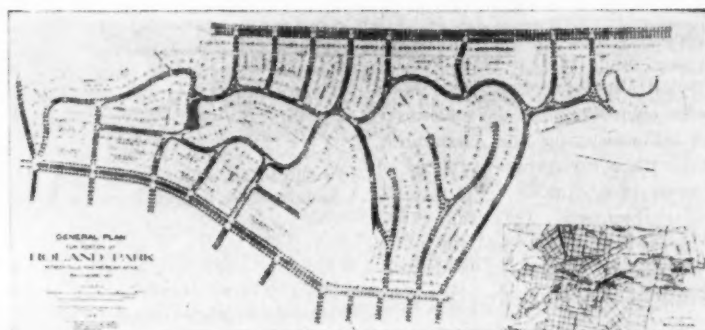
The result was endless miles of "section" lines forming six-mile township boundaries and one-mile squares (640 acres) of land, later to be divided into quarter sections (160 acres), the "west eighty" and the "lower forty."

Thus, by law, custom, and subsequent ownership, the checkerboard became the module of land subdivision for a vast portion of the country.

It was a pretty good system—up to a point. At least it was simple, direct, and convenient for the surveyor and the title lawyer.

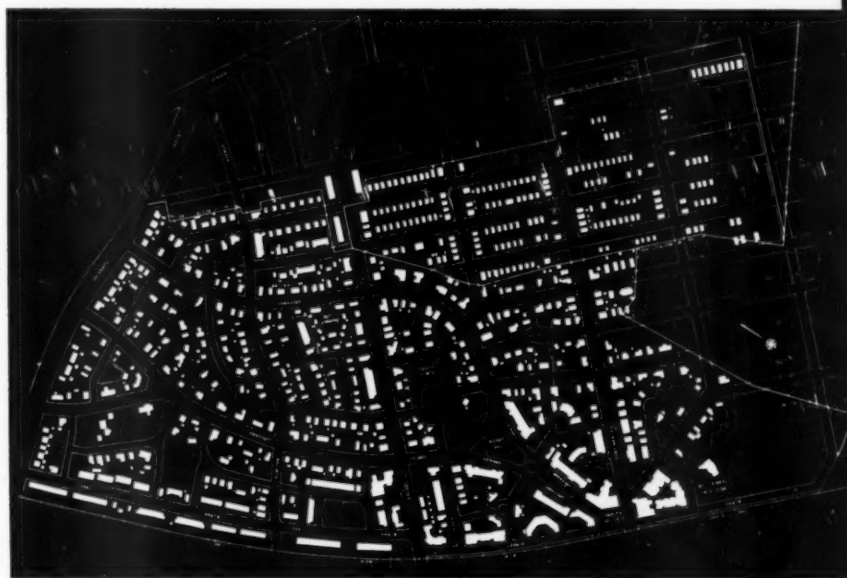
So almost 100 years later, in 1879, we find the checkerboard and gridiron firmly entrenched—in Chicago, for instance, in 300- by 600-foot blocks based on the original section lines; and in New York the typical 200- by 300-foot block, adopted in 1811. The post-bellum period was a time of high rate of immigration, rapid urbanization, and vast speculation. A straight line oriented to the compass was still the line of least resistance.

However, a reaction to unending lines of streets, blocks, and houses indefinitely extended was setting in. A recognition that land seldom was like a billiard table but had certain natural qualities of contour and vegetation began to register with the public through the work of F. L.



Courtesy, Olmsted Bros.

1891 . . . but land is seldom like a billiard table. A pioneer in the reaction to unending lines of streets and blocks was Roland Park, Baltimore



Olmsted, Sr., and the firm he founded. Highlights in Olmsted's approach to land planning included recognition of natural topography, preservation of natural amenities, and segregation of land uses. These and similar principles governed the

(Continued on page 234)

1911 . . . Enter the automobile. Forest Hills Gardens, Long Island, New York, was one of the first plans to recognize the principle of local, collector and major streets

design and layout of Riverside, Illinois, in 1869, which is one of the earliest examples of topographical subdivision planning.

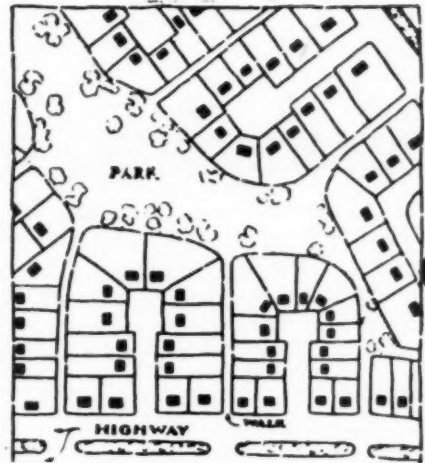
Best known of the pioneer developments in this new approach to subdivision planning is Roland Park in Baltimore, begun in 1891. Here a new element was added to that of physical design, in the form of the first deed restrictions and property owners' association, which, among other things, provided for the participation of the owners in enforcement and for the machinery for administering the community under the shifting responsibilities of development company, lot owners, and municipality. Topography was a controlling factor and the effectiveness with which the land planning was done is amply evident on the ground today.

A less well-known but equally interesting development is Vandergrift, Pennsylvania, established in 1895. Narrow lotting, the lack of side yards between houses, and absence of use restrictions detract from the arching elms and gracefully curving streets which were carefully fitted to the topography. Today the contrast between the original development and the subsequent layout of Vandergrift Heights forms an excellent case study in good and poor subdivision planning.

Everyone familiar with land development knows the Country Club District of Kansas City, started in 1906. The influence of the Government Land Survey is evident in the early layout. It was here, however, that the homes association and automatically renewing protective covenants were further developed, which, together with the preservation of natural features, has made the District one of the finest residential developments in the country.

The coming of the automobile in numbers brought an early realization in some areas of the value of designing streets to keep out traffic as well as to provide for it. Forest Hills Gardens, Long Island, New York, is a case in point. The "Gardens" is one of the first developments in the United States to recognize in its planning the principle of local, collector, and major streets. Started in 1911, it is today still one of the best developments in the country both from a planning and

The so-called super-block, used at Radburn, New Jersey, consisted of a series of cul-de-sacs around an open commons or inside park. Inside parks, however, have not worked out well and have been mostly abandoned in modern planning



Home Builders Manual for Land Development

architectural standpoint. Carefully drawn covenants, carefully designed layout, and careful community organization are the keynotes. It was here that the neighborhood unit idea was born. But off-street parking for the automobile had not yet been thought of. The innovation of interior parks was a feature copied in other developments throughout the country. Poor experience with them has forced their abandonment in all but a few cases.

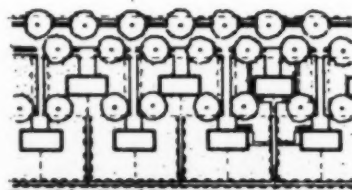
In 1912, the West Coast made one of its first and finest contributions to the development of residential land planning in St. Francis Wood, San Francisco. Here again, recognition of topography, protective covenants, and community organization combined to make this development a monument of excellence to its developers and designers. If you do not believe it, go see it today.

World War I added much to the knowledge of land planning through the work of the U.S. Housing Corporation and U.S. Shipping Board.

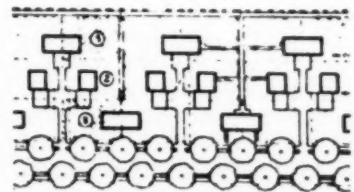
During the 20's and 30's, a number of experiments in land planning were tried. The garden apartment was born, changing not only certain

modes of living but developing a new form of land planning. Radburn, New Jersey, combined the interior park with the cul-de-sac and created the so-called super block.

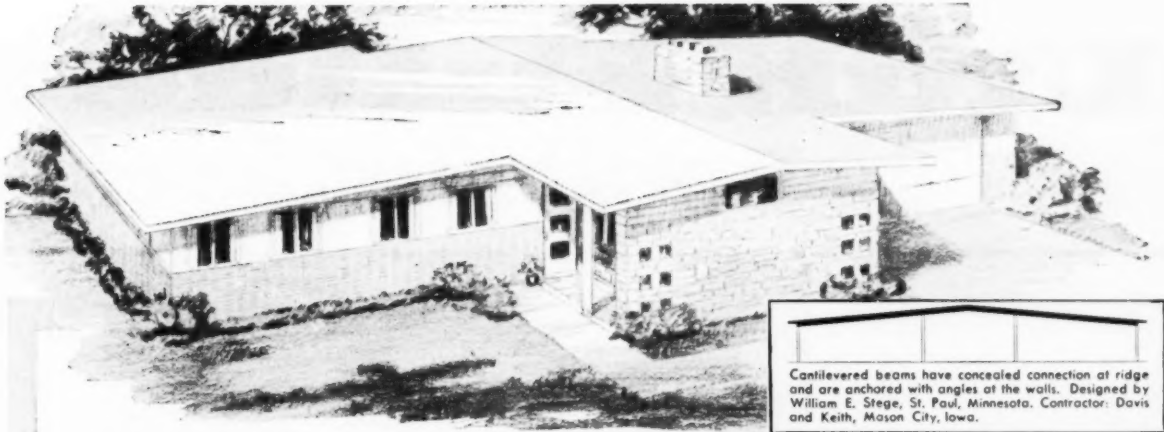
Proposals for the use of double and triple building line lotting were also advanced. Each experiment claimed certain advantages in livability, safety, and economy. Each, in turn, has been sufficiently tested in various ways to show its advantages and weaknesses. The net result has been to adopt new patterns of land subdividing which have proved sound from the design, engineering, economic, and (most important) public acceptance standpoint; and to reject those which have failed to live up to these criteria. The success of many of the innovations depends on a degree of communal living and absence of individual home ownership which most American families have not been willing to accept. Others, such as double building line lotting—which is, of course, economical of streets and utilities—have failed to recognize the drawbacks of marketability, policing, and the economy of public servicing.



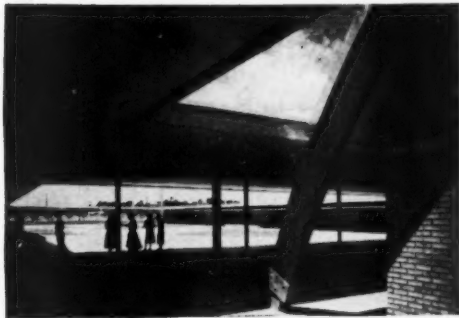
Double building line lotting



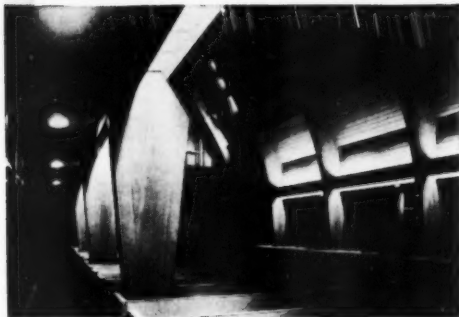
Triple building line lotting



## COULD THIS BE THE ANSWER To Tomorrow's Low Cost Construction?



Built for only \$10 per square foot, the award-winning Mirabeau S. Lamar Junior High School in Laredo, Texas, uses RILCO arches because of their low cost and flexibility of design. Architects: Caudill, Rowlett, Scott & Associates, Bryan, Texas; A. A. Leyendecker, Laredo, Texas, Assoc. Architect.



St. Luke's Lutheran Church in Manhattan, Kansas, utilizes the natural beauty of wood, the great economy and modern design of RILCO arches. Architect: Ramey & Himes, Wichita, Kansas. Contractor: Green Construction Co., Manhattan.

Here is Today's appearance with a hint of Tomorrow's economies. The home of Dr. and Mrs. S. Brownstone, Clear Lake, Iowa, is one of the first houses designed with the structural beauty and economy of RILCO Glued Laminated Wood Members in mind. The plank and beam roof design is cantilevered toward the ridge on 3' 1/16" x 14" RILCO Beams, spaced 7'-6" o.c. The beams are covered with 2" "V" grooved decking, rigid insulation and a 5-ply built up roof with pitch and gravel. This structural economy brought the contract price of this 2,300 square foot, 3-bedroom house down to \$12.75 per square foot.

The church and school building illustrated are only two of a multitude of structures whose unique design and great economies are made possible by RILCO Glued Laminated Wood Members.

These buildings are but the beginning. Today's structures with the economy and fresh look of Tomorrow. The post-free interior area presents space flexibility to meet new needs and requirements.

What shape Tomorrow's construction will take, we can't predict. But we are confident that the freedom of design, economy of construction and the warm beauty of natural wood offered in RILCO Glued Laminated Wood Members will be a welcome medium for those who build for Tomorrow.

RILCO experienced engineers will be glad to consult with you about your requirements and give "on the job" cooperation. Write now for free catalog on all types of Rilco Structural Members.

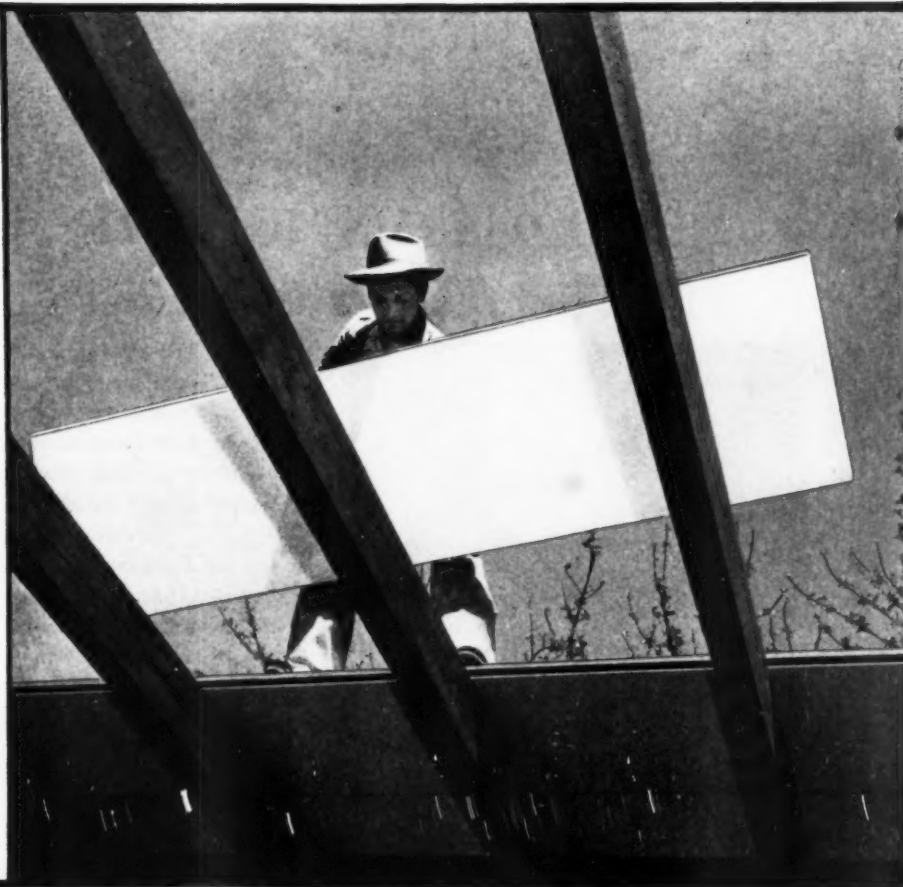
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# Utah builder with first Insulite

Insulite combines Roof Deck, Insulation and Finished Ceiling in a single money-saving product. Saves \$80 to \$300 per home on exposed-beam ceiling jobs in *any climate*\*. Here's how Art Riley, Provo, Utah saved \$95 on his first Insulite Roof Deck job!



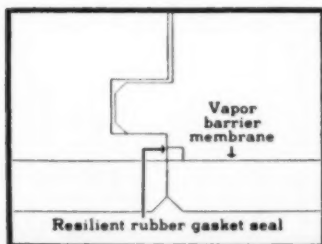
*Here's how Art Riley, Provo, Utah saved \$95 on his first Insulite Roof Deck job!*



### **Art Riley, Provo, Utah**

Mr. Riley is now building 10 exposed-beam ceiling homes at the foot of Mount Timpanoqs near Provo. New 3-in-1 Insulite Roof Deck will help cut his project costs a sizeable \$950 or more.

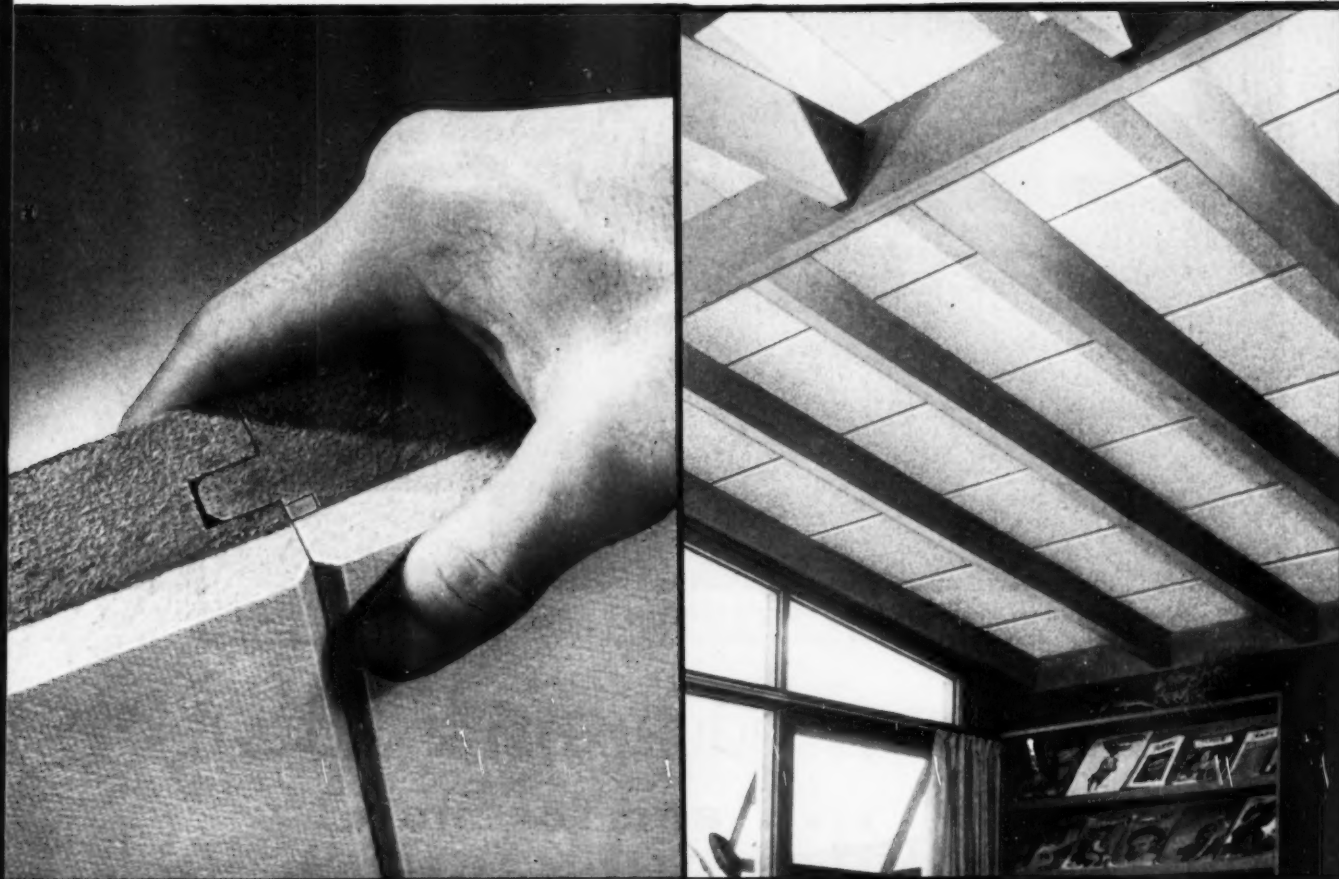
**1. It's Roof Deck . . .** Two by eight foot unit cuts application time as much as 45%. Only one material to handle. New Insulite Roof Deck eliminates need for separate roof board, insulation, lath and plaster and ceiling finishing. Roof Deck can save 12 man-hours per 1,000 sq. ft. of surface compared with 2"x6" D&M roof sheathing.



\***Continuous vapor barrier** combines a membrane laminated into each unit, plus a rubber gasket that seals carefully machined T&G joints. Guards against condensation in any climate. Makes this more economical way to build practical anywhere in the U.S.A. (Insulite Roof Deck is also available without vapor barrier for use in moderate climates.)



# saves \$95<sup>00</sup> Roof Deck application!



**2. It's insulation . . .** No need for other insulation. Two-inch Roof Deck is comparable to 2" wood deck plus 1" fiberboard insulation and meets F.H.A. heat loss requirements for roof and ceiling construction. Absorbs sound better than wood or plaster . . . makes homes quieter and more liveable. Exclusive vapor barrier combination protects against condensation within the unit in any climate.

**3. And Finished Ceiling.** The underside of Insulite Roof Deck is finished with a white flame-resistant surface at the factory. Simply lay Roof Deck over prefinished beams and the ceiling is done. No need to plaster, paint, stain or wax. Reduces labor and material costs. Insulite Roof Deck is available in 2'x8' units, 1½", 2" and 3" thick with or without Insulite's exclusive vapor barrier.

Send for complete information now. Actual on-the-job pictures and construction details show how to use new Insulite Roof Deck to build better for less. Write Insulite, Minneapolis 2, Minn.



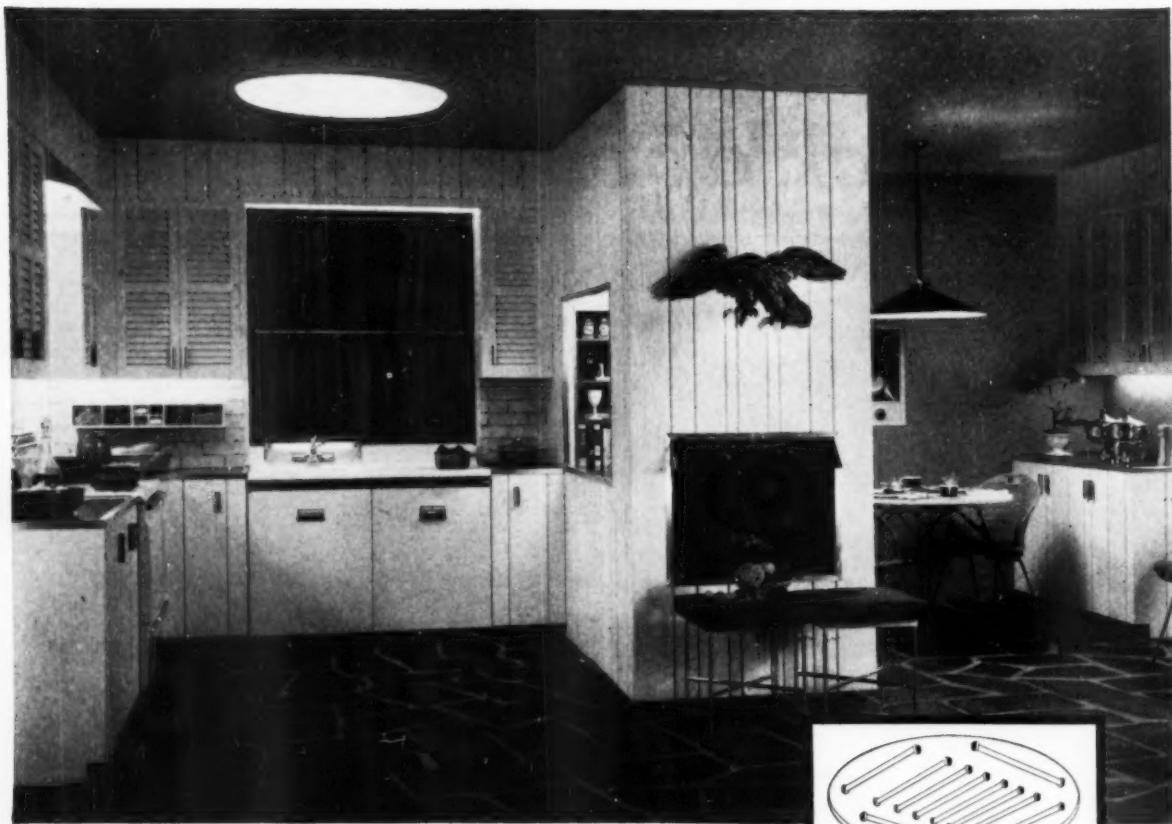
Build and insulate with double-duty  
**INSULITE**

*The original structural insulation board*

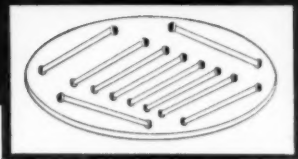
INSULITE DIVISION, Minnesota and Ontario Paper Company, Minneapolis 2, Minnesota

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## Kitchen Light Conditioning by General Electric



Plastic ceiling dome covers ten G-E De Luxe Warm fluorescent lamps. Two switches permit turning on half the lamps, or all, for a choice of two lighting levels.



# Makes your houses sell faster ... and for more!

**W**ANT to turn lookers into buyers? Here's one easy way. Use General Electric Light Conditioning to make your kitchens as appealing as the one shown above.

It was created by designer Melanie Kahane as part of a 5-page Light Conditioning advertisement in a recent issue of the Saturday Evening Post. This ad is part of General Electric's continuing program to sell potential home buyers on the benefits of Light Conditioned homes.

Miss Kahane uses Light Conditioning to help create a kitchen for the modern family. A kitchen for chores to be fun

in and parties to end up in. Light Conditioning gives it the extra appeal that women—and men—want... provides that extra value that can change a looker into a real prospect.

Keys to the room's beauty and usefulness are 3 General Electric Light Conditioning ideas:

- Plastic dome in a bristol blue ceiling achieves over-all illumination of the sky. It's light in weight, non-breakable, dust proof, easy-to-clean. It sheds bright, well diffused light from ten G-E fluorescent lamps.
- Individual G-E De Luxe Warm fluo-

rescent lamps light all work surfaces, counter, range, sink and pass-through bar. You can show your buyers wherever they stand, whatever they're doing, they never work in their own shadow.

- The hanging lamp at right in the photo further divides the dining area from the cooking area, gives it an even warmer, more comfortable atmosphere.

For more information about installing Light Conditioning in your kitchens or other rooms, write General Electric, Dept. 166- AB9, Nela Park, Cleveland 12, Ohio.

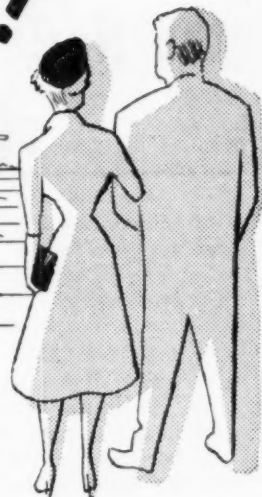
GENERAL  ELECTRIC

# We can't look back!

American Sta-Dri is a modern company. Like the up-to-date architects, builders, contractors and homeowners who use Sta-Dri Masonry Finishes and Treatments, American Sta-Dri looks ahead to better, quicker ways of building and for products that will lead the dynamic developments in building today.

Sta-Dri Masonry Paint, Under-Coat, Silicone Clear-Coat water repellent, Link plaster and concrete bonding agent, and Instant Water-Stop hydraulic cement produce results that are more lasting, make it possible to drop old, wasteful methods, and offer the building field faster, more economical techniques until now not possible in masonry construction.

Although American Sta-Dri could look back with pride at phenomenal growth and professional acceptance of its products reflected in a 1953 sales record that was 583% larger than the sales figures of only 5 years ago, it prefers to look ahead to a future of service, sales, and new products for the building industry that will be marketed only in the strict Sta-Dri tradition of "best by test," the finest or nothing.



**MASONRY FINISHES  
and TREATMENTS  
for MODERN building**

AMERICAN STA-DRI CO.  
Brentwood, Maryland

**CASH IN ON THIS SALES PRODUCER!**

## 8<sup>th</sup> Annual Chicagoland Home and Home Furnishings Festival

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# the National Association of Home Builders

## in flashback and forecast

By Frank W. Cortright

Past Executive Vice President of the  
National Association of Home Builders  
January, 1942 to March, 1953

NAHB was a lusty war baby.

Although its exact parentage, moment of conception and date of birth have been a matter of disagreement, no one disputes its magnificent blood-line nor its astonishing strength, even as an infant.

It is this writer's opinion that the National Association's true birth was in Jacksonville, Florida, in January, 1923. At that historic conference of the National Association of Real Estate Boards, the "Home Builders and Subdividers Division" was established under the chairmanship of Irenaeus Shuler of Omaha. In 1925, riding the crest of an unprecedented building boom, more than 1,500 builders supported this first organization effort.

Although nearly wiped out during the depression, it was operating as the Home Builders Institute with about 400 members at the time of Pearl Harbor. Thus as an institute of NAREB, it provided a foundation upon which was built the NAHB as it exists today.

Space does not permit a recital of the merger struggle which took place from 1940 to July, 1943. The story of the Home Builders Institute's release by NAREB to independent status, and the merger of the National Home Builders Association with it has been carefully recorded for all to read by a committee headed by Waverly Taylor of Washington, D. C. Therein is listed in detail the events and the men who brought about the merger under the presidency of Fritz B. Burns of Los Angeles.

However, of the countless men who dreamed of, and worked for the birth of NAHB over the years, one name must always stand out—Herbert U. Nelson, the executive vice president of NAREB. It was he who, for 25 years, nurtured the Land Developers and Home Builders Institute and finally, in 1942, called upon his own directors to set it free to grow and serve the nation in time of war.

Perhaps a few flashbacks, selected at random, will give us the best picture of our growing infant association.

### **Flashback . . . 1941 and on**

**November, 1941—Detroit**

It was an historic meeting when Home Builders Institute president Dave Bohannon of San Francisco, and Cy Willmore of St. Louis, "high pressured" a handful

of builders into subscribing \$22,000 for the work of the Home Builders Emergency Committee in Washington. This was the first of many such fund-raising drives which for a number of years kept our young infant from bankruptcy.

**October, 1942—Washington, D.C.**

This first of innumerable crises and possibly the most dramatic, exploded while our Emergency Committee was in session. We had barely started on the all-important job of constructing nearly a million war housing accommodations for in-migrant war workers, when the War Production Board, without warning, stopped all construction. Under the dynamic leadership of chairman Hugh Potter of Houston, the Emergency Committee succeeded in less than a week in having the order completely rescinded. Probably never before nor since have so few brought down upon the White House so great a barrage of righteous indignation—and secured such prompt and satisfactory action.

*(Our baby flexed its muscles and yowled with astonishing results.)*

**July, 1943—Washington, D.C.**

Another historic moment was the first Board of Directors' meeting of the merged directors of the National Home Builders Association and the National Association of Home Builders under president Fritz Burns' direction. The spirit of unity and common interest which prevailed at this meeting was no less than magnificent. Men who for nearly three years, representing a combined membership of 1,269 builders in 20 cities, forgot their past quarrels—and they had been bitter indeed—as they planned for a great national organization and sought solutions to the urgent and frightening war housing problems. The names of these leaders who abandoned factional and selfish interests should be honored for all time in the annals of our association.

**January, 1945—Chicago**

Our first great convention and exhibition of building materials was held at the Hotel Sherman. Sponsored by the powerful Chicago Metropolitan Home Builders Association, the pattern was then set for our annual conventions which are unsurpassed by any similar event in the nation. Unfortunately, space does not permit listing the Chicago men who conceived and carried out



this affair. NAHB past presidents Joseph E. Merrion and George F. Nixon, both of Chicago, took leadership, with George Nixon serving as chairman. Prominent among the many men who worked overtime for its success was Nathan Manilow, presently first vice president of NAHB. It is also proper to say that invaluable aid at this convention, and succeeding ones, was given by the *American Builder* magazine in urging the support of our early exhibitors.

#### January, 1946—Chicago

Who can forget the Wilson Wyatt fiasco—and the Washington repercussions of our support. As Housing Expediter under the Truman regime, Wyatt sold our convention on supporting his legislative proposal for \$600,000,000 subsidy for overtime production of plumbing items urgently needed in our early postwar building program.

The fact that the U. S. Congress, engaged at the moment in a heated debate on the issue, immediately adjourned when the news of our action reached the floor, is indisputable evidence of the full stature we had achieved in these few short years. Under the strong leadership of President Joseph Meyerhoff of Baltimore, we survived the ensuing months until the Housing Expediter was himself expedited back to Louisville, Kentucky; but of all our many difficult years in Washington, I would term this the most trying.

Whether or not our policy was right is still a matter of debate, but in any event we made the decision and had the courage to stick by it.

#### May, 1950—Washington, D.C.

And then came the investigation of the Housing Lobby!

A basic concept of NAHB has been, and will always be uncompromising opposition to public housing and the socialization of our industry. No organization in Washington has ever carried a fight with greater vigor than our fight against public housing. President Truman's frequent public castigation of us is convincing evidence of this.

Therefore, when a group of skilled investigators spent many weeks searching our records for damning evidence, we knew they hoped to find something with which to condemn us. To emerge from these hearings without a single word of criticism and, in fact, to have the chairman (the leader of the public housing movement in the House) compliment us on our statesmanship and say that membership, in his opinion, was worth ten times the amount the builders were paying, was high praise indeed for our infant NAHB.

Space does not permit listing further typical moments in the history of NAHB. Unfortunately, we have not named or credited the magnificent work done by many past presidents and other leaders in the growth of the association. It will be a historian's job to do all of this thoroughly and properly.

Suffice it to say that like any association, NAHB is the creation of literally thousands of unselfish and capable men who gave unstintingly of their time and money to build it. Its 12 years' growth from 400 members in

12 cities with 13 directors and a national staff of two persons to 27,500 members in 216 cities with a Board of Directors of 370 and a staff of 66 most capably led by executive director John Dickerman, is only a partial measurement of its stature.

Its full stature in these years of maturity will be found in the statesmanship of literally thousands of builders who establish its policy in local associations throughout the country. These are the men who give impetus to the committee work, leadership to the local staffs, and direction to the national officers through the National Board. From the fabulous Dick Hughes to the presidents of the smallest associations, devotion to their jobs is universal and in the combined experience and vision of staff and officers lies the future welfare and growth of the NAHB.

### Forecast—1979

Who can measure in the years ahead the quality of leadership, the extent of growth and the scope of accomplishment by NAHB for the industry and the home buying public? Who can measure the contribution the home builders of the nation through such leadership can make to our free enterprise system and, in fact, to the welfare and peace of the world!

Since the *American Builder* magazine has asked me to set a goal for the future, I would say that 50,000 builder and associate members with an annual NAHB budget of \$3,000,000 is a goal attainable within the lifetime of today's young builders. The nation's leading industry should not settle for less. At least five regional offices carrying out in the field the work of the national office should be an objective. With such facilities, builders in the northwest and west coast, southwest, midwest, northeast and southeast could be thoroughly organized and properly served.

Another goal—a strong state organization in every state to build membership and co-ordinate state-wide problems.

At some future time, builders will realize that association service is their best business insurance and will include it as a standard item of cost. Such goals are possible of accomplishment, I am sure. Yesterday's accomplishments should be merely a foundation for tomorrow's objectives.

The symbol of such a future is being erected on "L" Street in Washington, D. C., today.

It is not a monument of granite, an arch of triumph or a bronze statue of brave men. Yet it is all of these and more. It is an eight-story building of reinforced concrete symbolizing the birth of a vast new industry—a monument to the leaders of that industry, the men who, in the last decade, have learned to build America's homes quickly, skillfully and economically.

NAHB's new home is a pledge to future generations that the dynamic energy, the proven skill, and the clear vision of the industry's statesmen will meet there in the years ahead to plan for the accomplishment of our fundamental concept—a good home for every American regardless of economic status, race, color or creed.

This is the clear cut challenge for the years of maturity of the National Association of Home Builders.

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## built-in disposal takes care of cans, paper

Garbage disposers have minimized food waste problems in many of today's households, but what about cans and paper? Builder Jim Eubank of Sherman Oaks, California, acting on the suggestion of Decorator Dorothy Paul, came up with this solution—a built-in, metal-lined can chute. Photo above shows handy location of chute opening in corner of kitchen work counter. It is set back under the cupboards so no space is wasted.

“Terrific idea” is the comment of one housewife who has used the

Unsightly appearance of chute opening is relieved by decorative planter set into counter



AMERICAN BUILDER



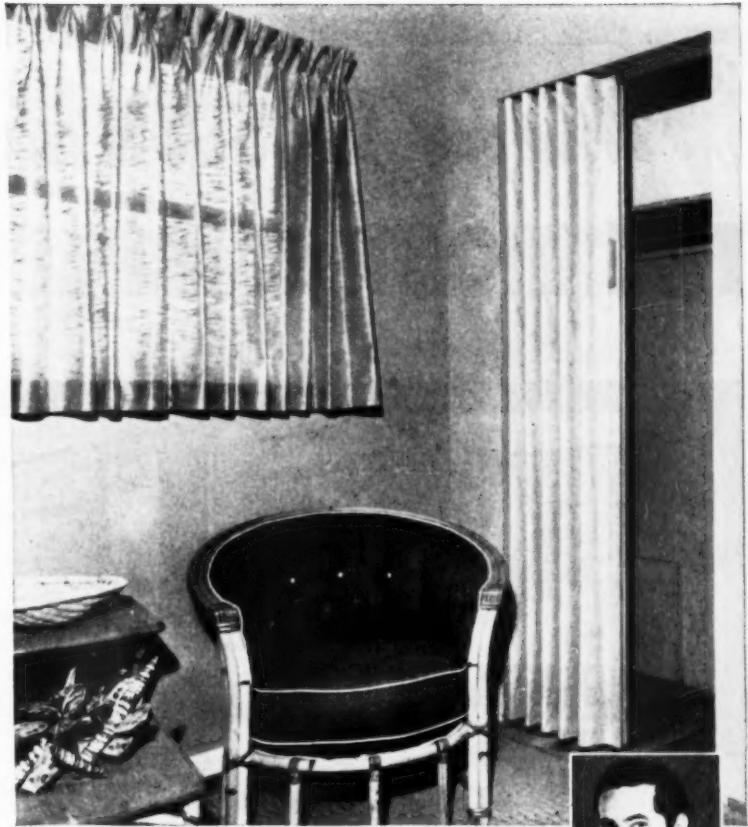
Metal pull-out container is large enough to hold at least one week's accumulation of refuse

chute for more than a year. In her opinion, a garbage disposer is even a greater convenience when supplemented by a can disposal. "There is always one or more cans at each evening meal and, if you have to run to the back of the house to dispose of the cans, you might as well take the garbage there too." She says she has not observed objectionable odors, but lessens the chance of such odors by rinsing out cans which contained fish or other "smelly" substances.

Hinged door matching exterior of house provides access to pull-out bin



AUGUST 1954



## MODERNFOLD

a "sales-builder" in Greenfield Village Park

—SAYS BUILDER FRED GARLING

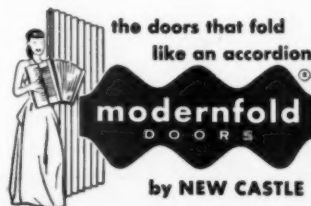
Garling Construction Company of Dearborn, Michigan, builds sales to well over \$1,000,000 monthly with the help of custom extras—like these Modernfold closet doors. Says builder Fred Garling, "Customer preference for Modernfold doors was reflected in rapid sales of our 170 Greenfield Village Park Homes. That's one reason why we're using your doors in all future homes."

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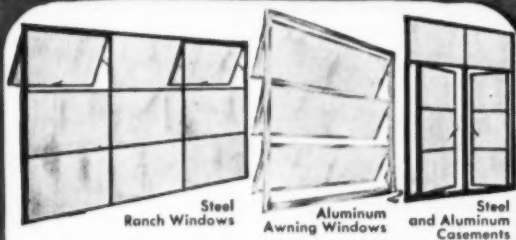


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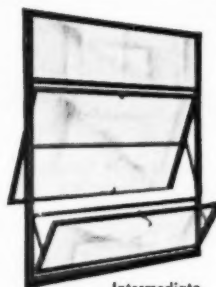
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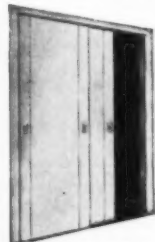
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Sliding doors





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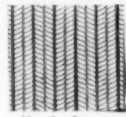
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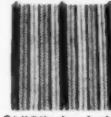
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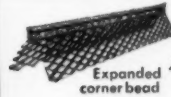
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Bull nose corner bead

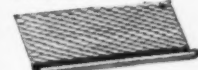


Wide flange corner bead



Diamond lath

Cornerite



Wide flange casing

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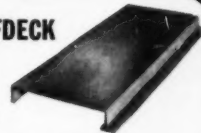
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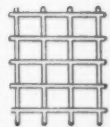
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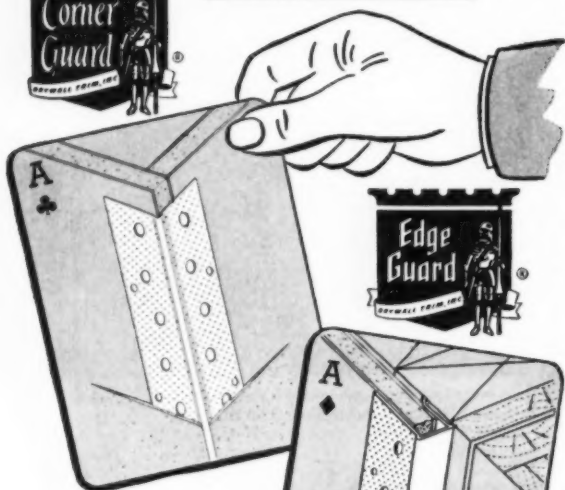
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BUILD BETTER WITH HEMLOCK... THE ABUNDANT "ABILITY WOOD"  
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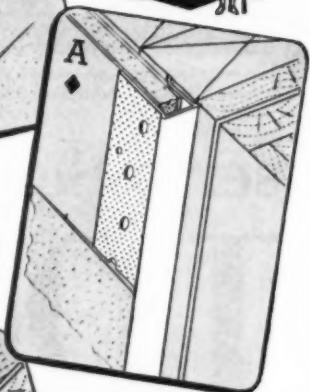
# 4 aces!

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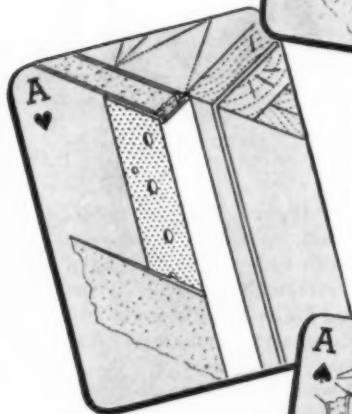
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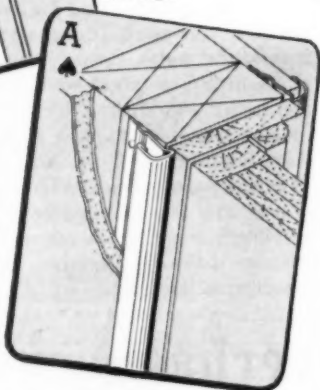


**▲ NO. 108**  
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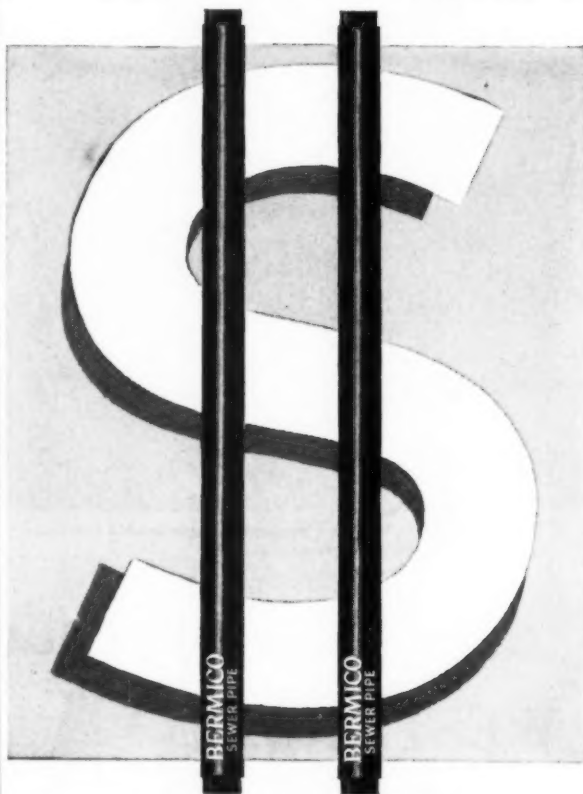
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# how home building became an industry

By Leonard G. Haeger, A.I.A.

Director of NAHB'S Construction  
Department and Research Institute

**T**HE TRANSITION which the home building industry has made in recent years is one related to the overall industrialization of the country. Just as the horse and buggy was slowly replaced by the machine, and hand tailoring by garment factories, so has the craft tradition of home building been replaced slowly by an industrial approach.

From the early days of our country, about 30 million houses had been built by the craft approach. In the early 1930's the craft tradition (coupled with an economic depression) was able to turn out only a relatively small number of houses. Fortunately, thinking had already been done which was destined to bolster house production.

In the 1920's, when Herbert Hoover was Secretary of Commerce, and later, when he became President, broad studies were made which related the ills of housing production to the over-all social and economic needs of the people. Herbert Hoover had identified the problem of the local character of the mortgage market, as well as the problem of the too small and inadequately designed house. From his basic thinking evolved the Home Loan Bank Board and the Federal Housing Administration, the latter designed to "encourage the improvement in housing standards and provide a national mortgage insurance fund." The establishment of the Federal Housing Administration in 1934 was the first of several factors necessary to advance home building to an industry.

During the war years, housing production was programmed, scheduled, and controlled by the federal government. Many war-time programs were undertaken, but this period can be regarded only as one of artificial stimulus.

Obviously, since only 900,000 housing units were added to the housing supply in the war years, an acute housing shortage existed early in 1946. Under the Veterans Emergency Housing Program, incentives were provided for the increased production of building materials, market guaranties were afforded for the production of new materials, and liberal financing was arranged for the development and fabrication of prefabricated houses.

Thus the overwhelming demand for houses was joined by an unprecedented opportunity for liberal financing, and home building for the first time in history began the large-scale production of dwelling units before sale rather than after sale. This, in itself, is an important step which all great industries have taken. Food, clothing, automobiles, lumber, steel, and many

other industries produce the product before sale. Now home building has finally taken this tremendous industrial step and lifted itself out of the craft tradition and become transformed into a modern industry.

The men who put home building on a scale of large production are, as in every great American industry, businessmen. They are the entrepreneurs, skilled primarily in administration and finance, production and merchandising.

## *What is an industry?*

There are two standards which are widely used to identify an industry. The first of these demands that the end product be produced before sale; the second, that there be a research program.

It is now estimated that about four-fifths of American housing is produced before sale and only one-fifth (the custom market) is produced after sale. So housing meets the first criteria of "an industry."

Today's operative builders average about twenty-five houses a year individually and build houses in groups on adjoining plots. Their large developments have become part of every community. These operative builders start with a tract of land, obtain the professional assistance of skilled architects, secure favorable financing, select materials and products with an eye to sales appeal as well as cost, and schedule production.

## *Housing research*

The second standard—the concern for research—is also now being fulfilled by today's housing industry.

Housing research may be defined as a systematic study and investigation of all the steps in the process of providing shelter, as well as all of the disciplines involved which lead to the development of more and better housing at a lower cost.

Housing research in this country is a relatively new activity. Housing research devoted to the study of the end product as a whole is much later, time-wise, than the well-established industry investigations into building materials, products, and equipment.

It is extremely difficult to place a date on research for materials and products. Today's water closet with its water-borne system of sewage disposal dates from the Victorian era. Furnaces and heating systems made the transition from the individual room stove to the central system late in the 19th century. Research on the newer materials including asbestos shingles, asphalt

*(Continued on page 250)*



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## home building an industry

(Continued from page 249)

tile, fiberboard, etc., dates from the early part of the present century. By the end of World War II there had developed in this country a well-organized and progressive research effort into building materials and products. Most of the work done on the well-known and respected B.M.S. series (recording work done at the National Bureau of Standards) was performed in the middle 1930's.

Likewise, it is difficult to say when research began on houses as a whole. An early investigator in the field of complete houses was Thomas A. Edison, with his prefabricated concrete house built in 1906 and 1907. In the early 1930's, Albert F. Bemis made a thorough-going study of construction systems involving the entire house. His analyses of these housing systems were published in his book called "The Evolving House." In 1944 the Small Homes Council of the University of Illinois was established and soon began its studies involving the whole house as well as its components. In 1946 the then National Housing Agency carried on a series of investigations whose scope was the house (as opposed to individual materials, parts of equipment, etc.).

By 1948 the desirability of a broad approach to housing research was recognized in the Housing Bill of 1948, which authorized the administrator of the Housing and Home Finance Agency to carry on a technical study involving dimensional standards and building codes." This was followed in 1949 by that year's Housing Bill which established a Division of Housing Research, with a very broad charter for housing research. For the next several years this division carried on social, economic, and technical research projects. However, later Congress failed to appropriate funds for housing research, and the Division of Housing Research in the HHFA was brought to an end on April 30, 1954.

Meanwhile, as housing took on many aspects of industrialization, leaders in the industry began to recognize the need for housing research. In October, 1952, the Na-

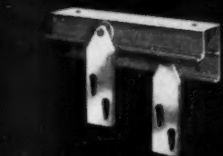
(Continued on page 253)

# YESTERDAY...TODAY AND TOMORROW

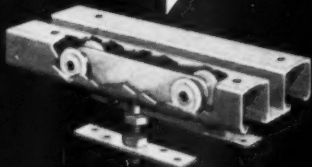


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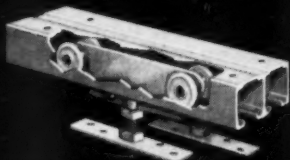
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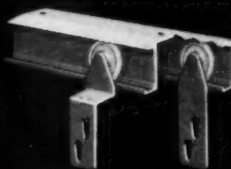
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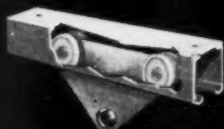
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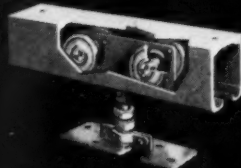
**SCOTTIE SERIES** High quality, low-cost sliding door hardware for  $\frac{3}{4}$ ", 1",  $1\frac{1}{8}$ ", and  $1\frac{3}{8}$ " by-passing doors . . . adjustable hangers.



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THE FINEST BUILDINGS THROUGHOUT THE WORLD ARE FITTED WITH HOPE'S WINDOWS



## home building an industry

(Continued from page 250)

tional Association of Home Builders' Research Institute was established. The trustees of this Institute decided that they would not establish a laboratory nor would they carry on investigation designed to "develop products." In reviewing the research going on at that time, the home builders identified an area important to the research process in which little work was being done. This was the area of field trials and investigations. Many excellent products and techniques are developed and tested in the laboratory. Frequently, these products and techniques are marketed without adequate field testing. The NAHB Research Institute felt that this was the logical area for its research effort.

By May, 1954, a variety of field trial projects were under way. Twenty-two houses had been built in Austin, Texas, to gather operating cost data on air conditioning systems, and to demonstrate the practicality of roof overhangs, colors, shading devices, etc., as design methods of reducing cooling loads. In Blacksburg, Virginia, a demonstration house is being built to field test modern nailing methods and techniques. Other projects cover septic tanks, paint problems, and slabs on grade, stapling asphalt shingles, and lumber utilization.



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Woodward Iron Company does not manufacture pipe, but we supply leading Cast Iron Pipe foundries with high grade foundry pig iron from which pipe is made.



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## causes and cure for efflorescence

Efflorescence is often regarded only as an unsightly nuisance. It is seldom realized that the appearance of white powdery substance on a masonry wall is evidence of a fault in the design or workmanship of a masonry wall that should be corrected.

The appearance of efflorescence should be a matter of concern because it is an indication that unwanted moisture is present within the wall itself. Such moisture, if permitted to continue to collect, will, under certain conditions, eventually contribute to the deterioration of the masonry.

The Structural Clay Products Institute, in its "Technical Notes" (Volume 1, Number 2) defines the causes and the correctives in reference to this troublesome symptom.

### What Causes Efflorescence?

The white powder, or crystallization which sometimes appears on a masonry wall is caused by water soluble salts, deposited on the surface upon evaporation of water. Some of the salts often found in efflorescence are calcium sulfate (gypsum), magnesium sulfate (epsom salts), sodium chloride (table salt), sodium sulfate and potassium sulfate.

There are two general conditions necessary to produce efflorescence:  
(Continued on page 256)

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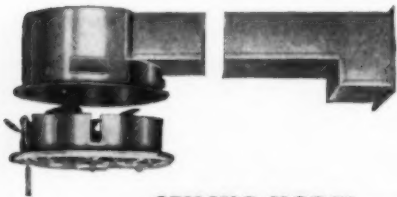
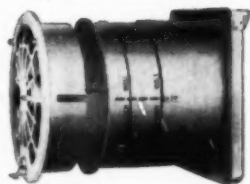


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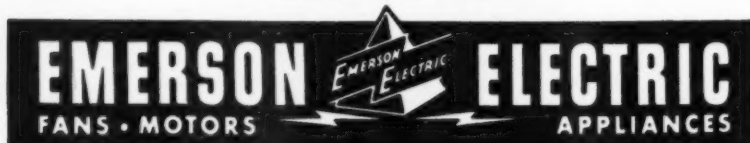
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**efflorescence**

(Continued from page 254)

(1) soluble salts present in the materials used to construct the wall, and (2) moisture in sufficient amounts to carry these salts to the surface.

**Presence of Salts**

Soluble salts may be present in the masonry units, mortar, or plaster. When efflorescence first appears on a wall, it may be possible by observation to determine the source.

If it appears only at the edges of the masonry unit, it is probably the mortar that contains the salts, and not the masonry unit. If the efflorescence covers the entire unit, it is likely that both the mortar and masonry units are the source.

Efflorescence appearing near the center and not near the edges of the unit indicates that the units themselves probably contain soluble salts and are the cause.

While such observations are often valuable guides in determining the source of efflorescence, only the testing of all the materials can provide an accurate answer.

A typical test for efflorescence in a building brick consists, essentially, in standing a whole brick to be tested on end in approximately one inch of distilled water, kept at a constant level, for seven days. The brick is then oven dried and compared with an untreated brick to estimate the amount of efflorescence.

**Presence of Moisture**

The presence of moisture in sufficient quantities to carry the soluble salts to the wall surface is the second general condition necessary to produce efflorescence. Correction of such a condition must include an investigation to see how and where moisture enters.

The presence of moisture is almost always caused by some fault in construction. This, however, may not be the case when a uniform coating of efflorescence appears on a newly constructed building.

An excess amount of water used during construction will, with the process of gradual evaporation, carry any soluble salts that may be present to the wall surface. If the building is well designed and con-



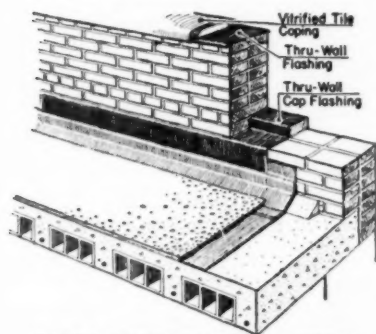
structed, a final cleaning, sometimes a few rains, will wash away the efflorescence and it will seldom appear again.

If efflorescence continues to appear, it means that moisture is still penetrating the wall. Defective flashings (or the lack of them in vulnerable spots), gutters and downspouts, faulty copings or improperly filled mortar joints may, either singly, or in combination, be the cause of wet walls.

Water that enters a wall may not always leave at the same spot. Therefore, the location of efflorescence on the wall does not necessarily mean that water is entering the wall at that point.

However, the location of the efflorescence frequently provides a clue to the source of the trouble.

For example, efflorescence streaking down from the top of a wall, or patches some distance from the top, would indicate defective copings, gutters, or roof flashings. The appearance of efflorescence under windows is evidence that the sills or



#### ROOF & PARAPET WALL FLASHING

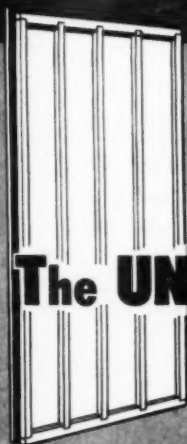
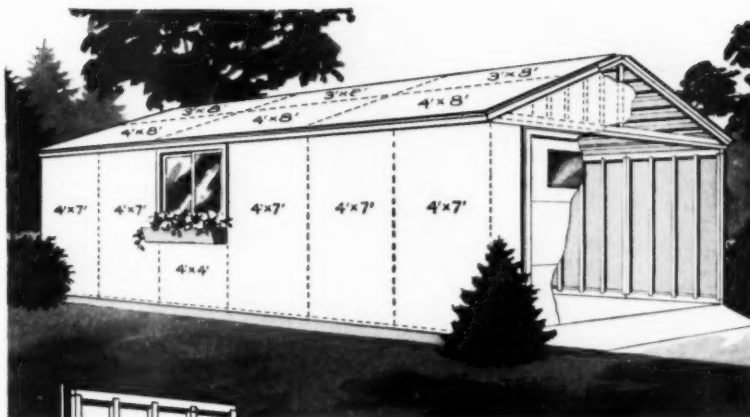
calking around the window frame should be investigated.

A single patch of efflorescence on a wall, with no apparent relation to masonry openings, copings, gutters, etc., may be the result of a defective mortar joint or a projecting course of masonry forming a water table.

If it appears on the foundation wall close to the ground, especially when rather porous units have been used, it could be caused by ground water drawn up by capillary suction. In every case, the general principle is that this spot of efflorescence indicates a portion of the wall unduly wetted.

(Continued on page 258)

AUGUST 1954

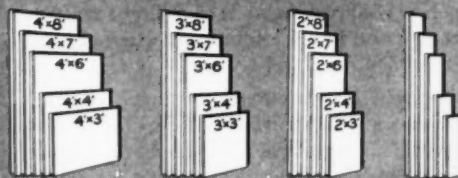


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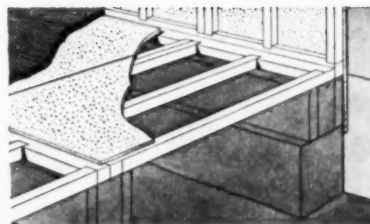
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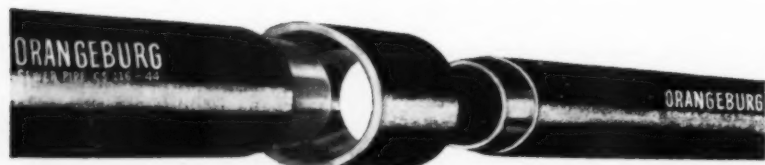
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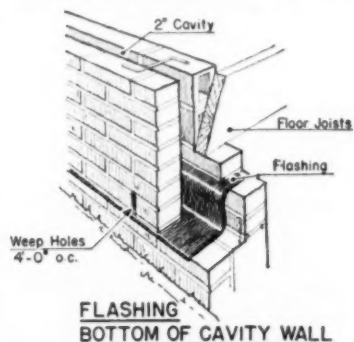
## efflorescence

(Continued from page 257)

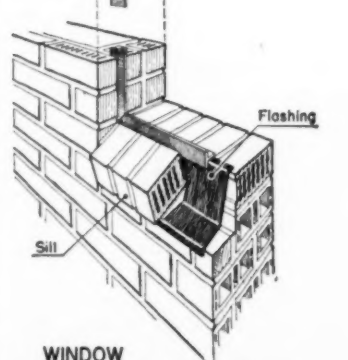
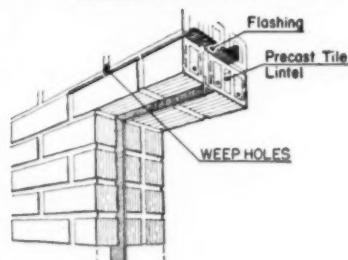
### Correcting Construction Faults

Repair faulty flashings, gutters and downspouts. If copings are at fault, take them up and relay them with thin, but well-filled mortar joints and with rodded tooling. Place non-corrosive metal or bituminous flashing directly under copings, cornices, chimney caps, sills and any projecting courses of masonry. See accompanying drawings that illustrate proper flashing.

Rake out and repoint improperly filled mortar joints in exposed walls. Repoint with plastic mortar of approximately the same mix as used in the original work. Tuckpointing mortar should be pre-hydrated by mixing with only a portion of the mixing water one or two hours be-



**FLASHING  
BOTTOM OF CAVITY WALL**



**WINDOW  
HEAD & SILL FLASHING**

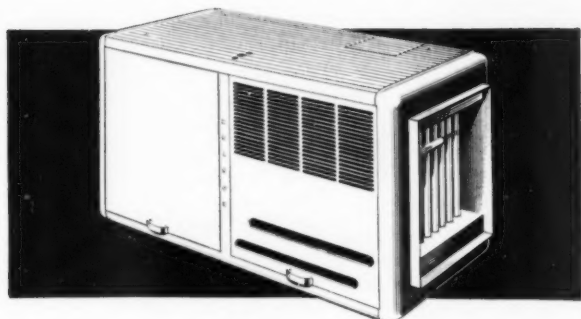
(Continued on page 260)

*Cuts Installation Costs*

because it's a complete package

*Adds Sales Appeal*

because it's completely enclosed



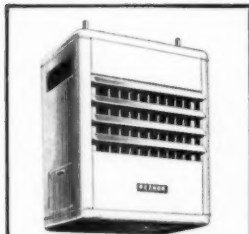
## the Reznor PAC

No exposed controls...no protruding burners...no dangling connections. Everything completely enclosed in a compact appliance-styled cabinet. One look will tell you why home buyers prefer the Reznor PAC—the only completely enclosed horizontal furnace.

The same features which make the PAC a favorite with your prospects make it easy—and inexpensive—to install. It comes as a complete package. No outside controls or connections. They're all mounted within the main cabinet. Installation is further simplified by the built-in draft diverter and by the ease of interchanging from horizontal to vertical flue connections.

Three sizes—75, 100 and 125,000 BTU. Universal burner for any type of gas. Compact design makes the PAC a must where space is at a premium. The 75,000 BTU model measures only 22" x 23" x 42 $\frac{3}{8}$ ". Ideal for attic and crawl space applications and for suspended installation in basement or utility room.

To find out more about how the Reznor PAC can cut costs and add sales appeal to every home you build, write today for your free copy of bulletin GNP-52. **The Reznor Manufacturing Company, 42 Union Street, Mercer, Pa.**

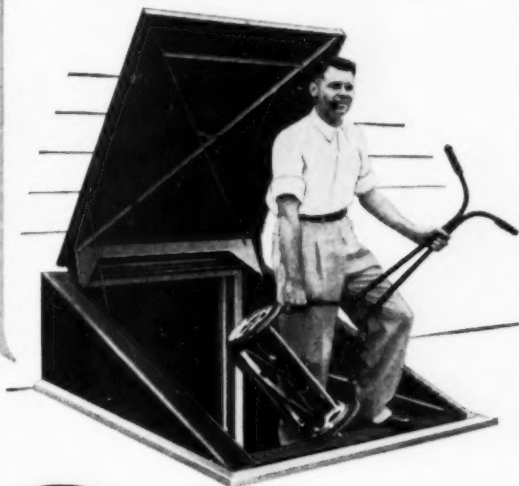


Reznor suspended gas unit heaters are available in nine sizes—25,000 to 250,000 BTU.

**REZNOR**  
THE WORLD'S LARGEST-SELLING  
GAS UNIT **HEATERS**

AUGUST 1954

**This new convenience  
helps sell homes**



## SERVICE-WAY

The modern basement entry

The new Service-way makes the basement entry one of the most-used doors in the house... and by far the most useful! Storm windows, snow shovels, lawnmowers, garden tools, outdoor toys all are brought in and out in a jiffy. Distance from laundry to clothesline is shortened, with fewer stairs to climb. And the extra-wide Service-way opening gives plenty of clearance for freezers, ping-pong tables and hobby shop equipment.

**Adds value to home**—worth many times its moderate cost. The Service-way is one of the most desirable features you can add to a modern home. It simplifies dozens of household jobs. Repairs, meter readers and children with muddy feet can go direct to the basement from outdoors without tracking up the house.

**Rugged!** The Service-way is made from heavy-gauge steel, yet the door can be opened with one finger. Overlapping flanges assure snug fit, keep out rain, snow and wind. Slide bolts lock door securely from inside. Comes fully assembled, ready to install. Made by the makers of the famous Heatilator Fireplace. Write for folder and specifications: Heatilator Inc., 868 E. Brighton Ave., Syracuse 5, N. Y.



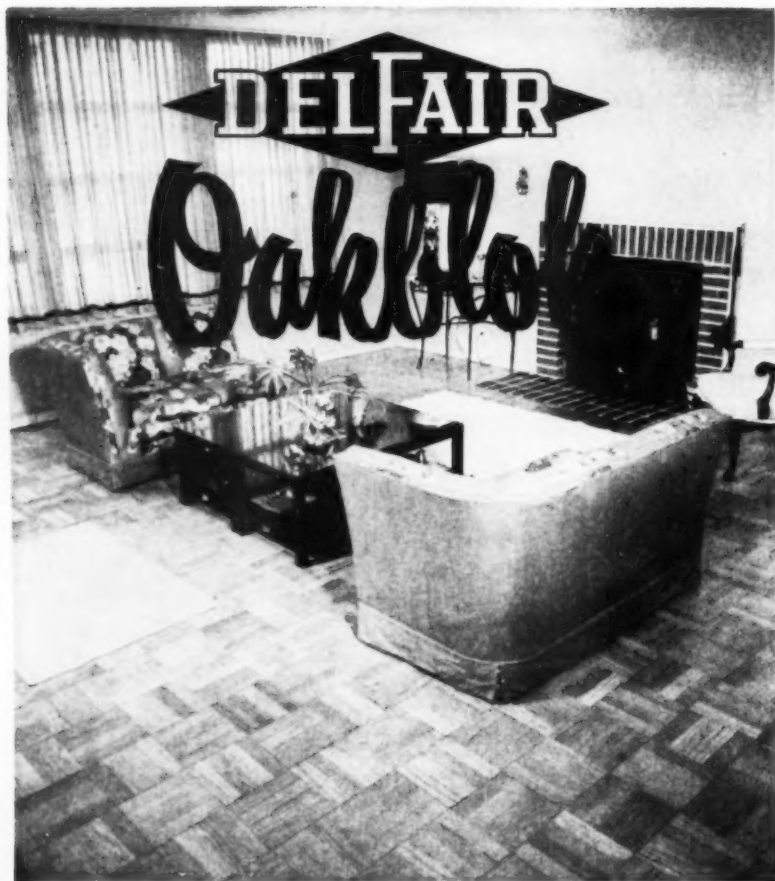
**No effort to open!** Special double-action spring suspension counter-balances the weight of the sturdy steel door.



**Functional design...** Blends with any style architecture, becomes an integral part of the house.

HEATILATOR  
**SERVICE-WAY**





**1 EASY TO INSTALL**  
Especially adaptable to quick, economical installation over concrete. Cross-wise grooves spaced to insure better mastic adhesion. Available either pre-finished or unfinished.

**2 CHOICE OF GRADES AND TYPES OF WOOD**  
Available in either Red Oak or White Oak in all standard strip flooring grades and also in the following special grades: Prime, Standard and Better, Standard, Tavern and Better, and Tavern.

**3 SIZES TO FIT EVERY JOB**  
Comes in the following sizes: 25/32"x6 3/4"x6 3/4", 25/32"x7 1/2"x7 1/2", 25/32"x9"x9", 1/2"x8"x8" and 1/2"x10"x10". Completely adaptable to large or small homes, commercial structures, housing projects, schools and institutions.

**4 DEPENDABLE UNIFORM QUALITY**  
Distinctive DELFAIR OAKBLOK flooring is carefully and uniformly manufactured to meet the most rigid specifications. All blocks are steel spline joined. There is no substitute for oak floors. Demand the best . . . demand DELFAIR.

D. L. FAIR LUMBER CO. Louisville, Mississippi Member: NOFMA



**Oakblok**

WRITE FOR  
COMPLETE  
INFORMATION

ALSO: Standard Strip, Prefinished, Plank and Multi-Wood Blok

## efflorescence

(Continued from page 258)

fore using, after which it may be remixed with sufficient added water to produce satisfactory workability. Use of cement, lime, sand or water which might tend to cause efflorescence should be avoided.

If caulking around door or window frames was completely omitted, fill such cracks with a good elastic caulking compound. Remove old, dried out, cracked caulking.

Dampness in foundation and lower parts of walls above grade may be caused by lack of, or faulty: (1) footing drains, (2) damp



FLASHING OVER STEEL LINTEL

proofing on outside of foundation walls, and (3) dampproofing in masonry course immediately above grade. Causes (1) and (2) may be corrected after construction at considerable expense, but a dampproof membrane is practically impossible to insert after wall is built.

With water tight walls and good flashing installation, efflorescence which appears on the walls soon after the building is erected, or repaired, will quite often disappear after several rains.

If it does not disappear, water applied with a stiff scrubbing brush will often do the job. If either of the two procedures does not completely remove the efflorescence, the wall should be wetted, then scrubbed with water containing not more than one part of muriatic (hydrochloric) acid to nine parts water. Then rinse with plain water.

It is very important that the recommendations regarding water rinsing of the wall both before and after acid washing be followed. Protect all frames, trim and sills adjacent to the masonry against contact with the acid solution.

Wear rubber gloves to protect skin. It is also sometimes desirable to give the surface a final washing with water containing approximately 5 per cent household ammonia.



Do more work, make more money  
with CMC Hoe Type Mixers



Above, NO. 6 WONDER

No other mixers can compare  
in performance, dependability

CMC Hoe-Type Mixers are real producers. They speed up work, save many man hours on every job and are known everywhere for their quality and rugged construction.

CMC Hoe-Type Mixers are the result of over 40 years of mixer manufacturing experience. There's a complete range from the 3½-4½ foot Hoe Boy through two 6-foot models, an 8 and 12-foot Mechanical Hoeman.



HOE BOY



MECHANICAL HOEMAN

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*Butt Weld*

JOB  
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**for one-man measuring**  
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**Do-It-Along—**and do it better—with a Carlson SUPER CHIEF. See it at your Hardware Dealer!

**Easy-to-Read—**jet black numerals on snow-white blade won't surface crack or peel.  
**Patented Swing-Tip**

**Carlson & Sullivan, Inc.**  
MONROVIA, CALIFORNIA

Produced under Patents #2089209, #2510939, #2629180 & Pat. Pend.

AUGUST 1954

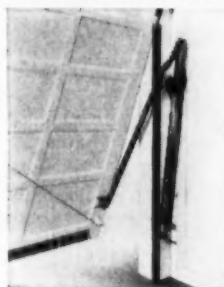
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FOR YOU!**

FRANTZ No. 10 Overhead GARAGE DOOR



FEATURING

**"POWERMATIC" ACTION**



- Just release the latch—door swings open!
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- Torsion springs on arms start door open, then "Powermatic" takes over—a remarkable extra-value feature that clinches the sale.

The Frantz No. 10 is quickly installed and easily adjusted for perfect balance. It helps sell a home for you because it has everything you could want in a one-piece door, plus "Powermatic" Action that assures home-owner satisfaction. Needs only 2" headroom, and is as beautiful in looks as in operation. Pre-fitted at the factory for easy installation, designed to give years of trouble-free service, you can show this door with pride. Check up on the No. 10 and other Frantz Overhead Door models. Write for a copy of Catalog No. 302, which gives full details of the beauty and easy operation of FRANTZ line of Overhead Garage Doors.

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GARAGE DOORS AND HARDWARE

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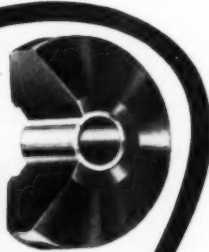
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wall, builders are fast  
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## methods for remedying loose, squeaky floors

R. H. Elkin of Athens, Texas, says he is having squeaky floor problems with a house completed early in 1951 which has approximately 1,000 square feet of oak flooring 25/32x2 1/4 inches, laid on 1x8-inch shiplap subfloor. The subflooring is laid diagonally with 15-pound felt paper laid between the subfloor and the finish flooring.

Joists are 2x8 inches on 16-inch centers. The floor was well nailed at the time of installation, but shortly afterwards shrunk and loosened up generally over the entire area so that it squeaks and appears to be loose. What can be done to remedy this situation?

One method of remedying this problem is outlined by the National Oak Flooring Manufacturers' Association: Take screws of a length at least 1/4-inch shorter than the combined thickness of the sub and surface floors and screw from underneath through the subfloor into the portions of the surface floor which seem to squeak. If the subfloor is properly fastened, this should remedy the situation.

It is possible that the squeaks are caused by an improperly fastened subfloor. If so, you will have to take further steps to fasten the subfloor to the joists: face nail at the point of contact with the joists.

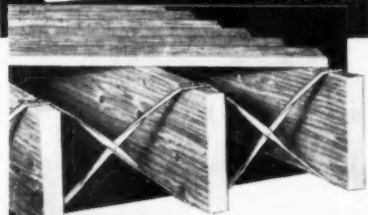
If you will stand with one foot on each of two adjoining surface floor strips with the crack between your feet and by applying alternate pressure up and down, you will probably determine whether the fault lies in the surface floor or in the subflooring. If in the surface floor, the strips will move alternately, but if in the subfloor, they will move together.

If it is felt that the trouble lies in the surface floor and the squeaking is not overcome by the screws underneath, face nail the floor rather sparsely through the affected area using screw-type nails.

The heads of the screw-type nails can be countersunk. The holes can be filled with putty and then refinished without producing an objectionable result.

**Bridge Wood Joists** **FASTER, BETTER**  
... AND AT LOWER COST

WITH **CHAN-L-CROS**<sup>®</sup>  
*Metal* **CROSS BRIDGING**



4 Sizes for  
8'-10'-12' Beams  
Placed on 12' up  
to 24' Centers

• Eliminates Sawing and Fitting of Wood Braces • Comes Packaged, Ready for Easy Installation • All-Steel, Excels in Effective Strength, Durability • Superior Performance Under Load, Works on the Principle of Tension

Save time, save money, and provide greater floor strength by bridging joists with Chan-L-Cros. Unlike ordinary wood bridging that is nailed to the sides of joists, Chan-L-Cros is nailed to the Top and Bottom Edges — prevents deflection of beams by the Tension method. Under load, the metal braces cannot separate from beams at points of attachment, nor can withdrawal of nailing result. Thus, Chan-L-Cros is *always* prepared to effectively keep long joist spans in proper alignment. Provision for nailing meets requirements of all building codes. It offers you many more advantages. Investigate!

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Today!

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3206 Morganford Rd., St. Louis 16, Mo.

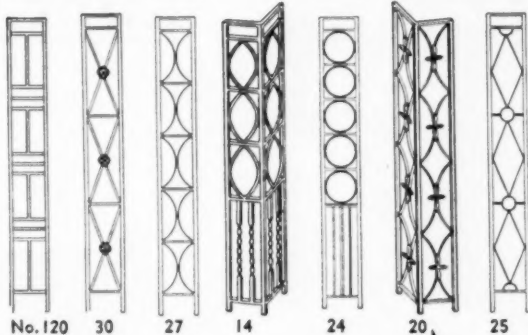
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1" square solid steel supporting posts.

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Single 12" panels: 7'—\$17; 7'6"—\$18; 8'—\$19

F.O.B. Columbus

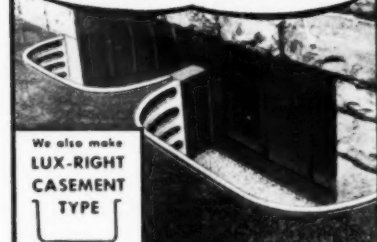


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Square-type corners for casement window clearance

**FOR HOMES, CHURCHES, SCHOOLS, ANY BUILDING**

This Imperial **LUX-RIGHT Streamlined Straight Type Steel Areawall** (above) comes in all standard sizes. Round type also supplied, casement type, too.

Only metal areawall hot-dipped galvanized **AFTER** fabrication. One piece, heavy corrugations, beaded top edge, Hug-Tite flanges. Ask your distributor or write us now for **FREE** illustrated folder

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**CORPORATION**



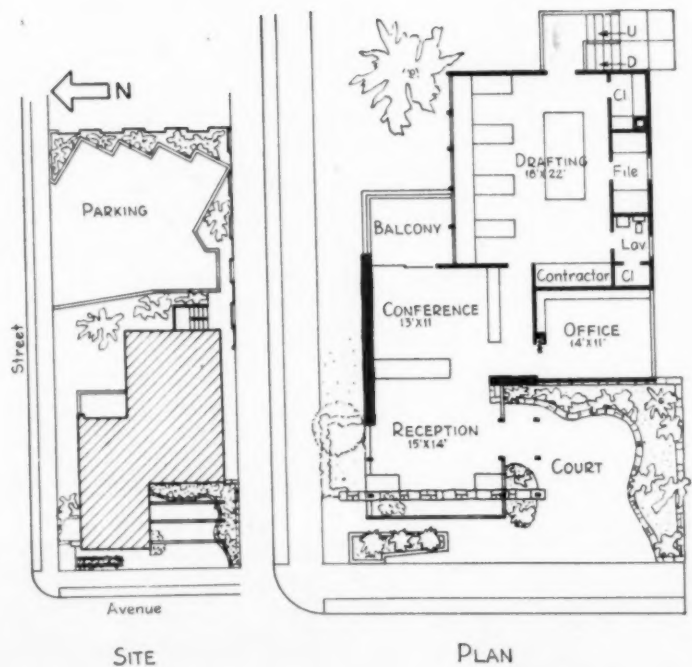
## office for architects —

**P**LACED on a busy highway, architects Lawrence and Hazen of Seattle planned a building for their own use that would take advantage of the attention-getting possibilities of the highway, yet would provide quiet working areas away from it.

The entrance was dramatized with the use of native stone and timber, use of court and planting. Conference and drafting rooms were placed at rear of building with latter taking full advantage of the north light. Parking was placed conveniently off side street and at rear of lot easily reached from the rear entrance. Plot plan shows how planting is used as an important ingredient of plan to orient building with nature. Result is a place of business with an enjoyable working environment.

**PLACE:** Seattle, Washington  
**ARCHITECTS:** Lawrence & Hazen  
**COST:** \$22,780  
 \$16.50 per square foot

- Uses native materials, bold facade to advertise talents of owners
- Puts entrance on highway to demand attention
- Turns working areas away from highway
- Uses planting and parking as part of building's design





In survey  
after survey,  
consumers  
choose

"Jackstraw"

**As a home salesman,** you can point with pride to "Jackstraw," the product your customers prefer by an overwhelming 20%! That's how "Jackstraw" rates in nationwide surveys. *By all odds, it's the favorite inlaid linoleum design!* Your customers see it constantly in powerful national ads! It sells on sight. And it keeps on selling throughout its long life. Because it's genuine Gold Seal Inlaid Linoleum, it doesn't pit, scar, or crack.

**As a builder,** you'll be interested in the installation economies made possible by "Jackstraw." Like all Gold Seal Inlaid Linoleum for residential installation, it has an exclusive patented felt backing that eliminates the need for

extra lining felt. The random design requires no special matching, eliminates waste. And of course "Jackstraw" carries the famous Gold Seal guarantee of satisfaction—or your money back!

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For more information about this wonder-working linoleum design, write Builders' Service Department. (AB-8)

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## AMERICAN BUILDER BLUEPRINT HOUSE



**BUILDER:**

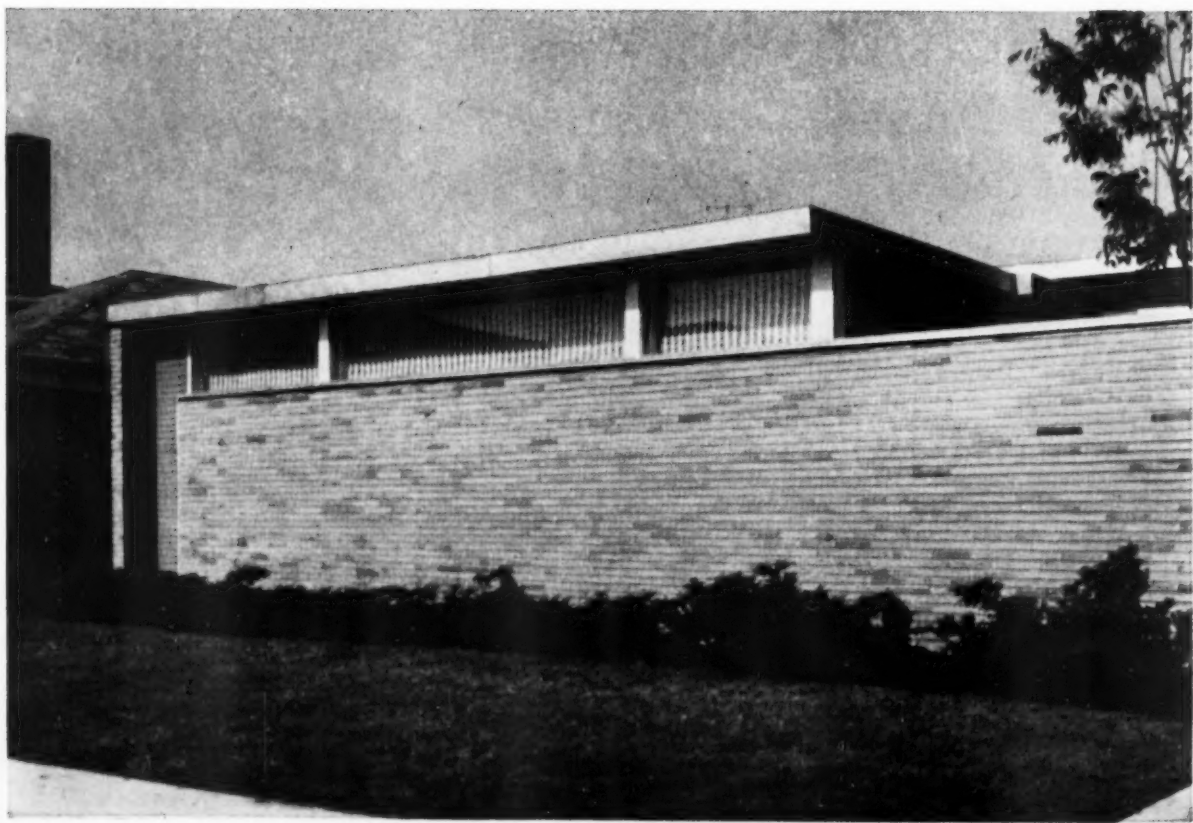
*Dave Berkun, Chicago, Ill.*

**ARCHITECTS:**

*Irwin Berkun and Frank Alschuler,  
235 East Ontario Street,  
Chicago, Illinois*

Sliding glass panels provide access to block-paved side courtyard from bedroom and living room at opposite end. Bathrooms have strip windows

### privacy IS possible with a





Steps provide approach to front courtyard at normal floor level. Built-in planters are placed at far end of concrete treads

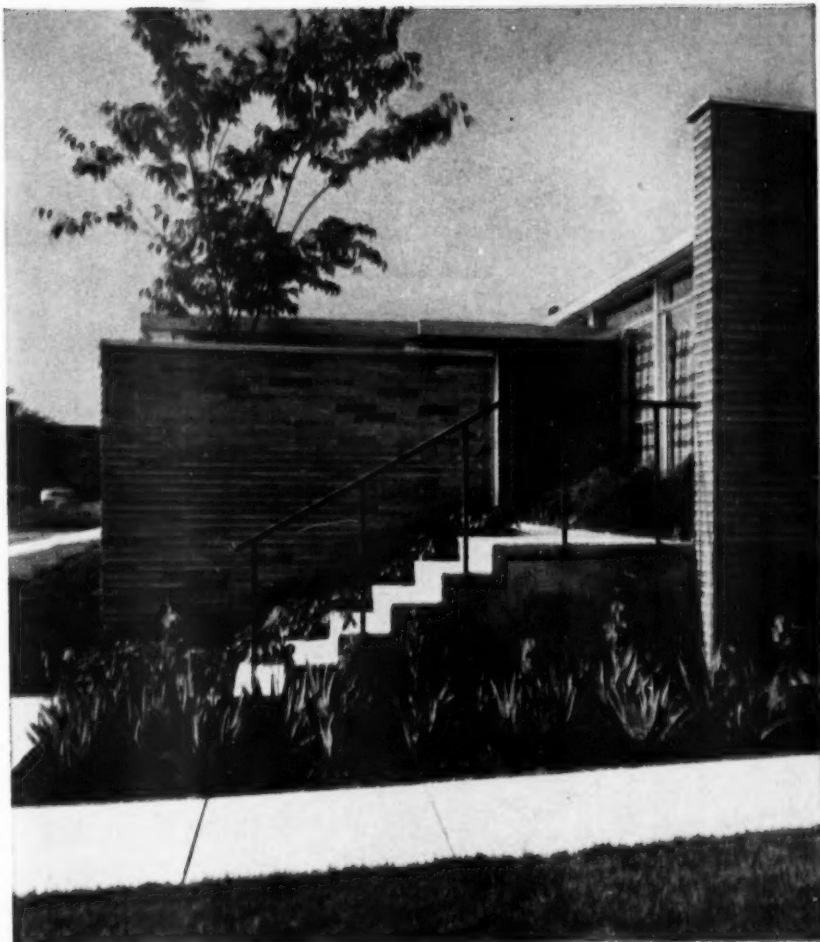
WIDTH OF LOT ..... 52 feet

**SQUARE FOOT AREAS:**

House, full area .....	1,971
Front Court, 1/3 area .....	80
Side court balcony and steps, 1/3 area .....	21
Side platform and steps, 1/3 area .....	11
Stair to basement, 1/3 area .....	18
Basement portion, 1/2 area .....	401

Total number of square feet .....	2,502
Cost per square foot .....	\$14.00

*\* For computation purposes, the courts, platforms, steps, basement stair and basement are fractional, so that their cost will be in ratio with the house.*



## narrow lot



**T**HIS house, built on a narrow suburban lot, casts aside all of the preconceived notions of conforming to neighborhood types, and boldly sets a pattern of design and planning that meets the present day tempo of living.

This mode insists on a measure of outdoor living, even in areas that are restricted because of established property widths. Modern expression of design, with exclusion from adjoining properties, is fulfilled by floor-to-ceiling glass areas and semi-enclosed courts. By not conforming to the fixed pattern, this fresh, vibrant design has given a lift to a community of ordinary homes.

The plan of this house is unique because the two side walls are literally solid masonry, with glass areas confined to the front and rear. The windows are augmented by two courtyards which are placed strategically within the periphery of the plan outline.

The approach to the front or entrance courtyard is by a series of concrete steps leading up to the basic first floor level. Each tread of the steps has

**MORE**



Ribbed, opaque glass panel separates entrance hall at normal level from living room, with counter and book shelves below. Sliding glass panels at right of living room give access to formal courtyard

small planters adjoining the wall. These carry the line of the green foliage of the garden up to the planter at floor level which is located in front of the dining room windows. The level of the court then drops down to the living room, three steps below the first floor. This portion of the court arranged in the shape of a formal garden is ap-

Sliding fabric panels between counter and cupboards above permit serving directly to dining room

proached by sliding glass doors located in the adjoining living room wall.

The basic first floor consists of three levels. Hall, dining room, den, kitchen and bath are at front court entrance level; living room, three steps below; bedrooms, bath and hall two steps above court level.

A large, light recreation and storage room is located in the basement under the bedrooms.

The house is constructed of eight-inch-thick masonry walls placed on ten-inch-thick concrete foundations and footings. All exterior facing is roman brick of variegated brown shades.

Roof framing is built up of four-inch-thick red cedar double t&g planking supported on bearing partitions and walls below. The under side of this planking is exposed as the ceiling in the rooms below.

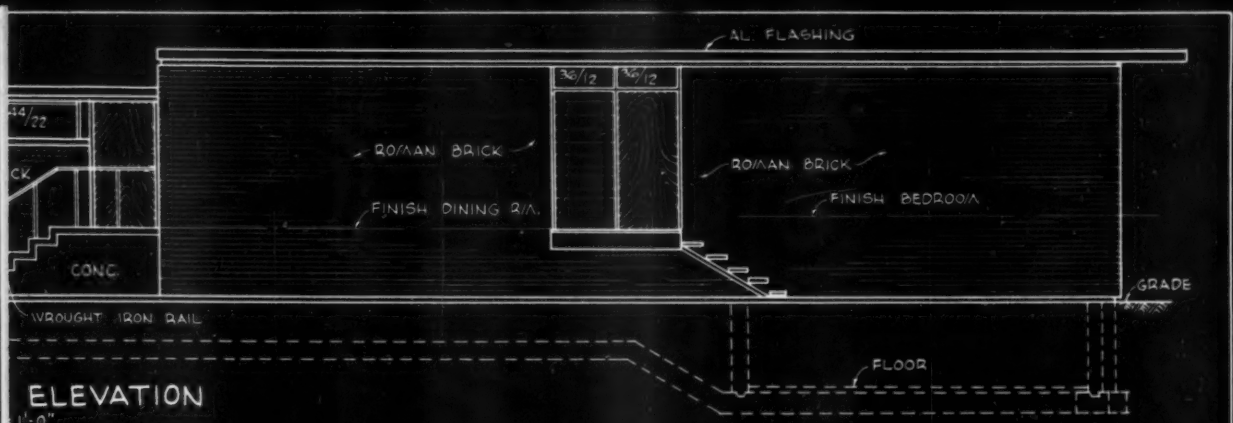


#### BRAND PRODUCTS USED

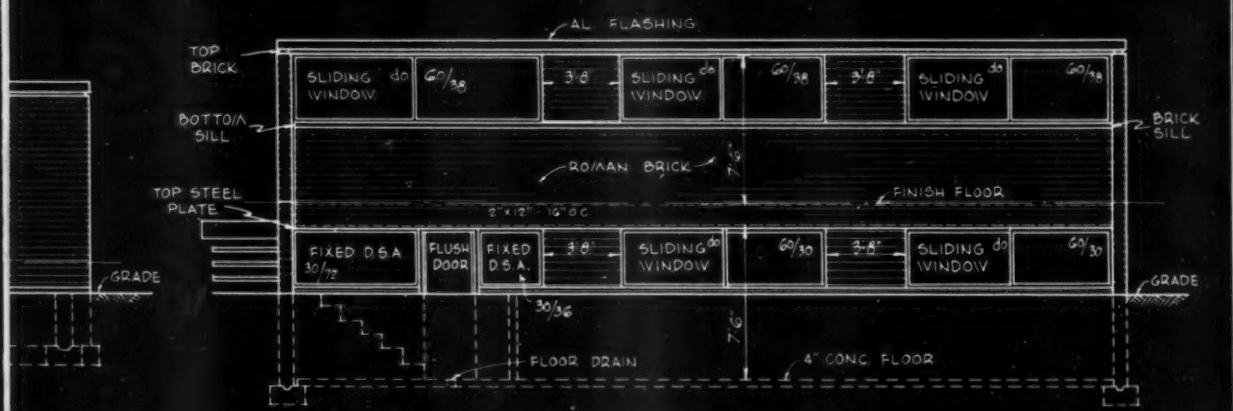
Celotex roof insulation	Mueller warm-air furnace
Chambers gas counter plate, oven and grille	Nutone exhaust fan
Clear View Jalousies	Pratt and Lambert paints
Crane plumbing fixtures	Rheem hot water tank
Formica counters	Robbins vinyl tile
Glide metal sliding windows	Robbins rubber tile
Libby-Owens-Ford glass	Schlage hardware
Lite-craft lighting fixtures	Standard plumbing fixtures
Minneapolis-Honeywell controls	Timertone wood pulp wallpapers
Moen faucets	Tutch-Latch cabinet hardware
	U.S.G. Rocklath

For information about complete one-quarter inch working plans of this house write American Builder Home Plan Service, 79 W. Monroe St., Chicago 3, Ill.

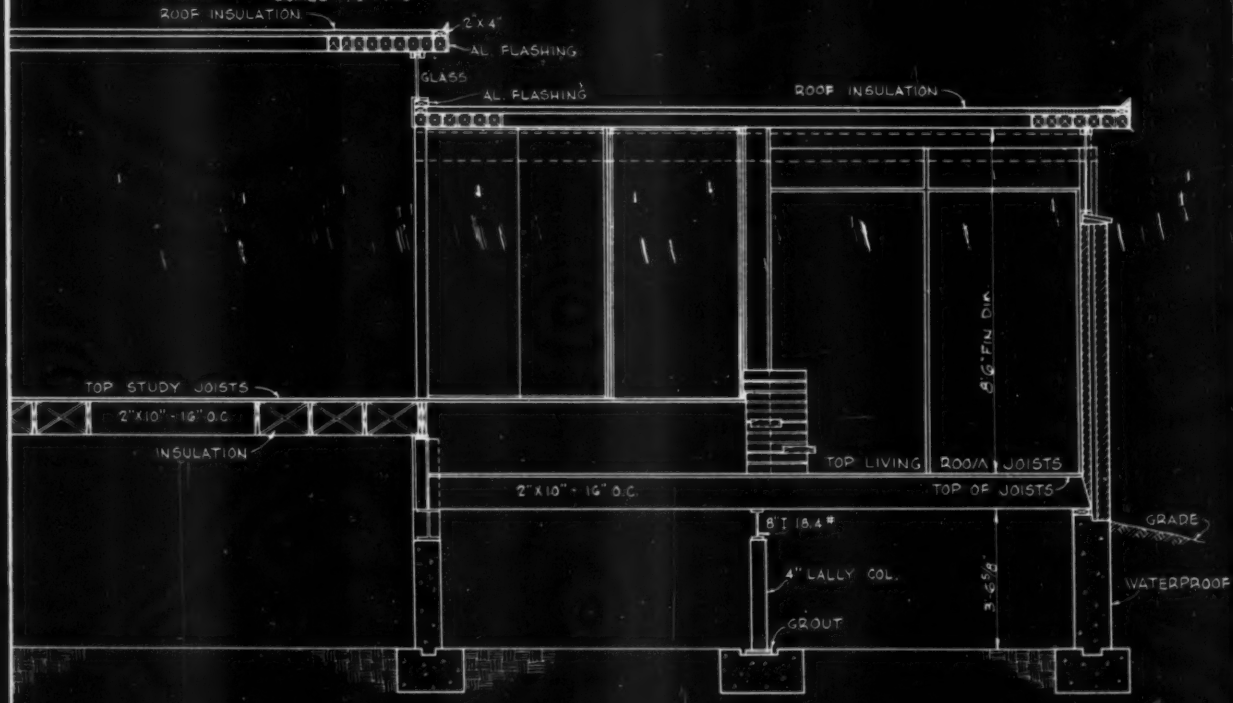
For details, see Gatefold Blueprint 



**ELEVATION**  
SCALE: 1/8" = 1'-0"

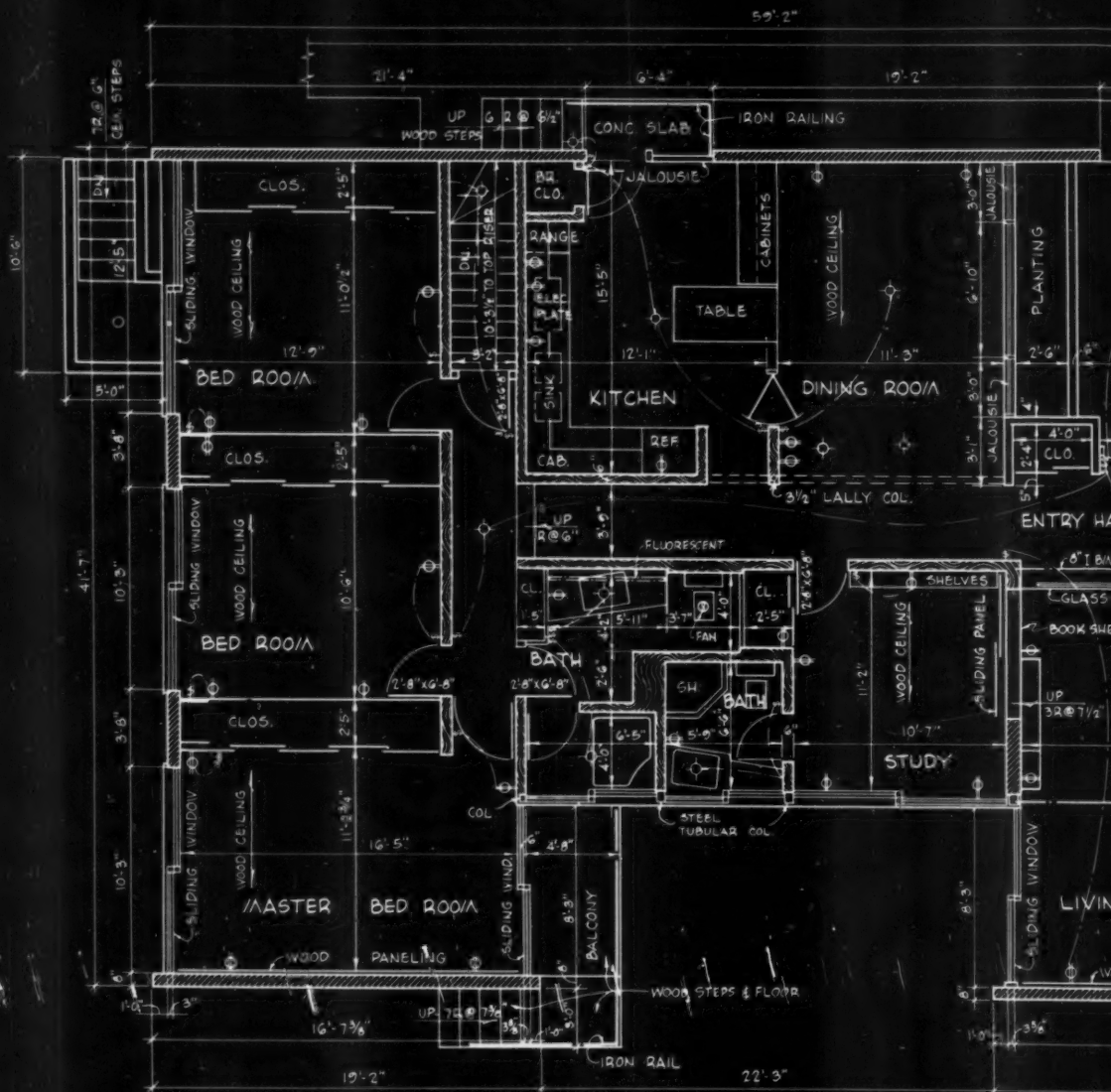


**WEST ELEVATION**  
SCALE: 1/8" = 1'-0"



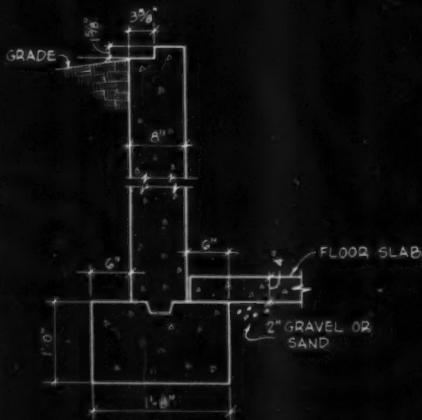
**SECTION**  
SCALE: 1/8" = 1'-0"

INDICATING RESPECTIVE FLOOR LEVELS



**FIRST FLOOR PLAN**

SCALE: 1/8" = 1'-0"



**SECTION B-B**

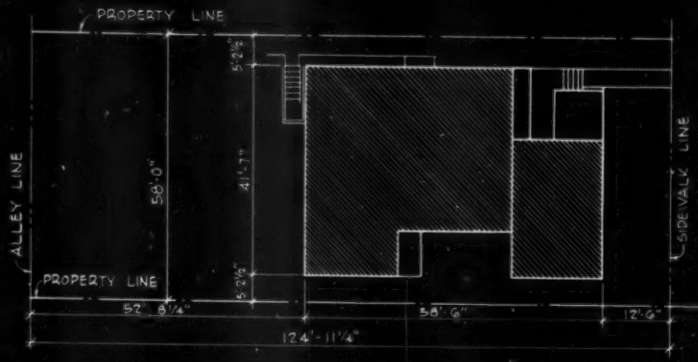
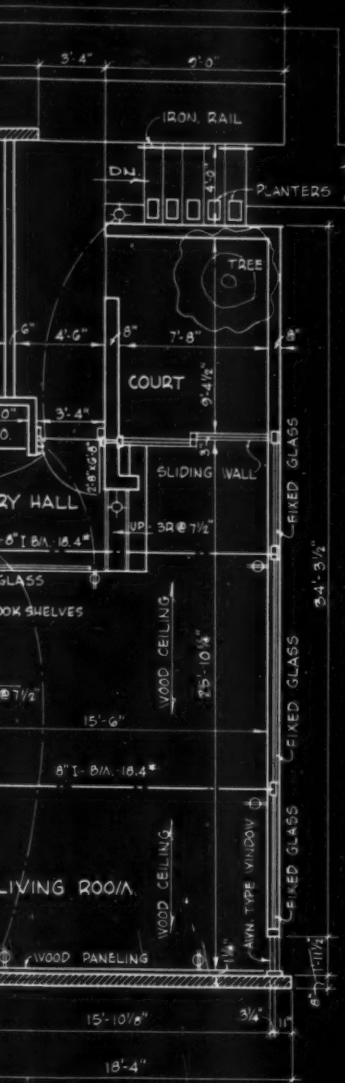
SCALE: 1/2" = 1'-0"



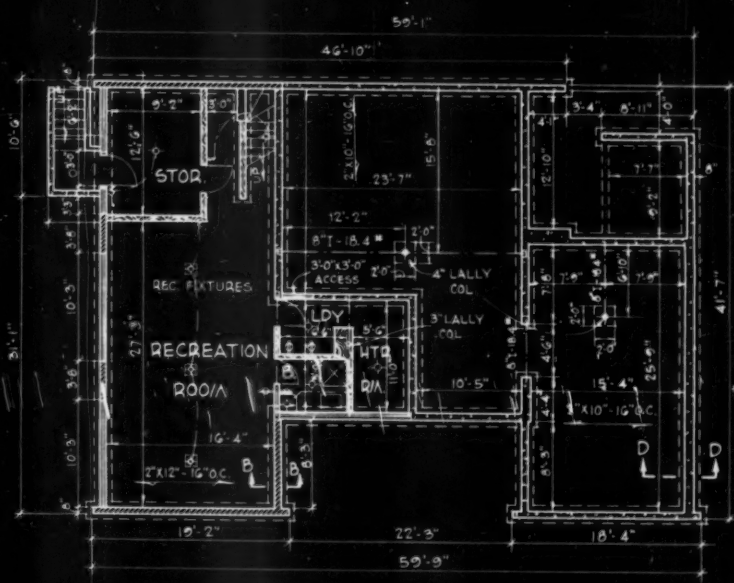
**SECTION D-D**

SCALE: 1/2" = 1'-0"





PLOT PLAN



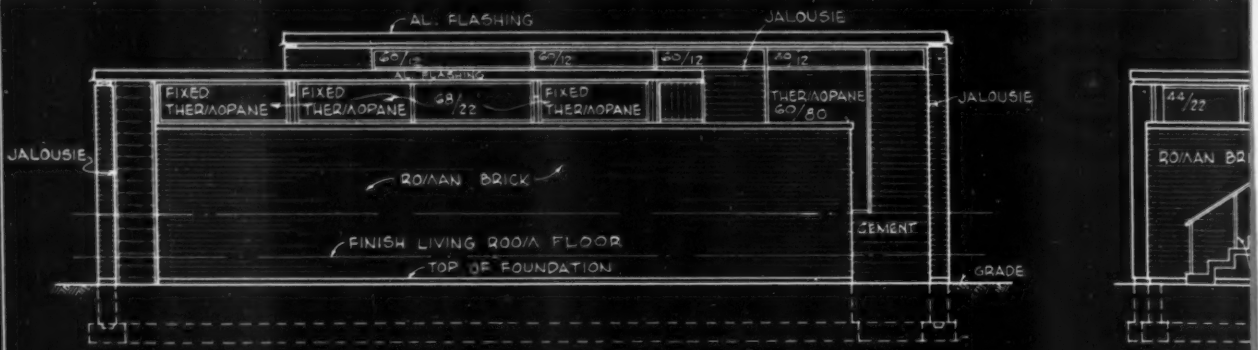
BASEMENT PLAN  
SCALE: 1/16"=1'-0"

- ⊕ CEILING OUTLET
- ⊕ BRACKET OUTLET
- ⊕ CONVENIENCE OUTLET
- ⊕ STOVE OUTLET
- ⊕ FAN OUTLET
- FLUORESCENT OUTLET
- ⊖ SWITCH
- ⊖ 3-WAY SWITCH

DESIGN NO. A.B. 210

AMERICAN BUILDER BLUE PRINT SERIES  
DESIGNED BY  
ALSCHULER & BERKUN ASSOC. ARCHITECTS  
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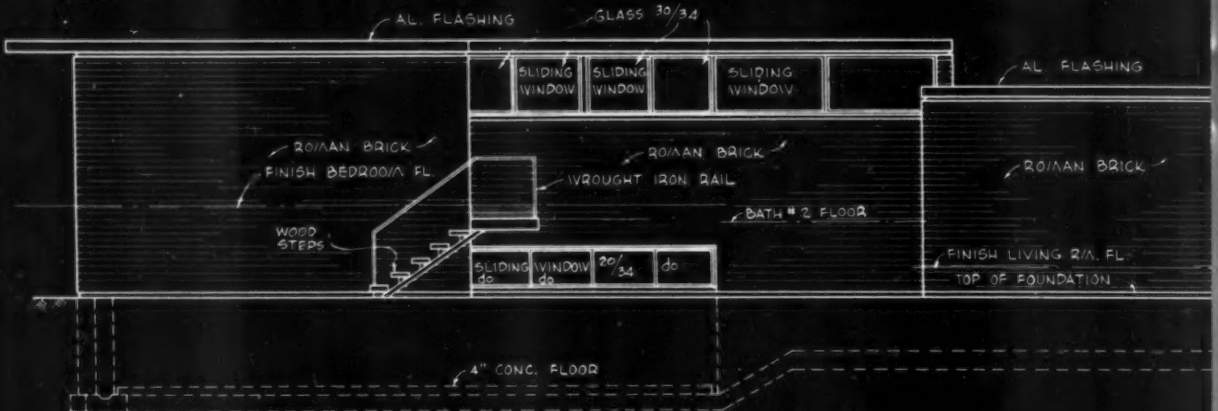
Simmons Boardman Publ. Corp. 79 W. Monroe St. Chicago 3, Ill.



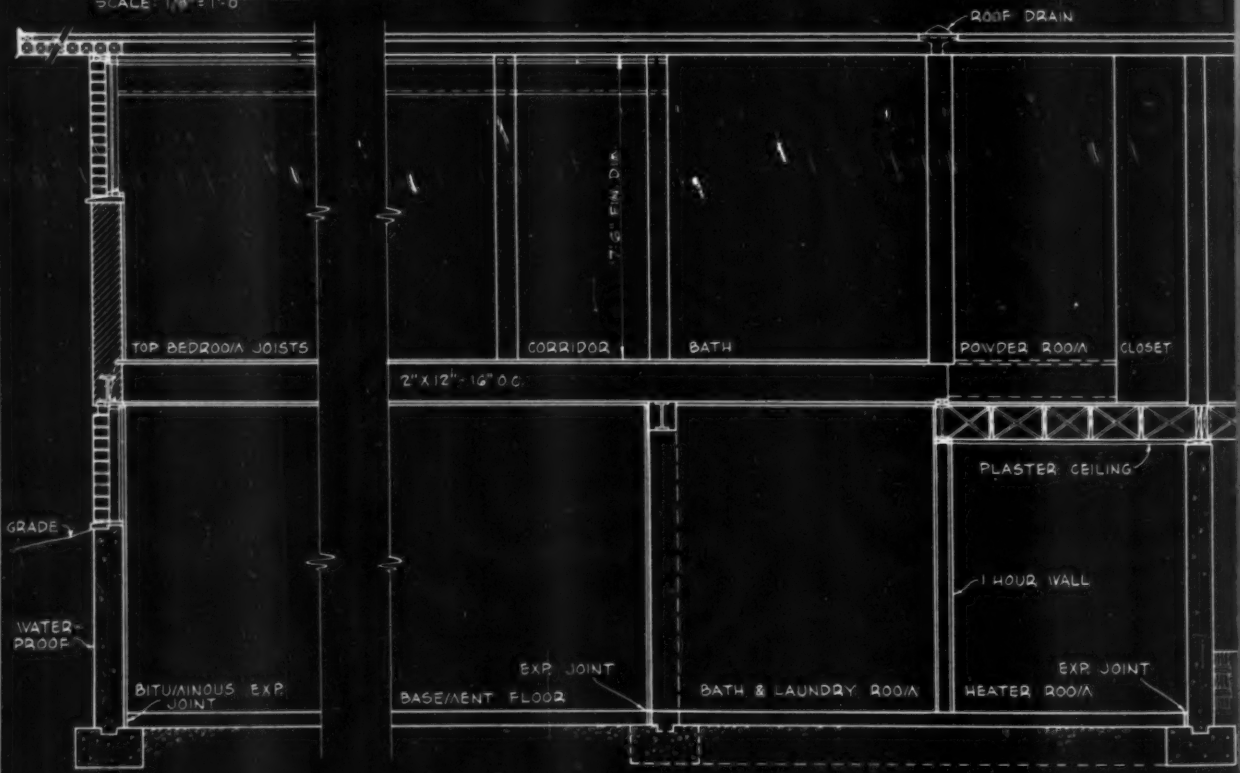
**EAST ELEVATION**  
SCALE: 1/8" = 1'-0"



**NORTH**  
SCALE: 1/8" = 1'-0"



**SOUTH ELEVATION**  
SCALE: 1/8" = 1'-0"



PULL OUT FOR FLOOR PLAN

SHOW

# Quantity List of Materials

## For American Builder Blueprint House No. 210

Alschuler & Berkun Associates, Architect

### General Information

House — Type	Masonry
Area	1,971 sq. ft.
Cube	33,000 cu. ft.
Average height taken for cube was 15 feet	
Front court — 1/3 of area	80 sq. ft.
Side court balcony and steps — 1/3 of area	21 sq. ft.
Side platform and steps — 1/3 of area	11 sq. ft.
Stair to basement — 1/3 of area	18 sq. ft.
Basement — 1/2 of area	401 sq. ft.
Total number of square feet	2,502 sq. ft.

### Excavating

Trench for foundation	330 lin. ft.
Column footings	14 sq. ft.
Excavation for basement	32 yds.

### Cement Work

Foundations	900 cu. ft.
Concrete work	819 sq. ft.
Thickness	4 in.
Concrete steps	1 set of 7 risers 2 sets of 6 risers
Anchor bolts	75 — 1/2" x 10" on 48" centers
Waterproofing	800 sq. ft. below grade plus approx. 150 lin. ft. bituminous expansion jointing
Miscellaneous	
1 porch, 1 rear slab, 1 areaway	5 yds. concrete

### Masonry

Type	brick
Walls	2,500 sq. ft.
Window sills, brick	150 lin. ft.
Chimney	transite packaged

### Iron Work

Structural	90 L.F. 8" x 18.4# 1.B. — 1,656 lbs.
Lally columns	1 — 3" Dia. @ 7'0" long 2 — 4" Dia. @ 2'8" long 1 — 3 1/2" Dia. @ 8'6" long
Metal railings	3 sets Approximately 585# of 4" x 3" angle iron lintels required

### Millwork

Windows — Type	Fixed, Sliding, Jalousies
Fixed windows	1 — 78" x 80" 1 — 78" x 12" 1 — 36" x 12" 2 — 66" x 20" 1 — 150" x 20" 2 — 46" x 20" 3 — 68" x 12" 1 — 72" x 30" 2 — 36" x 12" 1 — 36" x 30" Sliding windows
	2 — 72" x 36" 8 — 58" x 36" 2 — 62" x 32" 4 — 36" x 32" 4 — 36" x 20"

Jalousies	3 — 3'0" x 7'0" 1 — 2'0" x 9'6"
Exterior doors	wood
Flush solid core — wood	3 — 2'8" x 6'8" x 1 3/4"
Sliding doors — metal	6 — 4'0" x 7'6"
Exterior millwork	5 planter boxes built into entry steps
Interior doors, including jambs and trim	2 — 2'6" x 6'8" 3 — 2'4" x 6'8" 1 — 2'0" x 6'8" Double acting doors
	1 — 2'6" x 6'8"
Sliding doors	2 pr. — 2'0" x 6'8"
Multiple sliding doors	15 — 2'6" x 6'8"
Sliding panels	1 pr. — 3'6" x 7'6"
Special interior millwork	
Stairs	2 sets of 3 risers @ 7 1/2" 1 set of 2 risers @ 6"
Work top and cabinets	24 lin. ft.
Upper kitchen cases	25 lin. ft.
Powder room lavatory cabinets	3

### Carpentry

Foundation plates	330 lin. ft. 2" x 4"
Joists	31 pcs. 2" x 12" x 18'0" 40 pcs. 2" x 10" x 16'0" 21 pcs. 2" x 10" x 18'0"
Bridging	275 lin. ft. 1" x 3"
Studding and plates	300 pcs. 2" x 4" — 8'0" 1,000 lin. ft. 2" x 4" plates
Ceiling and roof	2,700 sq. ft. 4" x 6" D.&M. Red Cedar Approximately 5,400 B.F. required
Framing lintels	Built up of 2x12's, approx. 300 lin. ft. required
Subfloor	2,700 sq. ft.
Side wall materials	masonry — furred for plaster
Furring	1,600 lin. ft. 1" x 2"
Carpenter stairs	1 flight basement steps for 10'3" run
Vinyl covering for floors	1,740 sq. ft.
Rubber tile for floors	160 sq. ft.
Hardwood flooring, Oak Parquet 3/4"	375 sq. ft.
Softwood, plywood	1,900 sq. ft.
Insulation, roof only	2,500 sq. ft. 1" Fiberglas

### Sheet Metal

Flashing	290 lin. ft. formed stainless steel flashing and gravel stop required
----------	--

### Roofing

Type	tar and gravel
Area	2,500 sq. ft.

### Interior Walls

Area to be covered	22,000 sq. ft. plus 350 sq. ft. special paneling and special glass wall in living room
--------------------	--

● This quantity list will be subject to variation depending on the common practices in various sections and municipalities of the country, the techniques of individual builders, the types of materials available locally and cost factors. The list published here is a suggested one, complete enough so that it can be used in arriving at a reasonably accurate estimate of the quantities and cost of materials that will be required to complete the structure. It was prepared by experts at the Edward Hines Lumber Co., Chicago.



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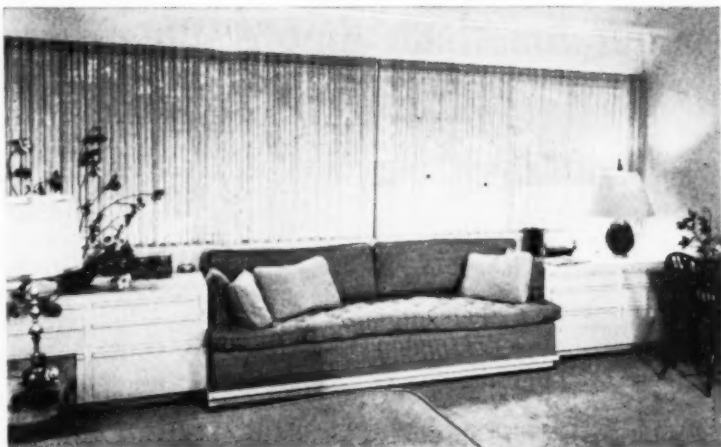
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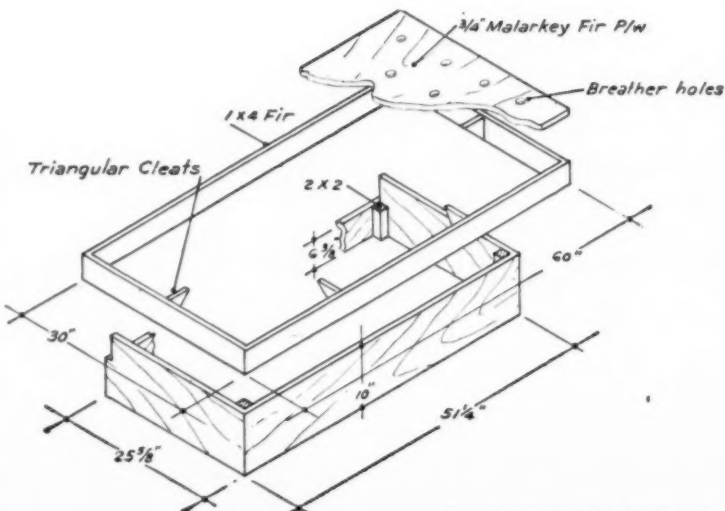
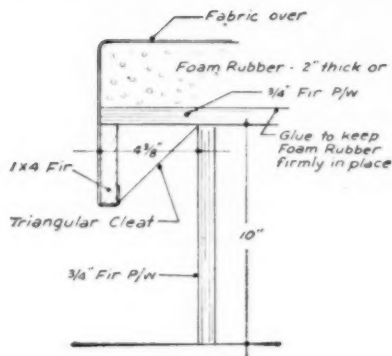
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**IDEA of the MONTH**



**how to build in a sofa**

If you are looking for a built-in feature that will help you sell houses, here is one worth considering, particularly for higher priced units. Details at right and below show how to build in a sofa for both seating and sleeping accommodations. Upholstery in illustration above is foam-rubber, fabric-covered.



Illustrations courtesy Malarkey Plywood

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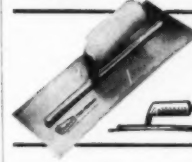
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No. DW8 —Flat Blade Only, 8-in. x 4-in..... 1.50  
No. DWBC—Blade Clamp Only..... 2.75



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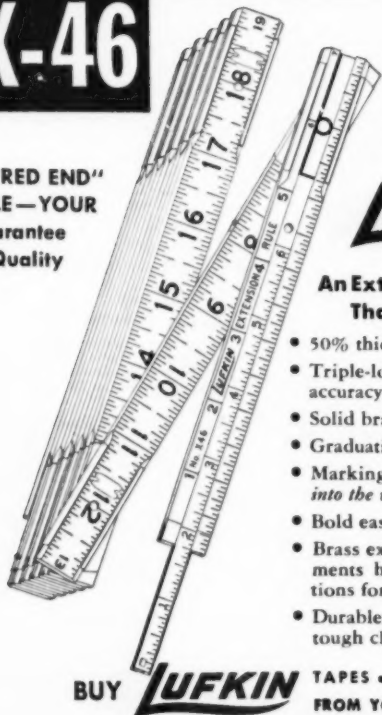
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216

## D-114 don't overlook advantages of standard components

Intelligent application of factory-fabricated standard units to normal house construction can introduce on-the-job cost and time savings often overlooked by builders of either a small or large volume of new construction.

Details and photograph on the opposite page illustrate how a builder made good use of standard-sized glass jalousies and translucent plastic panels by properly planning the over-all size of the porch. Supporting structural members for the walls and roof are necessary, but these can be installed quickly and efficiently when the size of the porch is predicated upon the grouping of these standard components, plus the width required for the framing members.

For the jalousie installation at right, a base is provided by placing at the floor, line three 2x4-inch plates one above the other. A 2x4-inch upright mullion serves as a unit divider, and the 3/4x4-inch member at the head provides a tight fit and permits caulking between jalousie frame and blocking.

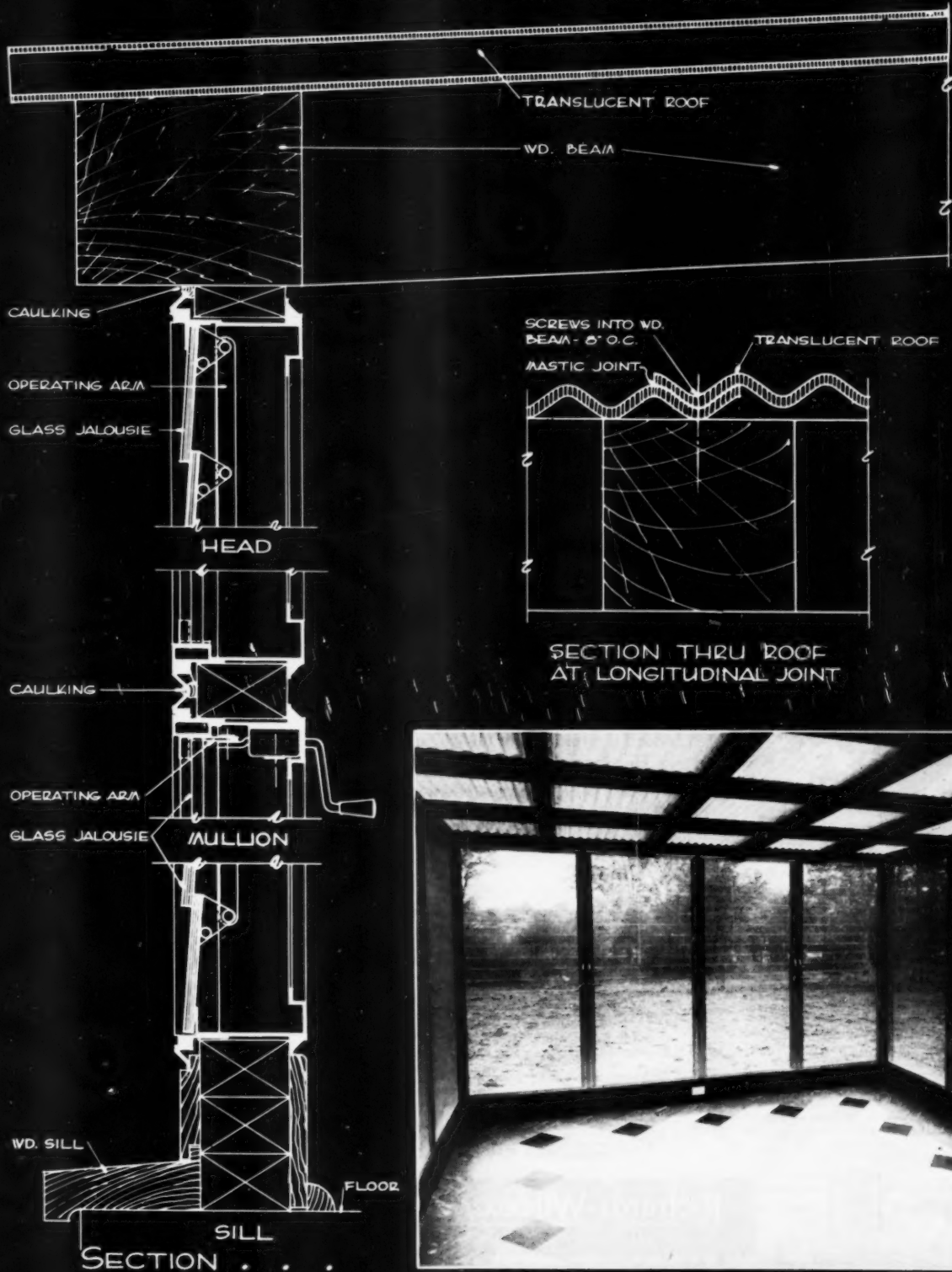
The wood roof beams are spaced to conform to the width and length of the translucent plastic panels. These panels overlap each other approximately 1 1/2-inch at beam intersections with mastic applied to form a weather-tight joint. Panels are secured to beams with wood screws space eight inches o. c.

The structural plates and uprights can be left exposed on the inside of the porch, or a base and base mould applied as indicated on the drawing. A finish casing may also be installed on the inside face of the vertical mullion.

# AMERICAN BUILDER'S BETTER DETAIL PLATE

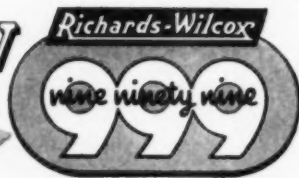
Detailed by K. Roderick O'Neal, A.I.A. for American Builder

## NO. D-114 JALOUSIES IN SUN PORCH . . .

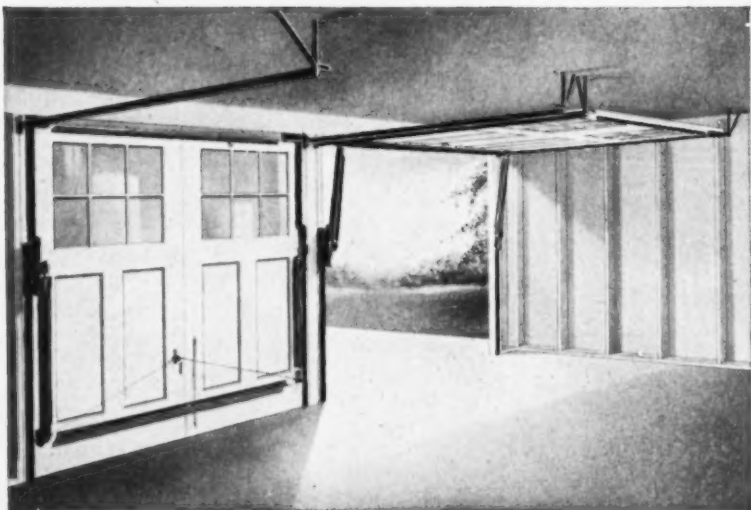




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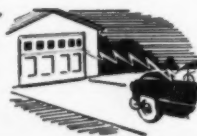
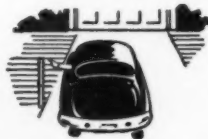
**R-W 999 Overhead Garage Door Hardware** is designed and manufactured with extra precision and extra care, for smoother, easier, more efficient operation. That's why builders of better homes and garages all over America are making R-W 999 standard equipment for Overhead Garage Door Hardware.

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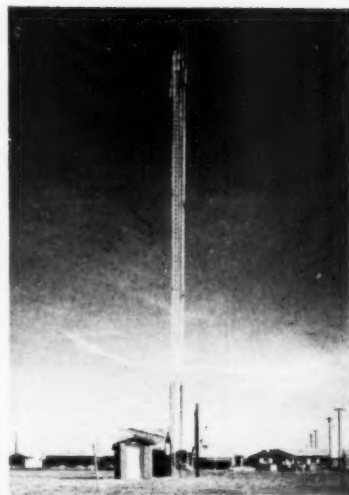


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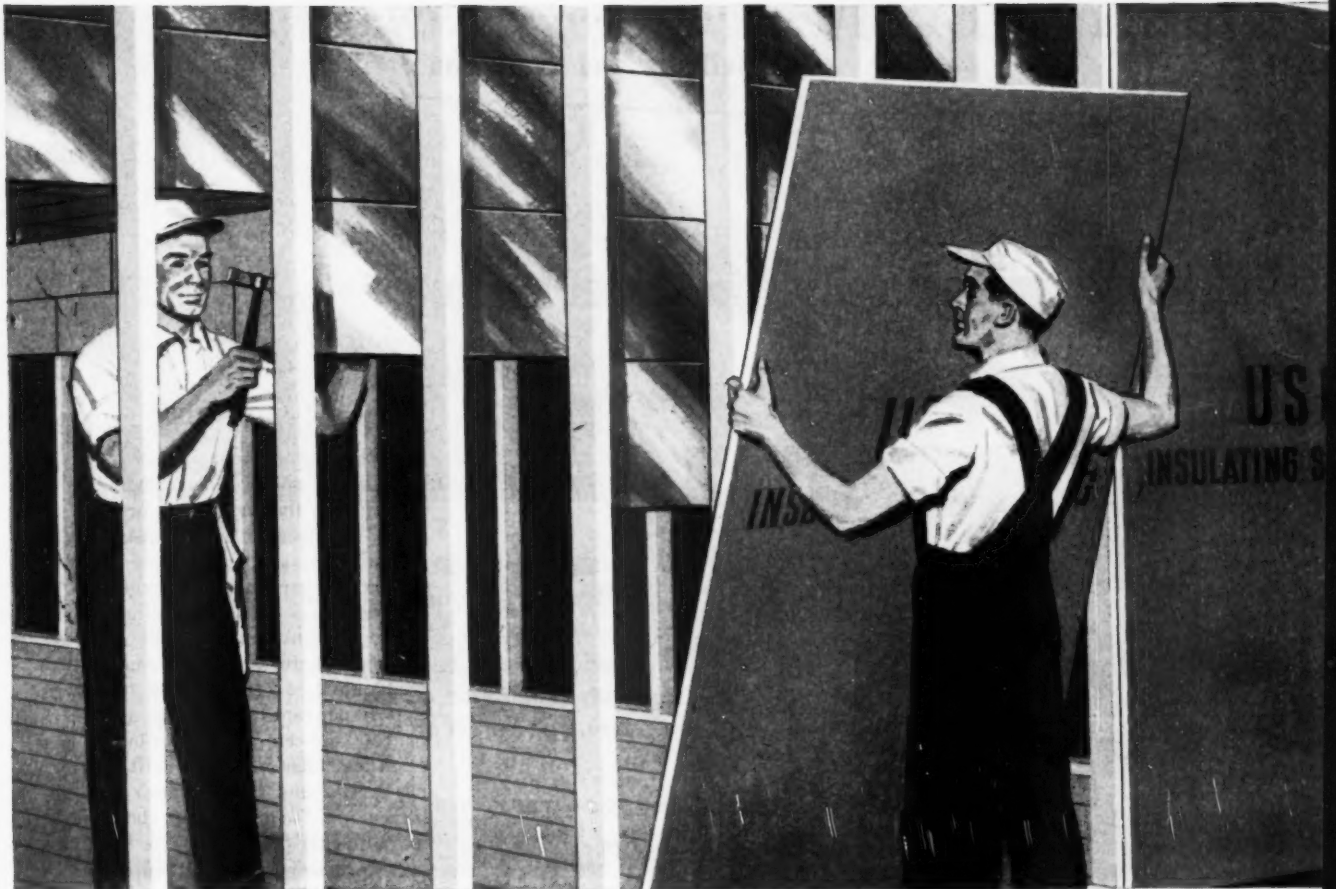


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## technical guide

.....  
for builders and craftsmen

### how to prepare ceiling for panel heating



Simple bending templates are useful to produce uniform bends and even spacing of the row of tubes in a heating coil. Soft annealed copper tubes in 60-foot lengths require fewer joints, reduce installation time and expense



Completed coil is laid on a wood frame. The frame can be lifted easily to the ceiling where it is temporarily wired to the joists. Sufficient straps or hooks are nailed to the joists to permit the frame to be removed. The remainder of the supports then are attached

"Where should panel heating be installed to obtain the greatest efficiency—in the wall, floor, or ceiling?" is a question asked constantly by builders.

Opinions vary, but most architects and engineers favor the ceiling, if job conditions permit. Tests have proven that, for a given amount of heat output, a ceiling panel transmits 70 per cent by radiation, a wall panel 60 per cent, and a floor installation less than 50 per cent. It also has been found that a plaster ceiling can react to temperature changes more quickly than a concrete floor, because it stores less heat. In addition, there is less possibility of coil corrosion in a ceiling installation.

To obtain the best results in ceiling panel heating, construction details must be carefully watched. First recommended step is the use of a table-high template to produce uniform bending and spacing of the tubing. Fewer joints are required if 60-foot lengths of tubing are used. The completed coil then is laid on a simple wood frame which is lifted to the ceiling and temporarily wired to the joists. Pipe straps or hooks are then nailed to joists in sufficient number to permit removal of the frame.

Next step is the attachment of sheets of expanded metal lath below the coils. Research indicates that this type lath greatly speeds up the distribution of heat from the coils to the plaster slab. Recommended type is diamond mesh secured to

*(Continued on page 284)*

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HERE'S ANOTHER NEW HYDROCRANE feature for '54—remote control. With this outstanding advantage, you can start the truck engine, drive the crane ahead, reverse it, steer it, brake it, stop it — without even moving out of the crane operating cab. In addition the truck is provided with air brakes.

Think of the time you save on move-ups with this outstanding new feature. No need to leave the operator's station and get behind the truck wheel just to move the crane up a few feet. With remote control, the Hydrocrane operator can keep full command of both truck and load at all times. You don't need another man to drive the truck.

## SYSTEM EXTREMELY SIMPLE

... has three basic parts — air supply system, control valves, and actuating cylinders. Air from truck brake compressor is delivered to storage tanks, then to crane operating cab. Fingertip levers operate valves directing air through piping to actuating cylinders for truck clutch, brake, gear shift, and steering arm. Truck engine controls, located in crane cab, include ignition switch, starter button, and hydraulically controlled throttle.

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South Milwaukee, Wisconsin



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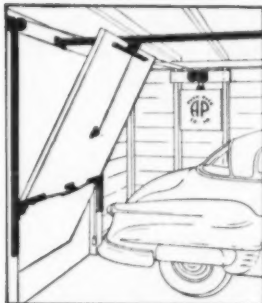
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Unit shipped complete down to the last screw. Quickly and easily installed. Standard set fits any opening up to 9' wide x 7'6" high when doors do not exceed 275 lbs. Other sets available for openings up to 10' wide x 10' high. Complete details furnished on request.

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Adds beauty, cheer and comfort to any home, old or new.

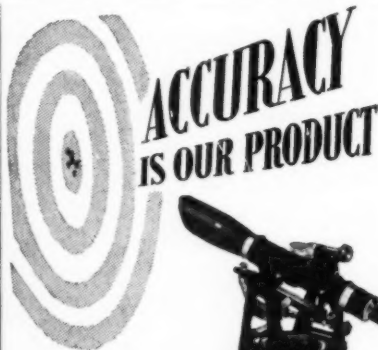
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136 North 12th St., Philadelphia 7, Pa.

### technical guide

for builders and craftsmen



After tubes are secured to the ceiling joists, sheets of expanded metal lath are attached below the coils. There is less danger of plaster cracking when the coils are on the top side of the lath.

(Continued from page 282)

joists with regulation 1½-inch, 11-gauge barbed roofing nails (7/16-inch heads) spaced not more than six inches apart.

Tubes should be thoroughly tested under actual water pressure before plastering. Best procedure is to apply pressure for several hours to be certain there are no leaks in joints and fittings.

After completion of tests, plaster can be applied in regular 1:2, 1:3 mix with the scratch coat applied under enough pressure so that at least 50 per cent of the tubing surface is in contact with the plaster. No other special rules are necessary for plastering a radiant panel. Only normal standards of good workmanship are required.

Lightweight aggregates cannot be substituted for sand in the plaster without compensating for this change in the design of the heating system. Vermiculite and Perlite

AMERICAN BUILDER



**technical guide**

for builders and craftsmen



Plastering is easier and quicker when coils are placed above the metal lath. Penetration of the plaster through the lath is sufficient to produce satisfactory heat transfer from the tube to the panel surface in the room. Space between joists above lath should be filled with insulation

have excellent insulating qualities and can be recommended for walls or other plaster surfaces in the room which are not a part of the radiant heating panel. It is this same insulating quality that offers resistance to the flow of heat from the coils to the ceiling surface, and this can only be overcome by higher water temperatures. For the same reason, expanded metal lath should be used to obtain an even heat distribution over the ceiling surface. It also eliminates dust and dirt streaking across the face of the plaster under the coils.

A note of caution is suggested:— Do not turn on the heating system during the plastering operations. If additional heating is required, temporary portable heaters should be used. In cold weather, the building should be heated uniformly night and day within a temperature range of 55 to 70 degrees Fahrenheit.

Photos courtesy Metal Lath Mfrs. Assn.

AUGUST 1954

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DRILLING the thousands of holes to hang  
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The Drill  
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C-8



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- Planning
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- Framing
- Roofing
- Heating and Plumbing
- Air Conditioning
- Wiring
- Insulation
- Interior Finish
- Power Equipment

## which is cheaper?

*How does forced-air heat compare with baseboard radiant-type heat? Have tests been made as to the relative economy of the two systems?*

*K. F. C., Wilmore, Ky.*

Extensive tests conducted in the several research residences located at the University of Illinois have shown that ultimate fuel utilization of any building depends upon the completeness of combustion of fuel and the amount wasted up the chimney.

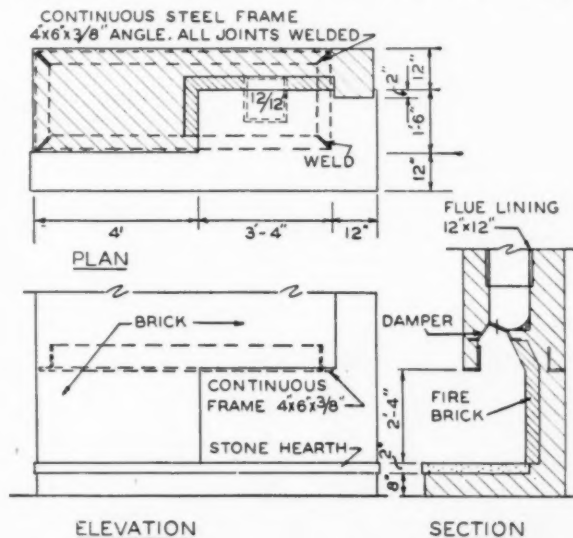
In other words, it makes little difference whether we are considering a hot-water, steam, or warm-air system. The important thing is to: (a) obtain good combustion, and (b) transfer the heat that is generated to the circulating medium so that the least amount of heat is discharged out of the chimney.

In this respect, little difference in operating cost can be shown between the different types of systems installed in the same structure, if the installations are properly designed, properly installed, and properly tuned for efficient operation.

*S. Konzo,  
Professor, Mechanical Engineering,  
University of Illinois*

## how is it supported?

*I am enclosing a picture of a fireplace that I have been asked to build. My clients like the raised hearth and*



*the open corner which has no column to support it. How is the corner supported? What would be the minimum size that the firebox should be built?*

*W. L. G., Woodstock,  
Ontario, Canada*

There may, of course, be other methods of supporting the fireplace described by you, but, above, you will find one solution using a continuous steel frame made of 4x6x3/8-

inch angles with all joints welded.

You have asked for the minimum size at which a firebox should be built. In order to fit the proportions of the fireplace shown in your drawing, the dimensions of the fireplace are as recommended in the drawing shown.

**GOT** a problem you haven't solved? Can't solve? Haven't the time to solve? Have you solved a problem with an answer you aren't sure of? Are you doing some particular job—big or little—in a way that you think might be improved?

Then "ASK THE EXPERTS"—a group of industry authorities—experts in their fields. They'll give you the answer.

Address your questions to: "Ask The Experts," *American Builder*, 79 West Monroe St., Chicago 3, Ill.

As many questions and answers as space permits will be published monthly in *American Builder*, under the head—"Ask The Experts."

## bleach it!

*I have used sandpaper and paint remover, but cannot get mahogany stain out of oak. How can I remove it?*

*R. H., Plumsteadville, Pa.*

Mahogany is very difficult to remove from wood. Bleach it. After bleaching use another stain, followed by a coat of waterspar varnish, then a coat of varnish in gloss, satin or dull finish.

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Anderson Brothers Construction Co., Tulsa, Oklahoma



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Andy and Bob Anderson know how to build "sell" into their modern Tulsa, Oklahoma, homes. And they found the perfect solution to dry wall construction which combines beauty and durability with ease of installation and cleaning. Bob Anderson states:

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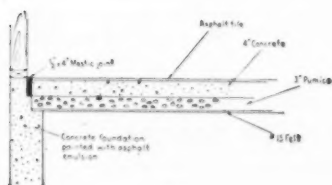
# ask the EXPERTS

## like a boat on water!

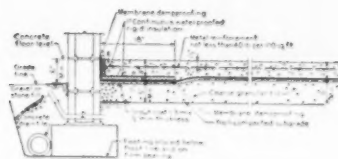
With a concrete floor slab placed over pumice fill as I have planned it (see Figure A), what would be the insulating and moisture qualities? Will the pumice decompose in a short time? Is there a better way to insulate and seal a concrete floor?

E. H. R., Wenatchee, Wash.

Because of the inherent absorptive qualities of pumice, a 3-inch fill of this material would attract and hold



"A"



"B"

moisture. In time, the concrete slab above it would "ride" on top of a thoroughly soaked layer similar to a boat on water. Although the pumice itself will not decompose, the placement of a layer of it would serve no purpose.

Your drawing (A) shows that you have installed asphalt tile over the concrete slab. This will adhere satisfactorily to your concrete floor, but because of the absorption of the pumice fill, the asphalt tile will, in time, probably have a damp surface.

Experiments have shown how to construct concrete floor slabs on ground to give excellent results in cold climates. (See Figure B.)

A basementless house should not be built in low-lying areas that are damp or in danger of flooding from surface water. Surrounding ground level should slope away from the house with good drainage and

should be at least six inches below the finished floor level and preferably 12 inches.

The subgrade should be well and uniformly compacted. A coarse granular fill (coarse gravel or crushed rock) should be placed over the finished subgrade.

Before installing membrane damp-proofing and the placing of concrete for the floor slab, place a stiff grout coat at least 1/2-inch thick (1 part portland cement and 3 parts sand) over the granular fill which has been compacted and brought to grade. The purpose of the grout coat is to provide a smooth surface for installing membrane damp-proofing and prevent puncture of the membrane by workmen.

## Use Asphalt-Saturated Roofing Felt

While the mopping with hot bituminous material proceeds, and before the asphalt has time to cool and harden, place a layer of 55-pound asphalt-saturated roofing felt on the mastic with edges of felt well lapped. Then mop a second coating of hot bituminous material on top of the layer of felt. This gives you a waterproofing membrane between the gravel fill and the concrete.

Membrane damp-proofing should be continuous over the entire floor area and carried up on the inside of the foundation walls to a point one inch or more above the finished floor level. Caution workmen against puncturing the membrane when placing the new 2 1/2-inch concrete flooring. This new slab should be reinforced with wire mesh weighing about 20 pounds per 100 square feet to prevent cracking.

Tests show that insulation is required only around the outside edge of the slab. This is done by providing a 1-inch-thick continuous water-proofed rigid insulation between the foundation walls and the edge of the floor slab and also under the outside 18 inches of the floor.

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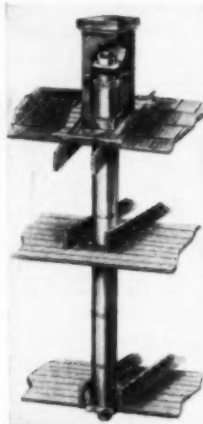
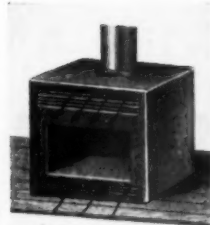
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# ask the EXPERTS

more than just  
a white box—

*A client of mine has asked me to build a deep-freeze cabinet, but since I am not familiar with such construction, how can I construct such a unit? What would the specifications be?*

*W. H. S., Galt, Ontario, Canada*

Without several presses rated in hundreds of tons of pressure, a cabinet could probably not be fabricated in a home workshop that would be close to "true." Exacting computation goes into the construction of a commercial unit so that cubic area (finished) can be handled by a certain size compressor. In all probability, an amateur would be a little ambitious in figuring total capacity.

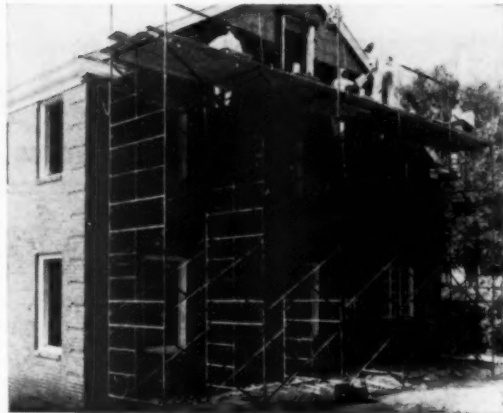
### What About Operating Costs?

Heat dissipation from a freezer cabinet is also computed in minute fractions so that heat collected within the freezer compartment can be efficiently thrown off into the room. An amateur could, in all probability construct a home freezer that would freeze food. But unless he were a retired engineer, the operating costs might give all freezers a black eye in the amateur's thinking.

In recent years the refrigeration industry has finally solved the problem of "sweating" on the outside of a freezer unit on humid days. One of the systems developed channels some of the heat through coils located on the outside surface of the glass wool insulation. Here, again, an amateur could probably build a freezer, but lacking the latest knowledge about coil placement, diameter and operating capacity, the end result would probably be far from perfect.

A home freezer is more than just a white box with a door and a motor. It is a complex machine, though undramatic and simple in operation, and should not be tackled as a project in a home workshop.

Hotpoint Co.



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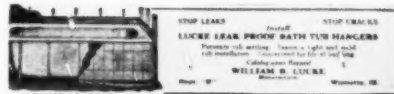
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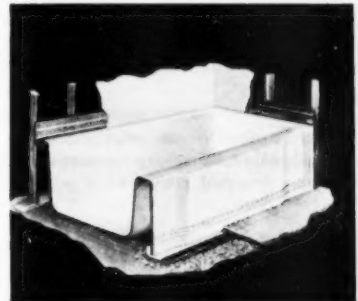


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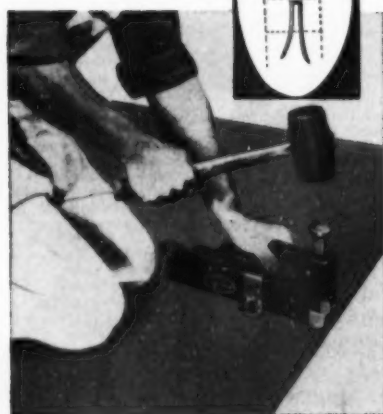
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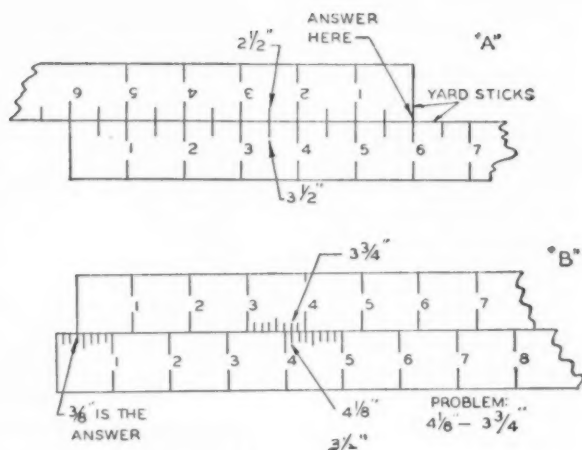
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**Evanston, Illinois**

## how would you do it?

*ideas for the man on the job*

**add and subtract fractions easily—  
use two rulers to do the trick**



Use two yard sticks or two rulers that have inch designations on both edges. Place one yard stick or ruler above the other. The result is a simple slide rule with which you can subtract and multiply simple fractions.

For example, suppose you want to add  $2\frac{1}{2}$  plus  $3\frac{1}{2}$ . Place the rulers so that the numbers face in opposite directions. Place the  $2\frac{1}{2}$  and  $3\frac{1}{2}$  so that they are directly opposite each other. (See Figure A.) The answer

(6) will be indicated at each end of the ruler.

Suppose that you want to subtract. (See Figure B.) Turn the two rulers or yard sticks so that the two sets of numbers read in the same direction. Suppose that you want to subtract  $3\frac{3}{4}$  from  $4\frac{1}{8}$ . Move the yard sticks till the  $3\frac{3}{4}$  and the  $4\frac{1}{8}$  are directly opposite each other. The subtracted answer ( $\frac{3}{8}$ ) will be shown at the end of the ruler—E. E. Dunham, Warrenton, Ore.

### cutting pieces of stock to length

When cutting several pieces of stock to length on a radial-arm or swing-type cut-off saw, time may be saved by doing it in the following way:

Nail or clamp the stop a few inches further from the saw than the desired length of the material to be cut. Using your measuring stick, mark the first piece to the length required and cut it. Then place it against the stop and butt any scrap available against the piece and saw it off. Then put the scrap against the stop. Butt all subsequent pieces to be cut against the scrap. They will

be as accurately cut as the first piece. This procedure eliminates exact stop adjustments which often consume a lot of time.—L. Pryor, Salt Lake City, Utah.

### hammer handle won't slip

The tendency of a hammer handle to slip out of your hand will be greatly reduced if several small holes are drilled in the handle. In this way, a slight vacuum is formed in the holes when the hammer is held in the hand and will not slip as easily as before. A few rounds of waterproofing tape can be another help in this respect.—R. Boersma, Sioux Falls, So. Dak.





## There's No Substitute for METAL WEATHERSTRIPPED WOOD WINDOWS

Your customers can immediately see the outstanding advantages when you install complete metal weatherstripped wood window units. Window units that have been precision-assembled by the sash and door jobber and are available to you through your retail lumber dealer.

**BEAUTIFUL** wood windows are warm to the touch and reduce condensation to a minimum.

**COMFORT** is assured with wood windows properly weatherstripped with metal weatherstrip. Homes stay cool in summer, warm in winter and dry the year around.

**PROTECTION** of wood windows with metal weatherstrip prevents needless heat loss and discomfort. Savings in fuel costs alone can amount to approximately 24%.

**ECONOMY** is guaranteed. First cost is moderate for metal weatherstripped wood windows, compared to any other type windows. And the extraordinary durability of metal weatherstripped wood windows means less maintenance and longer life.

Serve your customers **BETTER** by installing complete metal weatherstripped wood window units.



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OFFICE OF THE SECRETARY  
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AUGUST 1954

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COFFMAN



1 Hang 8' or 9' post to soffit plate with lag screws. A choice of designs for all type construction.

2 Plumb post and wedge with broken brick, block, etc. Note legs extending below finished floor line.

3 Step forms built for standard steps, 7" risers x 12" treads. If you build brick steps, they will lay-up 7" x 12".

4 Final check before pouring concrete. Set-up time ONLY 40 MINUTES.



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- ★ Coffman Ornamental Iron is a packaged item—complete—ready to use.
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- ★ Coffman Ornamental Iron increases the value of the home—gives you additional profit.
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Standardize your steps (7" risers, 12" treads) and use built-in-place construction for bonus profits. For off-size steps, use the simple Coffman Rail-O-Graph, available at your dealer. Remember, Coffman 8'/0" Universal height porch posts will fit most all jobs (9'/0" for remodeling jobs).

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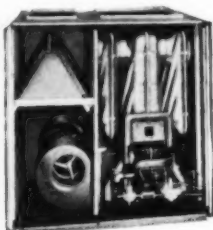


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## *Activated Heat* FURNACES

make Niagara-equipped homes easier to sell

What home-buyers say about the homes you build depends to a considerable degree on their experience with the heating systems you install. It pays to install Niagara furnaces because Niagara furnaces are widely acclaimed by owners proud of their low fuel bills, and are prestige-builders for the heating contractor and the builder.



Model 50 Deluxe. Shown at right with front panels removed



Oil-Gas Convertible

Niagara furnaces deliver heat in its most pleasing, comfortable form — warm air in gentle motion . . . ACTIVATED heat . . . LIVE heat!

Long famous for fine performance and low operating cost are Niagara gas-fired furnaces with the exclusive Niagara-made cast-iron heat exchanger, illustrated above. These heat exchangers are available only in Niagara Series 50 furnaces. Especially valued by those who want the very finest are the Series 50 Deluxe models which are equipped with a 3-speed direct-drive blower for luxurious, zephyr-like air circulation.

Included in the extensive Niagara line are furnaces with steel heat exchangers, for basement and utility room installations — and automatic oil-gas convertible furnaces (for the fuel available now, and readily convertible at any later time, with a Niagara burner for the other fuel).

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There's a Niagara for every home-heating requirement.



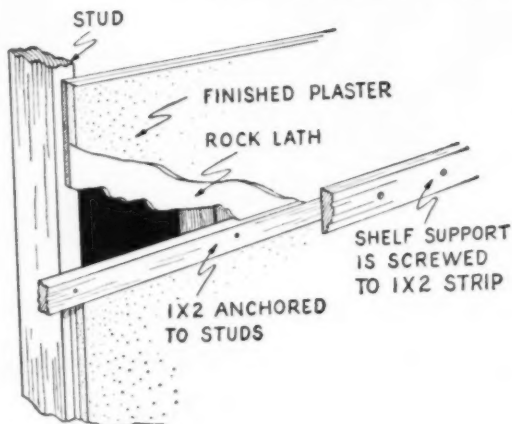
**NIAGARA FURNACE DIVISION** The Forest City Foundries Co.  
2500 WEST 27th STREET • CLEVELAND 13, OHIO

Send me information on Niagara furnaces burning ( ) Oil; ( ) Gas; for houses with basement ( ); without ( ) basement; and ( ) details of Niagara Cooling Unit.

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## how would you do it?

build shelf supports this way

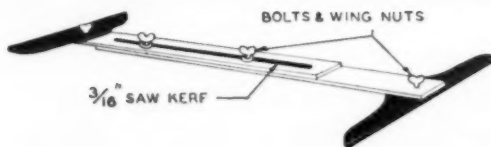


Nail 1x2's directly to studs before plastering is begun. When plastering is completed, 1x2's will be flush with the finished plaster. Shelf supports are then screwed to 1x2's. The result is a very strong anchor for the support of shelving.—B. Capps, Lombard, Ill.

to anchor partition to concrete floor

Lay 2x4 in place on concrete floor. Drill through 2x4 with  $\frac{3}{8}$ -inch steel drill. Let it mark the concrete. Remove the 2x4 and drill the concrete at each mark with a  $\frac{5}{16}$ -inch concrete drill. Drill these holes two inches deep. Replace the 2x4 so that holes in 2x4 and in concrete correspond. Drive  $\frac{3}{8}$ x3-inch lag screws through 2x4 and floor to anchor partition plate to floor.—G. C. Holmquist, Modesto, Calif.

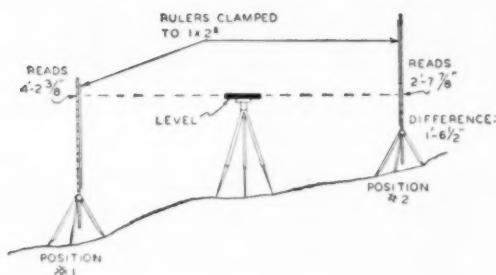
make this handy, variable template



Take two cheap wood T-squares. Remove heads and reverse each. Secure each head with a small bolt and wing nut. Saw a kerf approximately  $\frac{1}{8}$  or  $\frac{3}{16}$  inches wide down the center of the arm of one of the squares. Drill a couple of holes into the center of the arm of the second square. Use bolts and wing nuts to secure the two squares. The result is a template which can be lengthened or shortened and can be used to advantage in measuring and cutting.—W. L. Dodds, Branson, Mo.

## ideas for the man on the job

### how to find difference in elevation



The problem of how to find the difference in elevations if one is alone on the job, can be accomplished with the method illustrated below. Two stands are necessary: One on which is attached a ruler or yardstick; another to hold a level. Make the stands out of 1x2's. Stands can be very simple, can be of tripod type or merely stakes driven into ground.

Make the one to which the yardstick is to be attached about six feet long. Place stand with ruler attached at position one and sight by eye with the level. Mark spot as sighted. Measure from earth's surface to mark. Place stand at position 2 and repeat procedure. Measure from earth's surface to mark sighted along level. Difference between readings gives change in elevation.—J. Niederle, Maple Heights, Ohio.

### concrete stairs—1¾ inches thick!

Use 3.4-pound (weight per square yard) metal lath. Cut lath the desired width of stairway. Shape lath into treads and risers sufficient to reach from one level to second level. Remember that the desirable height for a riser is 7½ inches, depth of a tread is 10 inches. Allow a bit more space to account for thickness of concrete application. Cut two strips of metal lath full length of proposed stair to act as stringer boards.

Set shaped stair and stringer boards in place. Plaster both top and underside of risers and treads as well as both sides of the stringer boards with a scratch coat of portland cement. Apply a second coat of cement when the first coat has dried. Use a 2x4 for a screed. Total thickness of metal lath plus two coats of cement plaster on both sides will be about 1¾ inches.

Unless stair flight is exceedingly long, no supports are needed to uphold the metal-lath stair skeleton. The stringer boards become self-supporting and risers and treads act as stiffeners when first coat of cement is applied.—H. Lemaster, Carlinville, Ill.

**CASH FOR JOB SHORTCUTS**—American Builder will pay five dollars (\$5) in cash for each shortcut or job pointer accepted for publication. Send all material to the Architectural Editor, American Builder, 79 W. Monroe St., Chicago 3, Ill.

AUGUST 1954

## PRESENTING THE NEW GRAND RAPIDS

# "VEN-TROL-HINGE" ADJUSTABLE FRICTION TYPE

for PANEL, CASEMENT and HOPPER VENTS

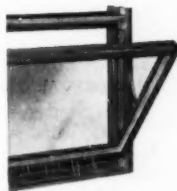
The new Grand Rapids "Ven-Trol-Hinge" is an efficient, versatile, low cost, adjustable friction type opening mechanism for use on outward projecting panel vents, hopper vents and outward or inward projecting casement vents. Ideal for use in homes and apartments as well as in monumental and commercial buildings with either wood or metal frame and sash. It is extremely economical because it utilizes standard straight cut mill work details. It holds vents weighing up to 40 lbs. rigidly open in any position up to a full 90° angle without thrust or twist on sash members. Like the "Ven-Trol-Gear", the "Ven-Trol-Hinge" moves the vent to the approximate center of the sash opening to provide the most efficient ventilation . . . to assure full view . . . and to permit washing both inside and outside of vent panes from the inside.



It's the G. R. "VEN-TROL-GEAR'S"

*Economy* COMPANION UNIT

MILLWORK DETAILS IDENTICAL



Hopper Vent  
Partially Open



Casement Vent  
Open Full 90°



Panel Vent with  
"Ven-Trol-Gear"

### ✓ CHECK THESE FEATURES

- 1 Spring loaded nylon bearing surfaces on all moving parts eliminate abrasive wear.
- 2 Adjustable tension spring provides correct friction to hold vent firmly open at any desired angle.
- 3 Designed for use on 1½" and 1¾" standard wood sash and aluminum or other metal sash.
- 4 Can be used with any type of glazing up to 1" including double glazing.
- 5 Can be used with any wall thickness or trim as "Ven-Trol-Hinge" becomes integral part of window.
- 6 Any vent equipped with "Ven-Trol-Hinges" can be fully weather-stripped.
- 7 Installation is fast and economical — unit lends itself to simplified line production as well as fast on-the-job installation.
- 8 Available in 5 sizes handling a minimum of 15 openings.

## VEN-TROL-GEAR VENT PANEL ACTUATOR

The G. R. "Ven-Trol-Gear" opens and closes outward projecting vents smoothly and quietly with fingertip gear-operated control.

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## new products

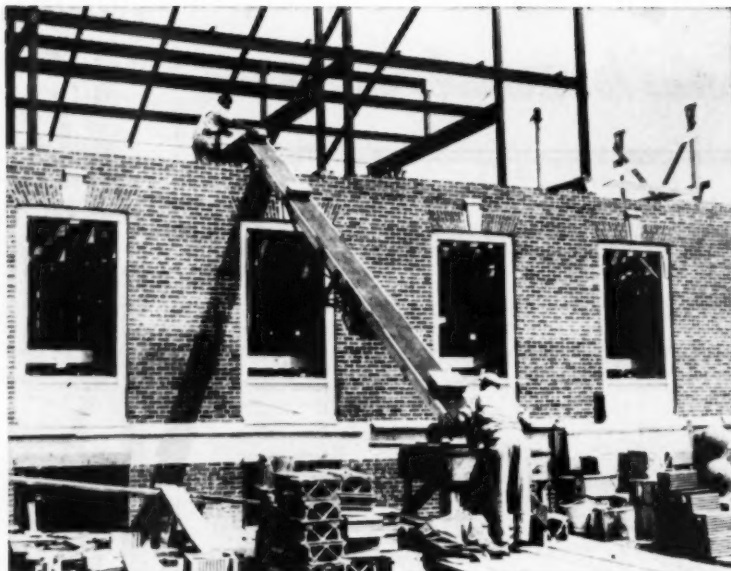
### HEAVY TYPE DITCHER AB85419

The need for a heavier type ditcher, as indicated by three years experience in producing a lightweight model adaptable to Ferguson, Ford and Ferguson-Ford tractors, has led to the design and manufacture of a light-heavyweight ditcher, called the "Scout."



Requiring little more than 10 minutes to install and remove, the "Scout" operates in a 160° arc behind the tractor, and the bucket reaches 14 feet behind the main "A" frame. The bucket can be hoisted 10 feet high (the dumping clearance with hydraulically operated bucket is 8 feet), thus enabling the ditcher to load into dump trucks. Maximum digging depth is 12 feet.

A new design principle makes available tremendous pressure in loading and hastens the dumping action, says the maker. Design is such that the loading of the bucket is with a push stroke of the hydraulic cylinder, with the linkage in such a manner that direct pull is applied on the bucket. The manufacturer claims the ditcher is ideal for jobs too big and too heavy for manual labor, and for jobs where heavier equipment is cumbersome and awkward to operate. Write Shawnee Manufacturing Company, 1947 N. Topeka, Topeka, Kansas, for additional information and literature.



Flat top conveyor, recommended for carrying concrete block, shingles, sacked materials, or anything which protrudes over belt edge while unit is in motion

### LIGHTWEIGHT, ALL-ALUMINUM CONVEYORS

AB85401

Two new lightweight conveyors can be shifted into a variety of positions to expedite the carrying of materials directly to the user. The "Farnco BC" with an aluminum flange paralleling the length of the moving belt curtails the possible spilling of brick, pipe, tile or other loose materials. Only in this respect does it differ from the flat top "Farnco FT-3" without the flange (illustrated) which is built to carry

block, shingle, cement sacks, wood, etc., or anything needing more width that can still hold its grip on the belt.

Both units are equipped with wheels on frames that can be adjusted to various heights or can be dismantled entirely to reach into small openings. Either unit is driven by electric, air or a gasoline motor. Farnco Sales Co., Dept. AB, 6713 Formosa Way, Pittsburgh 8, Pa.

### WINDOW JAMB LINERS AB85402

Through the use of these devices, "Malta" wood window units and frames can be adjusted to fit various wall thicknesses. Adjustment is made possible by removal of the jamb liners, one at a time. Removal of one liner re-



duces thickness of the jamb from its original 5¼ inches to 4¾ inches. Removal of the second liner reduces the jamb width to 4½ inches. This feature of the wood window units permits them to be used in masonry, brick or frame walls ranging from 4½ to 5¼ inches in thickness.

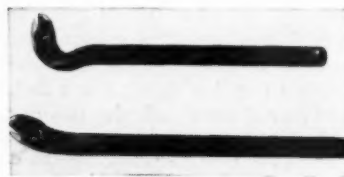
For walls that are 5¾ inches or more in thickness, wider liners can be obtained on special order. Malta Manufacturing Co., Dept. AB, 35 Elliott St., Malta, Ohio.

### NAIL PULLERS

AB85414

This tool, called the "Cat's Paw Nail Puller," has a spoon-shaped head to slide easily under the nailhead. If nails are driven deeply into the wood, and are flush or beneath the surface of the board, the curved fulcrum of the tool is designed to permit easy hammering under nailhead, sufficient to give purchase for pulling with minimum damage to the wood. Tough, rusty nails, up to 20-penny size, can be quickly and cleanly removed without damage or splintering, the manufacturers say.

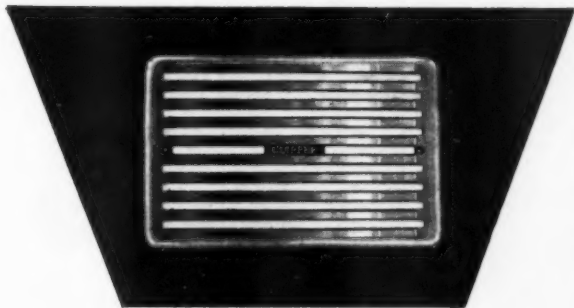
A companion tool, (below in picture) is identical in size but has a less pronounced curve at the head, and is use-



ful for normal nail pulling work. A 16-inch tool with chisel or prying blade on one end is also available for extra heavy work. Tools are 10½ inches long and made from ⅝-inch hexagonal tempered steel with a black finish. C. Drew and Co., Dept. AB, Kingston, Mass.



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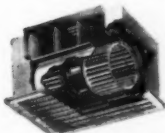


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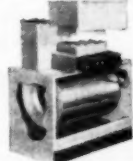
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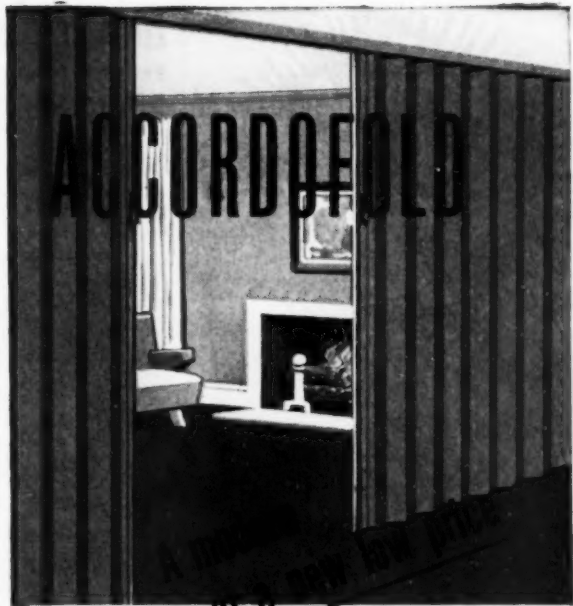


300 CFM  
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AUGUST 1954



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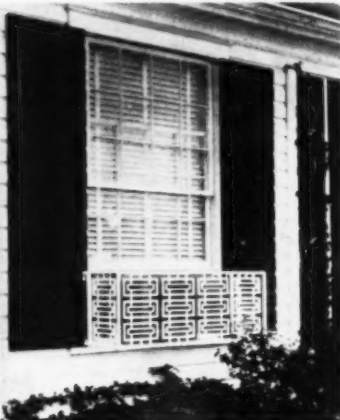
CONSOLIDATED VENETIAN BLIND CO.  
A DIVISION OF  
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**GENERAL PRODUCTS, INC.**

24th and Nicholson Houston 8, Texas

## new products

### WINDOW GRILLE AB85417

New, all-aluminum grilles in a choice of two designs, Orleans or Modern (illustrated), and four sizes are now available. These hide room air conditioners on the outside of the house. Units are factory finished in outside



white, but can be repainted to match builder's color scheme.

Grilles are easily assembled with four bolts, and are attached to wood, brick or masonry wall with two wood screws or masonry bolts, furnished. Installation of grilles does not affect the operation or efficiency of the room air conditioner unit. Available sizes are 36x16x18, 36x24x18, 48x16x18 or 48x24x18 inches, in both designs. Bar-Brook Manufacturing Co., Dept. AB, 6135 Linwood Ave., Shreveport, La.

### SINK FRAME AB85404

New sink frame is claimed by its makers to be exceptionally easy to install, requiring no bolts or clamps. The installer twists one set of tapered tongues over the flange of the sink with a pair of pliers, as shown in the illustration,



places the sink in the cabinet top, then reaches under the sink and twists the other set of tongues over the edge of the wood, and the sink is fastened. One man can install this frame in 15 minutes, after the hole in the cabinet top is sawed.

Frame is made of polished extruded aluminum and comes in all sizes from 12x12 inches to 21x60 inches for both cast iron or stamped steel sinks. Macklanburg-Duncan Co., Dept. AB, Box 1197, Oklahoma City, Okla.

♦ FOR MORE INFORMATION  
USE COUPON, PAGE 311

# 26 colors



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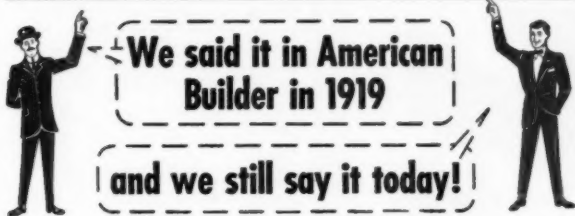
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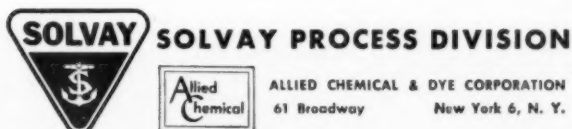
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AUGUST 1954

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Plugmold provides duplex or NEMA grounded outlets around every room, any room or any part of it — every 30", 18", 6" or closer. With Plugmold, when an outlet is wanted, it's there!

Plugmold is definitely the fastest, easiest, cheapest way to provide multiple convenience outlets! Write for the Plugmold booklet.

Rely on Wiremold's "Big 4" to solve your wiring problems! Plugmold Continuous-Outlet Systems — Wiremold Surface Raceways — Pancake Overfloor Raceways — Wiremold Fluorescent Units.

**The WIREMOLD Company**  
HARTFORD 10, CONNECTICUT

Wiremold products are backed by a firm guarantee.  
See page 7 of Wiremold Catalog No. 19.



**Precision-built for  
the man behind the gun...**



Model 3000 \$195.00\* complete with tripod.

**White gives you  
the most practical  
Universal Level-Transit  
on the market**

**H**ERE'S a Universal Level-Transit specially developed to handle all survey and checking operations. It's sturdy, accurate and exceptionally easy to use. And — a new single truss standard frame design replaces old-style cross bars and wyes. What's more, it has a silvered 4 1/4" horizontal circle and an easy to read 5 minute vernier.

Other advantages of this outstanding instrument include coated optics, internal focusing and a ball-bearing race for smooth operation even in sub-zero weather. Check out a White on your next trip and discover how much easier your work can be. Write for DAVID WHITE Bulletin 1053 and name of nearest dealer, 311 W. Court St., Milwaukee 12, Wis.



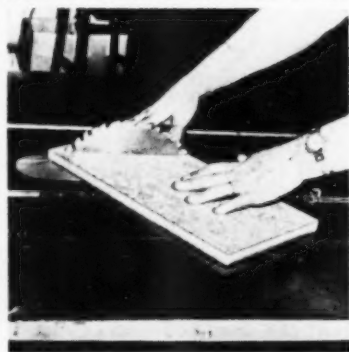
We offer expert  
REPAIR SERVICE  
on all makes,  
all types of  
instruments

\*Prices subject to change without notice.

## new products

### CARBIDE-TIP BLADES AB85407

Planer-type carbide-tipped circular saw blades are designed to perform a wide variety of cuts. Blades can do both ripping and cross-cutting operations and good finish on hand feed operations. Blades offer from 25 to 100

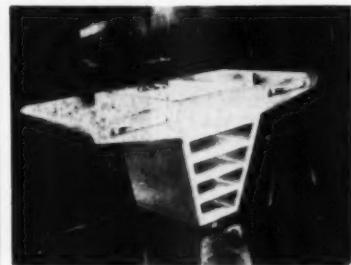


times longer life than regular type blades. They can be used to cut many types of materials, such as plywood, Masonite and laminated products.

A high grinding finish insures smooth operation and long life between sharpenings. Designed primarily for all types of hand feed operations, such as on table saws, swing and radial arm saws, the blades increase ease of feed on such operations. Blades are offered in 8-, 10-, 12-, 14- and 16-inch sizes. Made of alloy tool steel with cutting teeth of tungsten carbide brazed to the blade, ground to closest tolerances. DeLuxe Saw and Tool Co., Dept. AB, High Point, N.C.

### BATH VANITY AB85415

The new "Regent" bath vanity provides ample counter space, on either side of the bowl for cosmetics and shaving equipment. Beneath either side of the overhanging top there is space for a chair or stool when not in use. Two drawers, fitted into the top, afford storage space for small articles, and the base contains shelves for linen. An alternate to the open shelf area is a tilting clothes hamper unit. The cabinet is



raised from the floor, providing toe clearance. Unit is available in several sizes, colors and patterns of Formica. Topcraft, Inc., Dept. AB, 4207 Menlo Drive, Baltimore 15, Md.

♦ FOR MORE INFORMATION  
USE COUPON, PAGE 311

## 78" SUPER LEVELS



SOLID MAHOGANY  
CLEAR WHITE PINE

PLAIN OR STEEL BOUND

Light weight levels made for setting door jambs, frames and long spans.

6 PROTECTED PYREX VIALS  
Dust, dirt and water-proof. The most accurate, durable and dependable levels made.

78" Mah. Pl. ea., \$17.85

78" Pine-St. Bd. ea., \$19.85

CEMENT FINISHERS OR  
CARPENTERS STRAIGHT EDGE

STEEL BOUND working edge  
4 PROTECTED PYREX VIALS.  
For side-walks, drive-ways,  
floors, etc.

78" CLEAR PINE ea. \$17.85

EXPRESS PAID  
(cash with order)

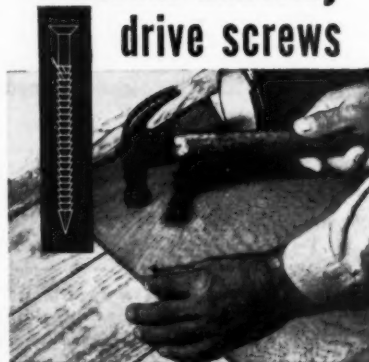
FULLY GUARANTEED

**SUPERIOR LEVEL CO.**

300 GOLDENGATE

Detroit 3, Michigan

## annular-threaded linoleum underlay drive screws



To make your linoleum underlays hold tightly and lie flat permanently, secure them with Hassall annular-threaded linoleum underlay drive screws. They are cement-coated for maximum gripping power. Heads are flat countersunk type. Size: 1 1/4" x #3 gauge. State quantity when writing for prices to:

**JOHN HASSALL, INC.**

P.O. Box 2150

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Established 1850



AMERICAN BUILDER



## The New MULLER MIXER

— top performance with  
bottom price and upkeep



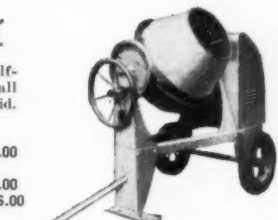
The New Muller 3 1/2'  
Plaster and Mortar Mixer.

throwout: hinged engine housing; self-lubricating, self-aligning bearings; ball thrust on paddle shaft; new safety grid.

*Prices F.O.B. Factory*

- 1 H.P. Electric Motor ..... \$324.00
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- 3.1 H.P. Wisconsin Engine .... 366.00

Also made in 2', 6', 6' to 8' and 9' Heavy Duty Models.  
Rubber Blades (Pat. Pdg.) at slight extra cost.



Muller 3 1/2' Tilting Type  
Concrete Mixer  
from \$315.00 up. F.O.B. Factory

Also made in 3' and 6' sizes.



**MULLER MACHINERY COMPANY, Inc.**

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Cable Address MULMIX

*Gracious Living*

with  
**BENDIX**

*mouldings*

At small cost, builders can add great sales appeal through the use of BENDIX embossed and deeply carved moulding. Learn how BENDIX mouldings actually help clinch sales. Write for details.

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192 LEXINGTON AVENUE, NEW YORK 16, N. Y.

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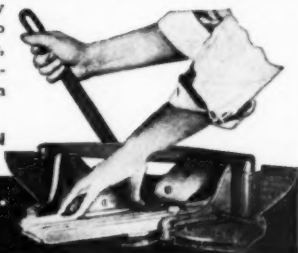
### LION UNIVERSAL TRIMMER

Accurate, razor-like cut any way of grain. Quick adjustments to 45 degrees or 90 degrees. Miters, bevels, squares, chamfers—hundreds of uses! A time saver on every job.

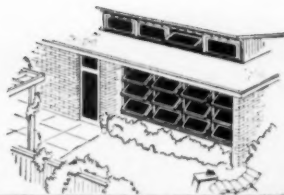
WRITE FOR FULL INFORMATION

**FOOTATUCK CORP.**

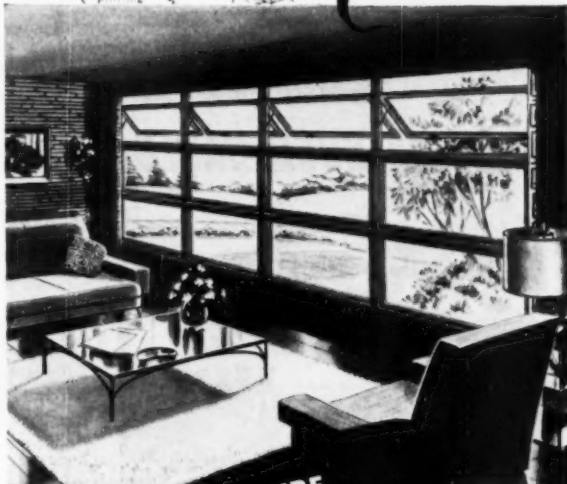
50 SAMMIS PLACE  
STRATFORD, CONN.



AUGUST 1954



FOR SURE,  
FAST  
SALES...



FEATURE  
*Malt-a-Vent*  
WOOD WINDOWS

If you want to build houses that will sell at first sight, use the new MALT-A-VENT windows to create an air of charm and livability that delights prospective homebuyers, resulting in quicker, more certain sales... at better prices!

These attractive, versatile windows are self-aligning for quick, easy and economical combination into ribbons, stacks, casements and large groupings. They are ideal for use as supplementary sections above, below, or at the sides of picture windows and large sliding-sash units. A pleasing arrangement of MALT-A-VENT windows makes even modest homes outstanding.

MALT-A-VENTS are carton-packed, completely assembled, glazed, with hardware installed. Fully weatherstripped with rustproof metal which seals sash at every point. Full 2" dimension sash gives added rigidity, extra stop permits double-glazing with removable mirror clips. All wood parts are precision-milled and chemically treated to resist rot, stain and insect damage.

See your Malta jobber, today — ask for literature on MALT-A-VENT.



THE MALT-A-VENT  
WOOD WINDOW UNIT

Supreme Quality Since 1901

Makers of the

MALT-A-MATIC • MALT-A-MASTER • MALT-A-GLIDE • MALT-A-VENT wood window units

The  
*Malta*

Manufacturing Company  
MALTA, OHIO

MEMBER PONDEROSA PINE  
WOODWORK ASSN. N.W.M.A.

301

# Enhance any home...

## with BUSH BASEBOARD RADIATION and CONVECTORS



BUSH Convactor Radiators will provide the quality heating touch to your quality homes . . . the "something special" that home buyers seek. Smartly designed, handsome appearing BUSH Convectors, wall-recessed for space-saving, provide even, economical heat. Your buyers become your boosters when you choose quality heating products by BUSH.

Home owners welcome the flexibility of furniture arrangement which BUSH Baseboard Radiation makes possible . . . the full utilization of floor space it permits . . . the quick, even heat it provides. They especially appreciate the cleanliness of BUSH Baseboard, specifically designed to eliminate "wall-streaking". Practical-minded builders recognize its other advantages: ease of installation, economy of operation.



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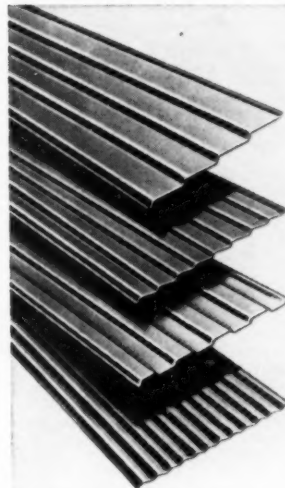
City \_\_\_\_\_ State \_\_\_\_\_

**BUSH MANUFACTURING COMPANY** WEST HARTFORD 10, CONN.

## new products

### PLASTIC PANELS AB85406

Lightweight glass fiber reinforced plastic panels are made in four standard and decorative models, shown below:



reading from top, they are "large shiplap," "small shiplap," "bat and board offset pattern" and the standard corrugated type. The translucent panels are stated to reduce installation costs and substitute natural daylight for artificial lighting, since they allow light transmission without glare and minimize heat from sunlight; uniform color intensity gives uniform diffusion of light.

Panels are made in standard stock widths of 32 inches for the decorative patterns and in 26, 27½, 34 and 40 inch widths in the corrugated type. All are supplied in stock lengths of 8, 10 and 12 feet. They are available in nine decorator colors. Ripolite Plastic Products, Inc., Dept. AB, 3910 Cohasset St., Burbank, Calif.

### TILE DRILL AB85403

Carbide tile drill is available in nine sizes, ½- to ¾-inch in diameter. It has an extra long carbide spear point, brazed in a slotted steel shank, and is designed and ground to give faster



penetration. It is said to cut clean holes, free of spalling and chipping, in porcelain, ceramic tile, marble, building tile and similar hard, fragile materials.

Construction workers will find drilling operations simplified by the use of this drill, its makers say. Tool is designed for use in power hand tools and requires no lubricants or coolants. Super Tool Co., Dept. AB, 21650 Hoover Road, Detroit 13, Mich.

♦ FOR MORE INFORMATION  
USE COUPON, PAGE 311

AMERICAN BUILDER

**'We selected A & F Tileboard because it offered a lasting durable Finish'**



The beautiful Carnival Food Center, Tampa, Florida. Mr. R. A. Ferlita, contractor, chose AFCO for use in this modern store. AFCO is installed over the meat counter, which is 75 feet in depth. Mr. Ferlita says, "AFCO was installed in this particular location where the surroundings must be particularly neat and clean. Also the wall covering had to be something that was easy to clean."

"The store owner wanted something that would be attractive, and a surface where posters could be put up and removed easily."

"I have found AFCO easy to install, and it offers a really economical job to my customers. I am happy to recommend AFCO to anyone."

Attractive, easy to install, long-lasting, economical — AFCO offers many advantages to you and your customers.

### 3 SMART PATTERNS



TIL-LITE

Colorful tile effect, especially desirable in kitchen and bathroom. Score lines 4 inches apart, forming colorful contrasts.



GLO-LINE

Modern, rhythmic pattern; very effective for store or home use. May be used vertically or horizontally to obtain interesting decor.

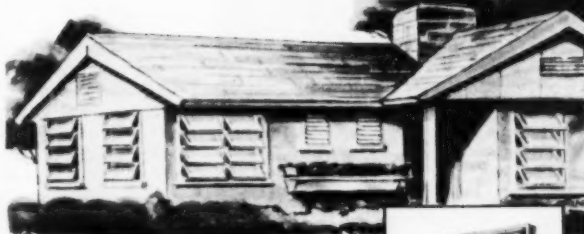


HI-LITE

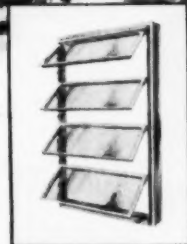
Jobbers and Dealers: Write for catalogue. Jobber franchises available, write for details.

**A & F TILEBOARD CO., INC.**  
ALEXANDRIA, LA.

**EXTRA VALUE**  
at  
**NO EXTRA COST!**



## Denison AWNING WINDOWS



You'll like the advanced design of the new, all new DENISON ALUMINUM AWNING WINDOWS. With their smart, trim lines . . . quality construction . . . easy efficient operation — your homes will sell faster, but cost no more!

*you get all these advantages*

**TRIPLE-POWERED CENTER OPERATOR** for the easiest operating window ever made . . . no corner operator problems . . . open or close vents even when venetian blinds are down.

**COMPLETE WEATHERSTRIPPING** plus double metal to metal contact for positive weather protection. Seal out cold for winter comfort . . . reduce fuel bills.

**VENTILATION WHILE RAINING.** Even when open, downward slant of vents

and fixed hinge operation of top vent prevent rain from splashing in.

**TWELVE INCH VENTS** with full cantilever support eliminate projecting arms . . . provide unobstructed view.

**LIFETIME CONSTRUCTION.** Heavy extruded-aluminum construction, advanced design, precision engineering for a lifetime of service . . . no maintenance required.

Supplied KD, or assembled with pre-glazed vents. Standard and modular sizes available.



### Denison

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another quality product by Denison.

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A few desirable territories still open. Write today!

**DENISON CORPORATION, Dept. AB-2**  
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**MADE for the JOB**  
**DUO-FAST**  
*Automatic*  
**TACKERS**  
*fast-easy-efficient*  
**for Insulation**



**for Ceiling Tile**



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**DUO-FAST Staple Tackers**

Speed and Simplify the job for the Home Builder. Easy, one hand operation.

Many models available to drive tight-holding Duo-Fast staples from 3/16" to 9/16" long.

**FREE SERVICE GUARANTEE**

Here's a money-saving feature you will like—the Duo-Fast Free Service Policy.



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**FASTENER Corp.**

860 FLETCHER ST. CHICAGO 14, ILL.

**new products**

**PREFABRICATED DOOR AB85410**

This prefabricated door frame and pre-hung door unit can be installed in less than ten minutes by unskilled labor using only a screwdriver, according to its makers. Called the "Dor-Pak," it is claimed to save up to \$15 per door when compared to time and component parts formerly needed to finish a door opening.

The individually-packaged unit consists of a steel, welded two-piece frame and a birch or Masonite flush-panel hollow door. The door, complete with



all hardware, is pre-hung at the factory to one-half of the frame. Door and frame are painted in a satin finish, off-white enamel, selected to harmonize with any color scheme. Birch doors are available in natural wood lacquer finish. Unit comes in five widths and is adjustable for any wall thickness. Lott Manufacturing Co., Dept. AB, Jamestown, N.Y.

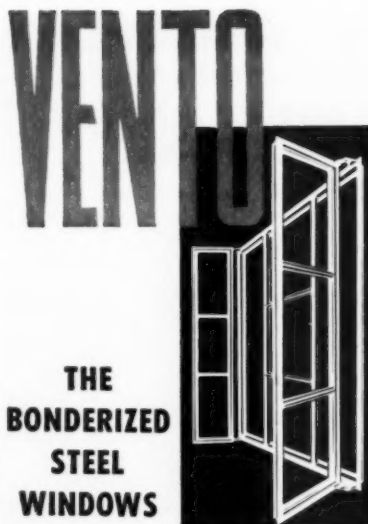
**CHAIN SAW AB85412**

An easy-to-operate, three h.p. saw, this lightweight unit is said by its maker to be rugged enough to stand up under all types of operating conditions. Equipped with a standard 18-inch blade and chain, it is adaptable to 16-, 20-, 26- and 30-inch blades. A proven chain oiler, automatic clutch, transmission with safety non-metallic gear



and large air cleaner are among its features. Unit will operate upright or on its side. Lancaster Pump and Manufacturing Co., Inc., Dept. AB, Lancaster, Pa.

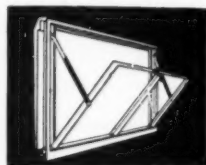
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**THE BONDORIZED STEEL WINDOWS OF**

**Extra Value**

All casements drilled and tapped to receive storm sash and screens, operator arm guide channels attached with screws for easy removal and replacement, if necessary; ventilator frames constructed from the same heavy sections as the outside frame. This provides greater rigidity and stronger ventilators.



**VENTO BONDORIZED "CHAMPION" BASEMENT WINDOWS**

14-gauge electrically welded frame, fins welded to jamb for quick installation and double contact with leak-proof watershed sill. A plus value incorporates a redesigned latch which assures positive operation under all conditions.

Also ask about the extra value in: VENTO "THRIFTY" BASEMENT WINDOWS VENTO FORMED STEEL LINTELS (FOR BLOCK AND BRICK CONSTRUCTION)

Vento "Champion" Barred Basement Windows Vento "Champion" Utility and Barn Windows Vento Thrifty Utility and Special Type Windows

Write us for full information

Some desirable territories are open for representatives and distributors. Write for particulars.

**VENTO STEEL PRODUCTS CO., Inc.**

247 Colorado Ave., Buffalo 15, N. Y.

AMERICAN BUILDER



## NEW PROFITS FOR YOU WITH KINGSIZE CHEM-O-GLAS

### WORLD'S LARGEST FIBERGLAS PANELS!

**NEW KINGSIZE**  
Panels 48 15/16" x  
12' are press-mold-  
ed by Chemold in  
smart new ribbed  
pattern.

Also available are  
Standard Panels  
32 1/2" x 8' in rib-  
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**CHEM-O-GLAS** is:  
Shatterproof.  
Translucent.  
Flame-resistant.  
Code Approved.

Uniform quality as-  
sured because each  
panel is press-mold-  
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largest press of its  
type.

*It Pays to Specify and Invest in the Best: Chem-O-Glas.*  
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When writing, please address Department AB-8

## CHEMOLD COMPANY

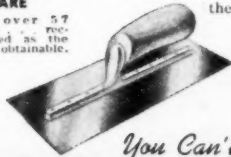
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Santa Monica, California  
Cable "CHEMOLD"

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### NICHOLLS CARPENTER SQUARE

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years recognized as the  
finest obtainable.



Balanced design, and superior workmanship of  
Nicholls TROWELS, FLOATS, CEMENT  
TOOLS, DABBIES and HAWKS make them  
the "quality tools" of the trade.

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Our Specialty—"School Gym" Grade

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take a  
good look at **DOUGLAS FIR**



Architect, Rand-Marquis

one of 10 woods from the

## WESTERN PINE region

Rugged strength, straightness, durability, high nail-holding ability—those are the traits that make Douglas Fir unsurpassed for heavy construction. It's an economical wood for residential and light construction, too, and much in demand for industrial uses, poles, ties, boxes and crates.

Douglas Fir comes in 3 select, 5 common, 3 structural, 4 dimension, 4 factory grades. It is available from most Western Pine Association member mills in straight or mixed cars—together with the other woods of the Western Pine region.

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SUGAR PINE

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DOUGLAS FIR  
LARCH  
WHITE FIR  
ENGELMANN SPRUCE  
INCENSE CEDAR  
RED CEDAR  
LODGEPOLE PINE

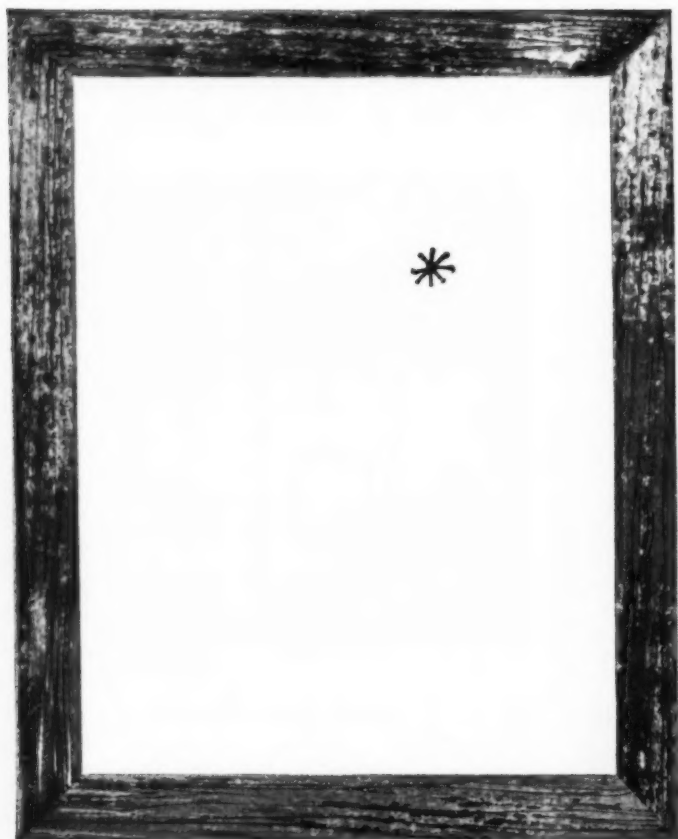


"D. FIR" is a Registered Trademark  
of the Western Pine Association

get the facts  
to help you sell

**DOUGLAS' FIR**

Write for the FREE illustrated booklet to  
WESTERN PINE ASSOCIATION,  
Yeon Bldg., Portland 4, Oregon



*\* Picture of a real selling feature in any home!*

This is what comfort looks like. You can't see it, but every prospective home buyer wants it!

**Q. IS THERE ONE FURNACE THAT WILL PROVIDE GREATER COMFORT THAN ANOTHER?**

**A.** You bet! The unique, new Regulaire\* method of warm air distribution is found only in Perfection furnaces. It absolutely eliminates hot and cold blasts...ends cold, drafty floors...gives you a big, new sales feature. Boosts FHA appraisal.

**Q. HOW CAN I GET IT?**

**A.** Just ask your heating contractor or write Perfection Stove Co., 7519-E Platt Ave., Cleveland 4, Ohio.

**Perfection** YOUR HOME DESERVES



FURNACES • HOME HEATERS • RANGES • AIR CONDITIONERS • WATER HEATERS



PORTABLE HEATERS

\*Patent pending

## new products

### GARAGE DOOR

AB85418

This new aluminum door requires no overhead tracks; it fits on the inside framing of the garage door jamb rather than fitting in the actual door opening, thus considerable tolerance is allowed in the size of the door opening. The unit needs only six inches head room.



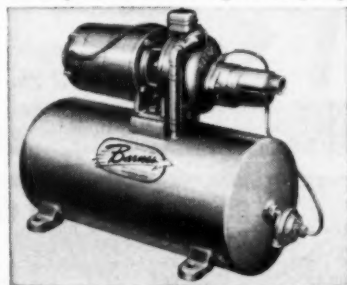
A strong torsion spring eliminates the necessity of lifting. The door opens inward and requires only a six-inch clearance behind the car bumper.

The frame is made from aluminum extrusions, welded for strength, and is covered with leather-grain embossed aluminum sheets. Lock is mounted in a recessed cast aluminum housing. Rollers are permanently lubricated, need no oiling. Stainless steel cables equalize torsion throughout the opening and closing cycles. Makers stress simplified installation. Reynolds Metals Co., Building Products Div., Dept. AB, 2000 S. Ninth St., Louisville 1, Ky.

### JET WATER SYSTEM

AB85408

Convertible jet water system is completely packaged, ready for quick installation. It requires no changeover to convert the system from shallow to deep-well service. Unit will deliver up to 636 g.p.h. in the pressure range of 20-40 pounds. It is designed to pump



from very shallow installations to well depths of 70 feet. Unit is powered with a 1/8 h.p., 3,450 r.p.m. motor which is self-lubricating and requires no attention.

Pump seal is made of a material which resists abrasion. Impeller, nozzle and venturi valve are cast bronze. Impeller is dynamically balanced to assure quiet pump operation. Barnes Manufacturing Co., Dept. AB, 651 N. Main St., Mansfield, Ohio.

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AMERICAN BUILDER




## SHAWNEE SCOUT DITCHER

**CUTS DIGGING COSTS**

- Digs 12 Ft. Deep!
- Loads UP TO 8 Ft. 6 In.!
- Adaptable to most light tractors!

U.S. Patent 2,669,367

If you now excavate by hand, or if your present equipment is too cumbersome for use, the SHAWNEE Model 70 SCOUT DITCHER is the answer to your needs. Installation or removal from tractor in less than 20 minutes. Operates throughout arc of 150°. Fast, powerful and economical.



### SHAWNEE HYDRO-CLAM

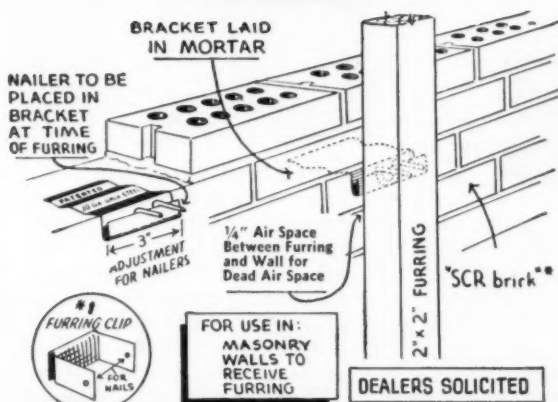
Digs straight down to 8½ feet, ideal for spot excavations, square footings, etc. By converting to backhoe, one machine can do two operations.

467 SEE YOUR LOCAL DEALER OR WRITE:  
**SHAWNEE Manufacturing Company, Inc.**  
 1947 JJ N. Topeka Topeka, Kansas

3 Reasons for the BIG SWING to

## "Quik-Way" FURRING CLIPS

1. CUTS FURRING COSTS 30 TO 50%
2. ENDS LEAKING WALLS
3. SAVES TIME



Available from your "SCR Brick" manufacturer, building material dealers, or write:

**PETERSON PRODUCTS COMPANY**  
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REG. TM. STRUCTURAL CLAY PRODUCTS RESEARCH FOUNDATION PAT. PENDING

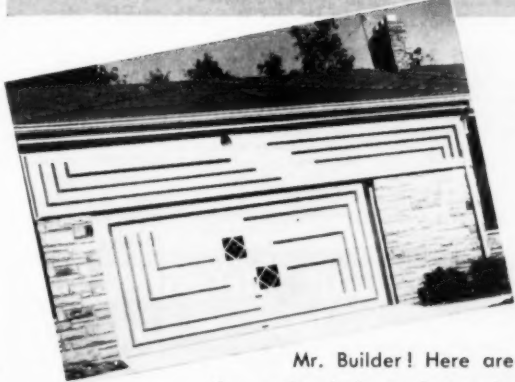
NOW...

# Glamorous

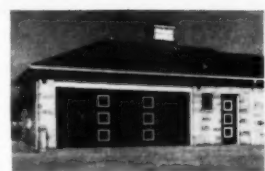
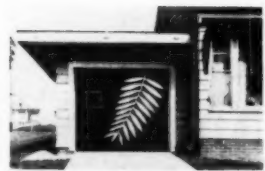
garage doors at a lower price than you ever thought possible!\*

# GRAHAM

CUSTOM-DESIGN FLUSH SECTIONAL GARAGE DOORS



Mr. Builder! Here are the sectional doors that make your prospective customers look twice! And imagine, Graham "Glamor Doors" are priced even lower than ordinary panel doors! Write today for full particulars.



- Unlimited choice of designs!
- Architecturally correct!
- Rugged, lifetime construction!
- Quality engineered hardware!

\* Some distributorships available... write today!

Ask about Graham's New Economy "DECORATOR" Door

**GRAHAM INDUSTRIES, INC.**  
 Mfgs. of overhead garage doors and related items  
 6901 Carnegie Ave. • Tel. HE 2-1200 • Cleveland 3, Ohio



*The*  
**BUY-OF-THE-MONTH**



For a limited time we will include FREE, up to six Boice-Crane TRU-FORM cutters (value \$50 or more) with every installation of the big, rugged, low-priced, large capacity.

**BOICE CRANE PRECISION SHAPER**

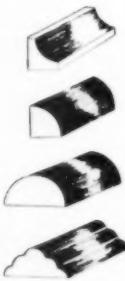
FREE cutters are regular catalogued stock, cartoned with "check-charts" for easy maintenance. This Shaper and our big swing cope and tenon cutters produce top-grade commercial millwork, sash and doors made stronger by full-size tenons up to 2 1/4" long.

**CUTS BUILDERS' COSTS**

- Makes any builder's shop a mill.
- Avoid long, costly waits. Have specials when needed.
- Indispensable to the yard making standard or special millwork.
- Reduce big investment in finished millwork or heavy costly machines.

**MAKE YOUR OWN**

- Commercial sash — double hung and casement
- Trim—including base, shoe, crown and cove mold
- Matching old style millwork
- Raised panel doors
- Storm windows and screens
- Interior panelling
- Nosed stair treads
- Lipped cupboard doors
- Special windows
- Drawer fronts



Copes and rabbets at the same time without a stub shaft. Makes longer tenons . . . up to 2 1/4".

**AMPLE POWERING**

Sustained speed for free, steady cutting. Uses high torque motors up to 1 1/2 h.p., which out-pull and out-perform others.

**SAFER TWO WAYS**

Solid precision-ground, one-piece quick-change spindle. Handles both 1/2" and 3/4" bare cutters. Provision for set-ups that undercut on the stock, rather than overcut implies operator safety. Table 20" x 27 1/2", with extension 28" x 27 1/2".



**BOICE-CRANE COMPANY**  
966 Central Avenue Toledo 6, Ohio

Please send free literature on:  
( ) Shapers; ( ) Details on Free Offer together with Catalog and Bulletin on Shaper Cutter Description and Shapes.

NAME .....

STREET .....

CITY .....

STATE .....

AVAILABLE NOW THROUGH INDUSTRIAL SUPPLY DISTRIBUTORS

**new products**

**PLASTIC SKYLIGHTS AB85411**

Shatterproof, translucent plastic windows and skylights that curve outward for strength and to catch sunlight have been developed for commercial and institutional installations. The windows, which snap into place and need glazing

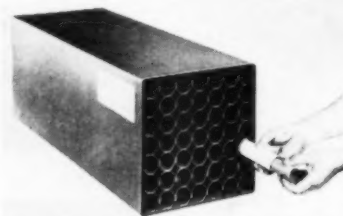


on one side only, are designed to supplement glass, rather than replace it. They transmit diffused, glare-free light which is broken up into changing patterns by a molded-in design.

Strong enough to support a man's weight, the windows and skylights are molded from fibrous glass and a special polyester resin. Two styles of windows, in square and casement-type, are made. The skylights are 3x6 feet, 1/16-inch thick, and are dome-shaped, with curves running in all directions so that they shed snow or rain. Molded Insulation Co., Dept. AB, Philadelphia, Pa.

**BLUE PRINT FILE AB85409**

Contractors and builders can now file large layouts and tracings using the "mailing tube" method through the use of this "Multiroll" file of co-ordinated tubes. Units are available containing 25 individual tubes of 2 1/2-inch i.d., or 49 tubes of 1 3/4-inch i.d., encased in a 200-pound-tested corrugated board



container. Tubes are individually secured to produce a strong, unitized assembly.

A smaller tube is furnished with each file around which the material to be filed is rolled. It is then inserted into the file and the rolling tube is withdrawn as filed material expands. Location of material is recorded on an index form furnished with the file. Roll & File Systems, Inc., Dept. AB, P.O. Box 85, Ferndale 20, Mich.

♦ FOR MORE INFORMATION USE COUPON, PAGE 311

**BOSTROM LEVELS**

**FOR HALF A CENTURY**

Have been the most economical precision leveling instruments on the market.



No. 5 BOSTROM Convertible Level Detachable Compass when desired

Used and endorsed by contractors and builders everywhere. Sold on guarantee of satisfaction or money back.

Carried in stock by distributors from coast to coast. Write today for literature, prices, and name of our distributor near you.

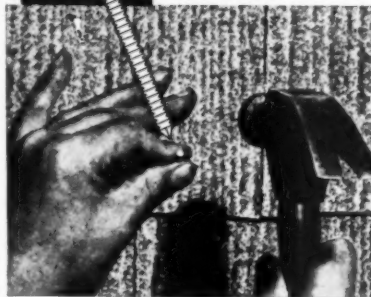


No. 4 BOSTROM Contractors' Level

Simple, Accurate, Durable, Complete

**Bostrom - Brady Mfg. Co.**  
535 Stonewall St., S. W. ATLANTA, GA.

**ASBESTOS SIDING NAILS**



Hassall threaded asbestos siding nails are the choice of contractors throughout the country. Made of bronze and steel with plated finish. Note threaded shank which guarantees maximum holding power. Made of #14 gauge wire (.082) in 1", 1 1/4", 1 1/2", 1 3/4" lengths. Advise quantities. Prompt shipment.

**JOHN HASSALL, INC.**

P.O. Box 2152  
Westbury, N. Y.  
Established 1850



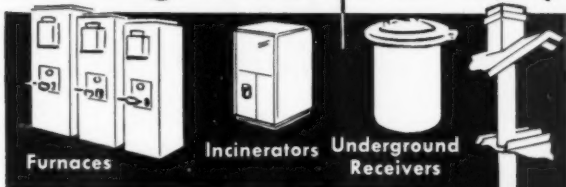
AMERICAN BUILDER



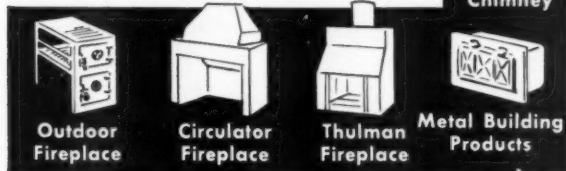
# Majestic

Quality  
Building  
Products

Nationally Advertised Since 1907

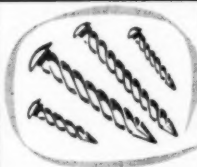


We congratulate American Builder on its Diamond Jubilee and take pride that The Majestic Company has been so long associated with its pages. Majestic Products have been on the building scene for nearly two-thirds of those progress-filled 75 years.



## The Majestic Co., Inc.

433 Erie St., Huntington, Indiana



### BRIGHT-DIPPED ALUMINUM Drive Screws

**NEW!** The appearance of your product can be improved with BRIGHT-DIPPED Aluminum Drive Screws . . . with the time and consequent saving of costly labor . . . plus the increased holding power over nails.

Being of aluminum, the rusting and paint staining problem is eliminated . . . ideal for bathroom, kitchen and multiple outdoor uses; such as gates, fences and garage doors.

**At No Extra Cost!**

Telephone or write on your letterhead for FREE samples and literature.

NEVada 6-7131

**Universal MOLDING COMPANY**  
10807 STANFORD AVENUE · LYNWOOD, CALIF.

**BUY  
DEFENSE  
BONDS**

AUGUST 1954

# CHEMOLD COMPANY ANNOUNCES NEW KING SIZE CHEM-O-GLAS

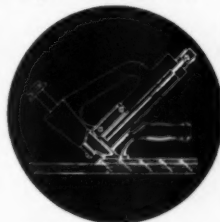
World's Largest and Finest Ribbed  
Translucent Press-Molded  
Fiberglas Building Panels

See Ad on page 305

## MODERNIZE YOUR FLOOR NAILING!

**POWERNAIL Model 145 and 50-C  
Hardwood T & G Flooring Nailers**

HARD wood flooring can now be laid better, in a fraction of the time formerly required! The new POWERNAIL Tongue & Groove Flooring Nailer DRIVE AND SET POWERCLEATS in one fast blow! Each cleat is driven *Straight and at the correct angle!* Flooring boards are automatically drawn *tight* while setting the Cleat. Other advantages include: 1. All cracked tongues are eliminated. 2. Cuts nailing time *up to 60%*! 3. No more tedious hand setting. 4. No more nail waste. 5. Instantly reloaded magazine holds 100 flooring cleats. 6. Can't rust, clog or jam. 7. Built for long, dependable service.



Model 50-C Powernailer fitted for either  $\frac{3}{8}$ " or  $\frac{1}{2}$ " T & G Flooring



Model 145 Powernailer fitted for either  $\frac{25}{64}$ " or  $\frac{33}{64}$ " T & G Flooring

Descriptive literature furnished on request.



### POWERNAIL COMPANY

961 WEST MONTANA STREET

CHICAGO 14, ILLINOIS



**New Woodlife Folder Will Help You Sell More To This High Profit Market!**

Here's one of the hardest-hitting "silent salesmen" you've ever been offered for use with your customers. This BIG folder, in attractive color, illustrates 101 home wood-working tasks where Woodlife, the original water repellent wood preservative, can make any wood-working job a better, longer-lasting one! Backed by extensive national advertising, this folder will help boost your Woodlife sales as well as sales of all other "do it yourself" items.

*It's FREE!—in quantity—to all dealers who stock Woodlife!*

**Protection Products MANUFACTURING COMPANY**

Dept. A  
Kalamazoo, Michigan



Send us \_\_\_\_\_ of the folder "101" \_\_\_\_\_ TIPS ON BETTER LIVING WITH WOOD AND WOODLIFE.

Send us information on job treating with Woodlife.

FIRM NAME \_\_\_\_\_

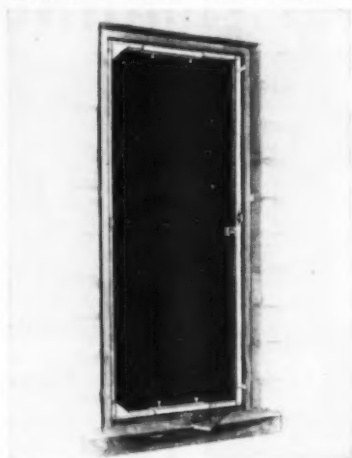
ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_

**new products**

**DOOR-FITTING DEVICE AB85413**

The "Plumb Jamb" is a device which assures doors fitting in jambs perfectly square and straight, while cutting in half the installation time per jamb, its designers announce. The unit fits all

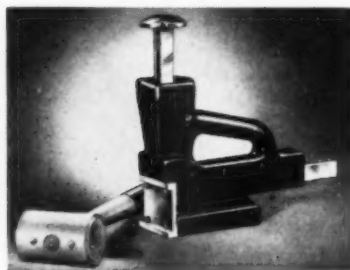


door frames and jambs from 24 to 48 inches in width. It automatically plumbs itself two ways and makes the door top level. It assures the same clearance margin all the way on each side of the door, eliminating unsightly bulges or tight places for doors to stick.

Sides of the "Plumb Jamb" are made of 1/4-inch square aluminum tubing to assure straight sides at all times. Top and bottom slides are made of heavy aluminum to give longer service. Four thumb screws keep the frame from slipping from its desired setting. Elton Roe Builders' Tools, Dept. AB, P.O. Box 8006, Madeira Beach, Fla.

**FLOORING NAILER AB85421**

Two additions have just been added to the manufacturer's line of hardwood flooring nailers: Model 100HD (illustrated) drives special 2-inch long Powercleats for face nailing either square



edge strip flooring or standard pine sub-flooring; Model 50-C drives 1/4-inch long Powercleats for nailing 3/4- or 1/2-inch t&g hardwood flooring. Both units feature "one blow" driving and countersinking. Pownail Co., Dept. AB, 961 Montana St., Chicago 14, Ill.

♦ FOR MORE INFORMATION USE COUPON, PAGE 311

**BUILD IT BETTER  
FASTER  
CHEAPER WITH  
FAMOUS  
ONE-DER  
Building Products**

**DOOR AND WINDOW FRAMES**

Easy to install—no job site assembly! Complete with trim both sides and all hardware. For block, brick or frame construction. Cannot warp or crack. Standard sizes—prime coated.

For further details, see Sweet's File 15/b On and 16/b On.

We can also supply a complete line of engineered frames.



**ALLSET\*  
DOOR UNITS**

Frame, trim, door, hardware in one carton. Level, nail through stud clips for quick installation. Rigid, accurate—won't sag or bind Standard sizes for 1 3/8" doors. Prime coated.

\*Registered Trademark.

**SLIDING CLOSET DOOR UNITS**

Overhead V-track suspension. Permanently lubricated rollers. Prime coated—all hardware furnished. 6' 8" and 8' 0" heights.



Order from your dealer, listed in the yellow pages of the telephone directory, or write us.

**ONE-DER FRAME Corporation**

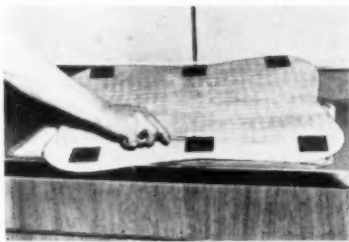
1232 37th PLACE, N.  
BOX 3068 — BIRMINGHAM 6, ALA.

## new products

### PEGBOARD SUPPORT AB85420

Of interest to the small builder, Pegboard can now be installed on any type of wall, such as plaster, sheet rock, concrete block, brick, ceramic tile, etc., without the need for frames, drilling or plugging. By using the Gemco Hanger Support, HS-2, Pegboard can be installed by adhesion and made to stand out from the wall so that space remains for various types of hooks to be installed.

The surface to which the supports are to be bonded should be free of dirt,



grease or loose paint. The installer applies one Gemco Hanger Support for approximately each square foot of Pegboard. Tuff-Bond General Purpose Adhesive is spread on the hanger support to a thickness of about 1/16-inch (see illustration). The installer then presses the Pegboard with hanger supports attached to the surface to be bonded, using two temporary props to keep from sliding until the adhesive gains its strength. Goodloe E. Moore, Inc., Dept. AB, Danville, Ill.

### WATER HEATERS AB85416

Nine new automatic electric water heaters—seven round and two table-top models—have capacities ranging from 20 to 100 gallons. Single or double heat units are available, with no extra charge for two-heat units. A duomatic thermostat, equipped for both interlocking and simultaneous operation, automatically maintains any desired water temperature from 100 to 190 degrees.

Each of these units has extra-thick fiberglass insulation, which seals in heat, restricts standby loss, keeps water constantly hot and saves fuel, as well as keeping exteriors cool and safe to the touch. Round heaters are finished in white baked enamel with hammerloid gray base, supports and access plate. Table-top models are finished with white baked enamel body, a stain- and acid-resistant porcelain enamel work top and black enameled base. Latter units are also provided with recessed toe space. Perfection Stove Co., Dept. AB, 7609 Platt Ave., Cleveland 4, Ohio.

### OIL SPACE HEATERS AB85405

Two new oil space heaters, models 880 and 870C, have Btu outputs of 53,000 and 50,000, respectively. Both units feature the manufacturer's fuel air control which automatically adjusts the draft for efficient combustion at every stage of fire, enabling savings of up to 25 per cent on fuel. Power blowers and automatic controls are optional for both models.

Each unit comes equipped with five-gallon fuel tanks, and both have mahogany baked enamel finish. Model 880 features a face panel equipped with directional louvers which furnish a four-way stream of radiant heat for quick



warm-up. This unit measures 44<sup>3</sup>/<sub>8</sub> x 25<sup>5</sup>/<sub>16</sub> x 26<sup>7</sup>/<sub>8</sub> inches; the Model 870C is 40<sup>7</sup>/<sub>16</sub> x 20 x 27<sup>1</sup>/<sub>8</sub> inches. The Coleman Co., Dept. AB, 250 N. St. Francis St., Wichita 1, Kans.

## HERE'S A NEW COMPACT INDOOR INCINERATOR

*Incineror* TRADE MARK  
REG. U. S. PAT. OFF.



Now, more than ever, Incineror leads the way in automatic, gas-fired incineration.

For more than thirty years Incinerors have given dependable, trouble-free service in thousands of homes.

Install Incineror to eliminate messy trash and garbage areas—raise appraisals.

### USE THIS COUPON FOR MORE INFORMATION ON NEW PRODUCTS AND CATALOGS IN THIS ISSUE

Save Time—Just Insert Key Numbers and Mail To:  
American Builder, 79 W. Monroe Street, Chicago 3, Illinois

Name .....

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Please indicate whether you are

Builder ( ) Dealer or Distributor ( ) Other ( )

No. .... No. .... No. .... No. ....

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No. .... No. .... No. .... No. ....

When you address inquiries direct to manufacturers concerning a new product described here, please mention that you saw it described in American Builder

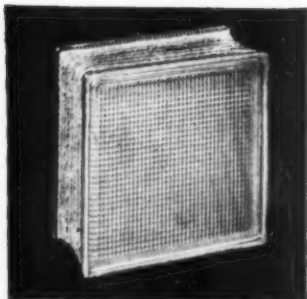


Approved  
by A. G. A.

OUTDOOR INCINOR  
MODELS ALSO  
AVAILABLE ...

WRITE TODAY FOR  
DETAILS

**INCINERATION DIVISION**  
BOWSER, INC. • CAIRO, ILLINOIS



Use this  
glass block

for *insulated* daylight  
with privacy



**L**IGHT, beauty and insulation with privacy where it's wanted most. That's what a panel of Owens-Illinois Glass Block No. 365 will bring to any bathroom.

And, glass block panels have many other advantages. They're easy to handle, easy to install . . . no special gadgets are needed. They can be made to fit any size opening . . . no frame is necessary. They never need to be painted or puttied.

Literature for any glass block application is available free of charge. Write Kimble Glass Company, subsidiary of Owens-Illinois, Department AB-8, Toledo 1, Ohio.

**OWENS-ILLINOIS**

GENERAL OFFICES **(I)** TOLEDO 1, OHIO

## Catalogs—

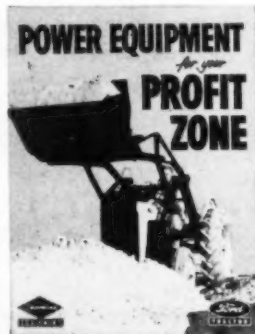
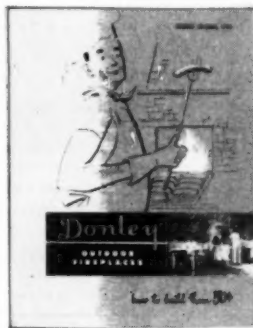
and Manufacturers Literature

**524 — ARCHITECTURAL ALUMINUM** — 16-page, two-color brochure points up aluminum's architectural advantages—its appearance, high strength-weight ratio, reflectivity, high electrical and thermal conductivity, as factors to be considered in design approach. Standard designs are featured with brief analysis of metal's main advantages for each. Reynolds Metals Co., Dept. AB, 2500 S. Third St., Louisville 1, Ky.



**525 — STAPLE TACKERS** — 24-page catalog illustrates and describes all Duo-Fast tacklers and staplers, including three new machines just released. Photographs show in-use applications of various products in manufacturer's complete line. Manual type and air driven tools offered, with wide line of accessories. Complete line of standard size staples also shown. The Fastener Corp., Dept. AB, Franklin Park, Ill.

**526 — OUTDOOR FIREPLACES** — 32-page booklet offers suggestions illustrating a variety of fireplace designs. Builder can use book as a construction blueprint. Photographs, drawings, and diagrams offer complete details for construction procedures. Each design utilizes all-metal fireplace units, listed on reference charts by number and description. Donley Brothers Co., Dept. AB, 13970 Miles Ave., Cleveland 5, Ohio.



**527 — TRACTORS** — "Power Equipment for Your Profit Zone" is the title of 16-page catalog on industrial equipment which illustrates many of the jobs which can be handled efficiently by the Ford tractor. Also featured is a complete line of equipment for the industrial user, and such specialized tools as the post hole digger, subsoiler, tractor-mounted saw, etc. Tractor and Implement Division, Ford Motor Co., Dept. AB, 2500 E. Maple Road, Birmingham, Mich.

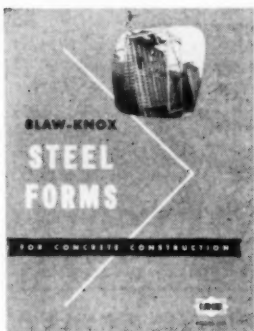
♦ FOR MORE INFORMATION USE COUPON, PAGE 311

AMERICAN BUILDER



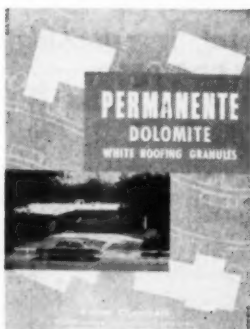
# Catalogs

**528 — JALOUSIE WINDOWS** — four-page color folder presents details about new "Ventlock" aluminum, glass louvered windows. Features include 1/2-inch glass overlap for greater strength, three-inch wide glass louvers, minimum glass protrusion when fully opened, no knobs to twist and no cranks to turn. Inside frame is specially recessed to hold aluminum screen or storm window. Fast-acting lever operator opens and closes entire window with 1/4 turn of handle. Ventilite, Dept. AB, 55th St. at Biscayne Blvd., Miami 37, Fla.



**529—STEEL FORMS FOR CONCRETE** — 50 - page booklet describes variety of form types and uses. Many pictures show wide application range. Included are practical design suggestions for economical adaptation of forms and recommended data to be sent in with inquiries. Blaw-Knox Co., Steel Forms Div., Dept. AB, P.O. Box 1198, Pittsburgh 30, Pa.

**530—WATER HEATERS** — "Pemco" table top electric water heaters have tanks of welded galvanized copper bearing steel. Units are available in 30-, 40- and 50-gallon capacities. Nine models are offered, in four-page folder, giving complete data. Cutaway drawings show arrangement of parts, rough-in specifications for installation. Philadelphia Electrical and Manufacturing Co., Dept. AB, 1200-36 N. 31st St., Philadelphia 21, Pa.

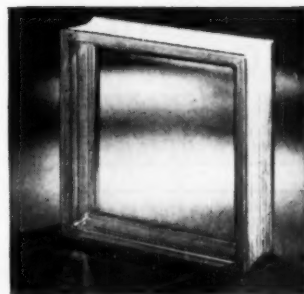


**531—DOLOMITE ROOFING**—four-page folder describes Permanente Dolomite white roofing granules, a crystalline white roofing rock which reflects heat and light, protects felt and asphalt roofs from cracking. Properties, uses, method of applications and comparative tables included. Kaiser Aluminum & Chemical Sales, Inc., Dept. AB, 1924 Broadway, Oakland 12, Calif.

♦ FOR MORE INFORMATION USE COUPON, PAGE 311

AUGUST 1954

Use this  
glass block



for insulated daylight  
with vision



Glass Block panels are as practical as they are beautiful. Here a panel of Owens-Illinois Glass Block No. 370 provides an attractive wall you can "see through."

No storm windows are needed to keep the clarity of glass block. They won't frost or sweat in winter. They provide better insulation than a window with storm sash. Owens-Illinois Glass Block are easy to handle, easy to store, hard to break.

For facts about the many ways you can use glass block to advantage, write for the information you need to: Kimble Glass Company, subsidiary of Owens-Illinois, Dept. AB-8, Toledo 1, Ohio.

## OWENS-ILLINOIS

GENERAL OFFICES ① TOLEDO 1, OHIO

I AM THE PIONEER—the 1<sup>ST</sup> Prefab on the Market

I'M MODERN & GOOD LOOKING—this is my De-Luxe Housing!

I AM TAILOR-MADE TO THE INDIVIDUAL BUILDING

I AM LIGHT-WEIGHT—Average 10 lbs. a ft.

# Vitroliner

## CHIMNEYS LEAD THE FIELD!

**QUALITY-BUILT**—for longer life, of heavy gauge steel, double coated with vitreous enamel.  
**INSTALLS QUICKLY**—in less time than any other prefab! Savings on installation make Vitroliner's competitive in price with "less quality" brands.  
**LIGHTWEIGHT**—Only 10-15 lbs. per ft.—Easy to handle and install between ceiling joists—no extra support needed!  
**MODERN DESIGNED**—to harmonize and beautify the roof of a modern home!  
**ENGINEERED, EFFICIENT**—for all fuels in 1 or 2 story homes and buildings.  
 Get the facts and you'll get Vitroliner. Write for illustrated circular, today.  
 TIME TESTED & PROVEN SUCCESSFUL ALL OVER AMERICA



**CONDENSATION**  
 ENGINEERING CORPORATION  
 3511 W. POTOMAC AVE., CHICAGO 51, ILL.



## 'pre-fabbed' HEAT



### IDEAL FOR

- NEW HOMES OR OLD
  - APARTMENT
  - MOTEL CABIN
  - TOURIST HOME
  - OFFICE CLUB
  - LODGE GRILL
  - SALON SHOP
  - STORE LABORATORY
  - CHURCH SCHOOL
  - HOBBY SHOP
  - REST ROOM
- FOR ALL GASES



### ... with INDIVIDUAL ROOM TEMPERATURE CONTROL

A compact "in-the-wall" heater, in super-insulated wall box, ready to install. Fits standard 2" x 4" studding, adjusts to exact wall thickness. For inside or outside walls, all gases, high altitudes. Non-clog Burner and Combustion Chamber head are cast-iron. Heating section 100% welded (no riveting, solder). Fully enclosed; controls accessible via handy service door. Packaged Auto-Control Manifolds install easily, may be stocked in modest supply. Sectional wall panel finished in baked beige enamel; durable, lustrous. Sizes from 17,500 Btu up.

\*DUAL-ROOM models actually 2 heaters in one wall box; single gas and flue connections.

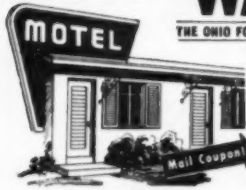
## Brilliant Fine

## RECESSED VENTED WALL HEATER

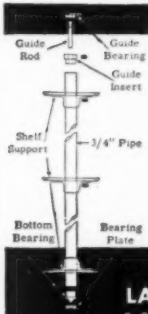
THE OHIO FOUNDRY & MANUFACTURING CO., STEUBENVILLE, OHIO

THE OHIO FOUNDRY & MFG. CO.  
 STEUBENVILLE, OHIO  
 Rush NEW Catalog 5W4 and Prices.

NAME \_\_\_\_\_  
 FIRM \_\_\_\_\_  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_



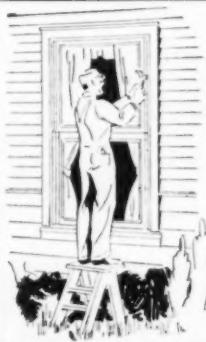
## BUILD REVOLVING SHELVES EASILY WITH REV-A-SHELF



Each Rev-A-Shelf kit contains all the necessary hardware parts to easily assemble a smooth turning set of revolving cabinet shelves. Shelf supports made of heavy cast aluminum. Top and bottom assembly of precision machined cadmium plated steel. Kits packed in 2 and 3-shelf sets. Extra supports available. **DEALERS WANTED:** Write for full information and prices.



MANUFACTURED BY  
**LAKE DRIVE PRODUCTS CO.**  
 P.O. BOX 22 EDGERTON WISCONSIN U.S.A.



## 'E-Z-ON' All Metal Interlocking WEATHERSTRIP

Comes packaged in sets and by the linear foot. Easily installed inside or outside, without removing sash. Minimum labor cost. Makes a permanent home improvement of lasting efficiency. Priced attractively low, yielding generous profits. Fits all standard windows and doors. Made of zinc and copper. Nothing to wear out or deteriorate. Promotion literature available. Write for illustrated circular and wholesale prices.

**ROBERT N. BALTZ and COMPANY, INC.**  
 1009 Harvard Terrace, Evanston 1, Ill.

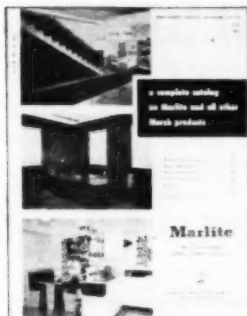


# Catalogs

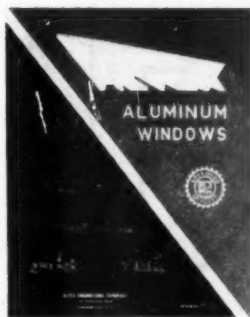
**532—FIR PLYWOOD**—20-page catalog lists basic types and grades, with physical properties. Plywood siding, floor construction, wall and roof sheathing, plywood sheathed diaphragms, built-ins, interior paneling and finishing, as well as concrete forms, are discussed. Typical installation photographs, line and cross-sectional drawings are included. Detail drawings of built-ins contain proper dimensions. Douglas Fir Plywood Association, Dept. AB, 1119 A St., Tacoma 2, Wash.



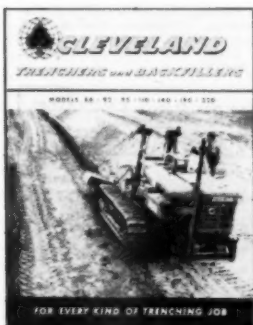
**533—PREFINISHED PANELS**—full-color, eight-page catalog features complete company line; includes description, with color swatches of Marlite Plank and Block paneling which eliminates division mouldings and adhesive; also presents Korelock, hollow-core paneling for new construction. Larger wood panels in eleven colors and three patterns are illustrated. Photographs show typical interiors, both new and remodeled construction. Marsh Wall Products, Inc., Dept. AB, Dover, Ohio.



**534—ALUMINUM WINDOWS**—eight-page catalog presents full scale drawings of double-hung windows in 16 standard sizes and five muntin (glass) types; includes mullion and fixed window details. A 2-page scale tracing sheet gives full, 1/2- and 1/4-scale installation drawings. Suggested installation details for wood, solid masonry and masonry veneer construction are given. Altex Engineering Co., Dept. AB, 120 Industrial Road, Summerville, S. C.

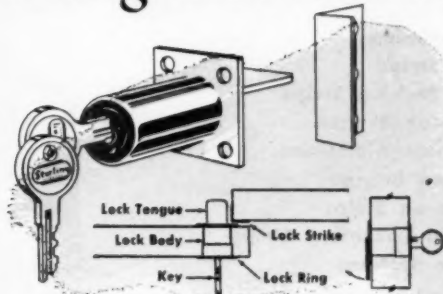


**535—TRENCHERS AND BACKFILLERS** — four -page bulletin permits quick comparison of digging capacity and specifications of four standard units for trenching from 10 to 30 inches wide and up to 5 1/2 feet deep, with advantages and typical applications. Backfiller-side crane-tamper also discussed in detail. Cleveland Trencher Co., Dept. AB, 20100 St. Clair Ave., Cleveland 17, Ohio.



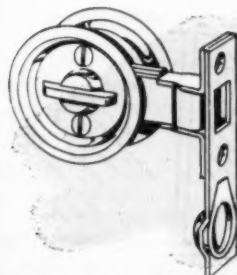
♦ FOR MORE INFORMATION USE COUPON, PAGE 311

## New! Sterling® sliding door locks...



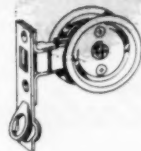
### for by-passing doors

The first sliding door lock for by-passing doors. Now closets can be locked and contents kept secure from pilferage. Designed on a revolutionary new principle. One half turn of key raises tongue to locked position or returns it to unlocked position. Cylinder is geared to tongue and action is positive. Simple to install—bore one hole. Fits 3/4" to 1 1/4" doors.



### for pocket doors

A new type of lock for bathroom or bedroom doors. Privacy is assured by turning locking button on inside. Emergency button on outside permits unlocking with screw driver or coin. Neat, simple installation. Fits 1 1/8" or 1 3/4" doors.



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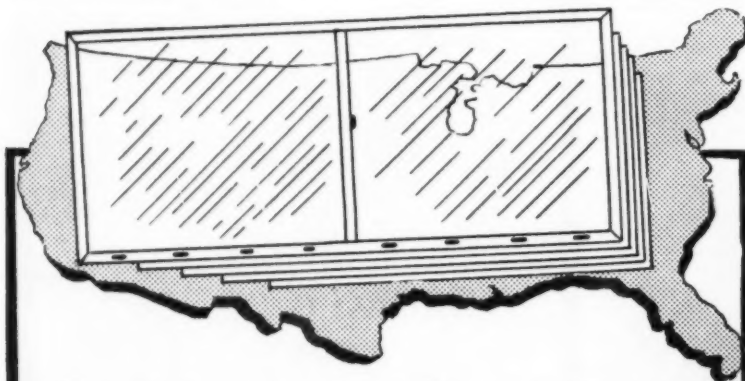
## develop three new timber truss designs

Three new typical designs of segmental bowstring timber trusses have been developed for the construction industry by Timber Engineering Company, research affiliate of the National Lumber Manufacturers Association.

Spanning 30, 40 and 50 feet, the designs are the first of a series of eight new typical timber truss suggestions being prepared as guides for architects, engineers and builders who are planning light and heavy construction jobs in timber.

TECO also has published a new 12-page illustrated booklet entitled "For Users of Wood and Forest Products." The booklet outlines the industry organization's research activities in engineered timber designing and testing.

Copies of the new typical designs and booklet are available, without charge, on request to Timber Engineering Company, 1319 18th Street, N.W., Washington 6, D.C.



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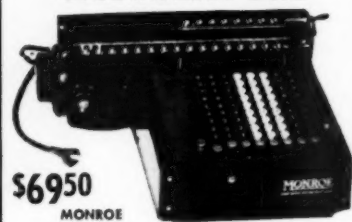
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types for all exterior and interior door requirements**

*Functional*, budget-priced locksets are today's answer to modern-home living. NATIONAL LOCKset Key Locks, Turnbutton Locks, Pushbutton Locks, Privacy Locks and Knob Latches are precision engineered to perform a specific function . . . on entrance doors, interior doors, porch and patio doors. Enlarged escutcheons and other handsome accessories lend pleasing charm to the most distinctive decorative schemes. Offered in a wide selection of lacquer-protected finishes, Series "440" appeals to homeowners and builders alike. Easy to install. Order NOW

Series "440" is available with 5 inch backset for use with large ornamental escutcheons. Included in the complete accessory line are decorative handles and escutcheons in modern matching designs.



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# what's in the future for the industry's labor relations

By **John F. McCarthy**  
Attorney at Law



A glimpse at the future of labor relations in the building industry reveals many important changes. Some of these may not be to the liking of many builders. Nevertheless our duty is to set down here what in our judgment lies ahead, rather than what we believe the average builder might like to read.

First, we predict an expansion of the closed or union shop. In many areas the closed shop long has been an accomplished fact. In the other sections the unions will begin, or intensify efforts already begun, to bring this about. Legislation by the federal and state governments, regulations by various administrative agencies and decisions of the courts will assist the unions here. The experience and financial stability of the unions and the benefits, real or imaginary, through organization dangled before the workers by the unions will be important factors.

Next, we see a less frequent resort to strikes and to laws, courts and administrative agencies and a greater use of arbitration in the settlement of labor disputes. It is clear that in a sense no one gains by a strike. The employer suffers through a work stoppage. The worker loses wages. The customer is subjected to delays and inconvenience. Proceedings before administrative agencies or in the courts are expensive, time consuming, often indecisive and in many instances productive of further ill will.

No legislation will seriously impede labor's fundamental right to strike or any party's privilege to have his day in court. However, as all sides mature in the field of labor relations and as they increase their ability to permit reason to govern feelings, they will realize that labor disputes are finally settled by ne-

gotiation anyway. More and more, therefore, employers and their workers will come to appreciate the desirability of settling their differences through arbitration in the beginning.

In previous articles we observed that most labor disputes between building construction employers in an area and a union affect interstate commerce and are subject to the Taft-Hartley Act and the power and authority of the National Labor Relations Board. (See American Builder, May and July, 1954, issues.) This means that such disputes have become engulfed by federal laws and regulations, must compete for the attention of a federal agency with other problems often of substantial national importance and are subject to decision in far removed Washington.

The future, we think, will see the federal government ceding to the states its power and authority over labor disputes involving on site construction which, after all, are essentially local in character, and often have little direct effect on the national economy and interstate commerce. This relinquishing of authority to the states, however, will not be an unmixed blessing. It will be followed by a long period of problems, adjustments and probable litigation. It will require amendments to state laws, the creation or expansion of state agencies and the issuance of further regulations. There will be the inevitable long period of accommodation to another new system.

So it is that the future holds problems and changes begetting further problems in labor relations for the building industry. At least a period of great activity for all is anticipated.

ADAMS-RITE

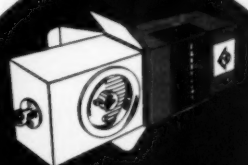
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SLIDING DOOR  
LOCK

SERIES 660



This new Series 660 Two-Bore Lock now even better than the original design is available today for prompt delivery.

Outstanding in design—simplest to install—and with life-time performance even under extreme misalignment... this is the amazing story of Series 660. Simple installation... fits standard 2 1/4" and 7/8" bore. No mortising. Lock accommodates any door misalignment. Bolt gives smooth snubbing latch action and acts as edge pull. Thumb button provides positive security. Solid brass except stainless steel bolt. Adjustable for all doors 1 3/4" to 1 3/8" range. Interchange of locking and non-locking escutcheons makes lock instantly reversible on job.



The unique new 660 Display Box shows how easily the lock is installed. Lock is mounted in the box just as it is in the door. Because of this, the box serves as an exact template for quick installation.

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Now more than ever you need the *finest* machines. Your *best buy* is American—because experience shows these quality machines last the longest, take more constant use, require less attention . . . and produce finest results possible to earn maximum dollars for you. Ask for a demonstration of American Machines on your next job, without obligation. Write today!



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## letters.....

### congratulations!

Sir: Our congratulations to you and the *American Builder* organization on your 75th anniversary, which you are observing this year. Continuous progress in the publication of the *American Builder* since 1879 has resulted in developing an outstanding position in your field.

We also want to thank you for the plaque awarded us and presented by Mr. Joe Sanders, signifying our contribution to the development of modern merchandising through early recognition and use of the power of sustained advertising.

We send our best wishes for continued success in your service to the building industry.

E. H. Houston, Vice President,  
The Long-Bell Lumber Co.  
Kansas City, Mo.

### in behalf of excise tax reduction

Sir: The *American Builder* contributed substantially to the achievement of the reduction in the Federal manufacturers' excise taxes on appliances from 10 per cent to 5 per cent.

You kept your readers informed of the urgent need for this reduction and for active support in the program. You also kept your readers well informed regarding the status of excise taxes during the legislative processing of the Excise Tax Reduction Act of 1954.

In behalf of the NEMA Excise Tax Committee, I wish to express the Committee's sincere appreciation for the excellent support which you have given to the success of the excise tax reduction program.

J. R. Poteat, Chairman,  
National Electrical Mfrs. Assn.,  
Excise Tax Committee

### in re: component parts

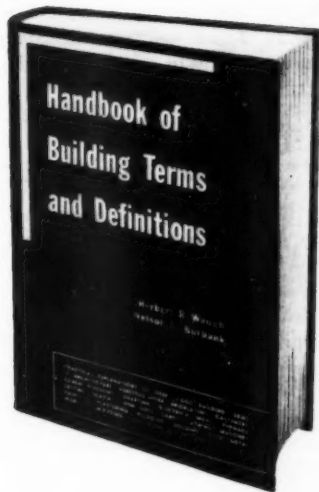
Sir: I am writing this in regards to the latest information on component parts in the building industry. I had been talking to H. W. Hanna, Jr., executive director of our Pittsburgh H.B.A., in regard to material on  
(Continued on page 322)



If some building terms  
**PUZZLE YOU...**

**BANK-RUN** is not a panic.  
**BUS CONDUCTOR** is not a fare grabber.  
**FISH PLATES** are for beams, not breams.

... **this is a book  
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By  
**Herbert R. Waugh**  
and  
**Nelson L. Burbank**  
Former instructors in construction and building trades, Bridgeport, Connecticut and Cincinnati, Ohio schools.

422 PAGES

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**BEING SURE** of the correct meaning of any building term can often mean money to you! And with many thousands of such terms in use, not **even** the most experienced can be

positive regarding the meanings of them all. The only safeguard is to turn to an accepted authority.

Such authority may be a regular dictionary, yet not even in Webster's Unabridged will you find many of the terms which are constantly cropping up in the building industry. That is why the authors, Waugh and Burbank, who knew that they and their fellow teachers needed a specialized book of definitions, decided to compile one. Then, while talking to contractors, builders and architects about the project, it was discovered that they, too, needed it just as badly. The result is **The Handbook of Building Terms and Definitions**, product of many years of painstaking research, compilation and careful cross-checking.

The **Handbook of Building Terms and Definitions** is a compact, desk-size book approximately six by nine inches. The part of speech and correct pronunciation is given for each word. At the low price of only \$5.00 postpaid, this is a book which no one in the building industry can afford to be without. Order your copy today on the coupon below. Full refund will be cheerfully made if you are not completely satisfied that this book will prove useful.

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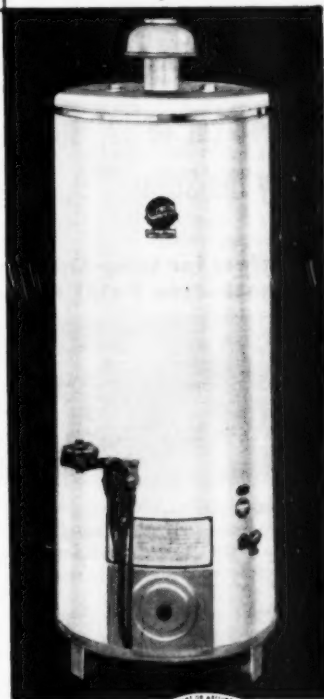
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For beauty that attracts buyers... durability that *keeps* them sold—specify Plyaloy pre-cut siding.

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ANOTHER MEMBER OF THE FAMOUS TREE LIFE FOREST PRODUCTS FAMILY

## letters.....

(Continued from page 320)

component parts in our industry. He referred me to the *American Builder*. I would appreciate any information about component parts. You can also enter our subscription for the *American Builder*.

Pat Rega Jr.,  
Rega Lumber Company,  
Mount Pleasant, Pa.

► In reference to component parts, you are, no doubt, also interested in the Lu-Re-Co panel system. See pages 80 through 90 of the May, 1954 issue. See also the 11-page article in July, 1954 on both of these subjects. There will be additional follow-up stories in subsequent issues of the *American Builder*.

—The Editor

### somewhat of a surprise

Sir: In thumbing through a back issue of your magazine, we came across an item in your *Ask the Experts* column which was somewhat of a surprise. An inquirer from San Bernardino, California, asked about sources for honeycomb-type cores for doors and custom panels. He was advised that to the best of your knowledge, no one made a specialty of manufacturing the core material for doors or panels.

In the event that this is still your understanding, we are pleased to call your attention to the fact that our company has been producing a variety of paper honeycomb core constructions which have received wide acceptance by door manufacturers. For this specific application we offer a variety of cell sizes and densities in any thickness.

W. B. Kennedy,  
Union Bag & Paper Corp.,  
New York, N. Y.

### thanks, but—

Gentlemen: I have received your check for my recent contribution to your *How Would You Do It* column appearing on page 196 of the June 1954 issue. Thanks for the five dollars, but what have you done with my idea? What a damage to my reputation as a mechanic!

Your diagram is not feasible. The end pieces should extend beyond  
(Continued on page 324)

SAVE . . .  
TIME—  
STEPS—  
MATERIALS

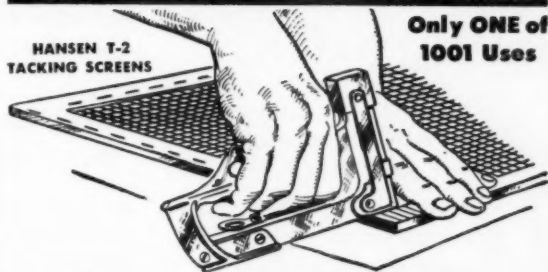
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Tacking  
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**BETTER** with **HANSEN**  
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TACKLING SCREENS



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1001 Uses

**FASTER!** Screen Tacking is illustrated merely to show the versatility of the Hansen Tacker. It is adaptable to a wide variety of uses . . . saves time, steps, materials!

**BETTER!** With Hansen you place the Tacker accurately in driving position . . . exactly where you want it. Grip the handle. The Tacker drives the staple with precision and accuracy. Powerful action drives each staple securely.

**AT LESS COST!** Portable . . . (Model T-3-4 Hansen Tacker) self-contained . . . easy to operate . . . balanced design . . . removable Take-up Jaw . . . are Hansen features 36 MODELS that cut 80 STAPLE SIZES costs.



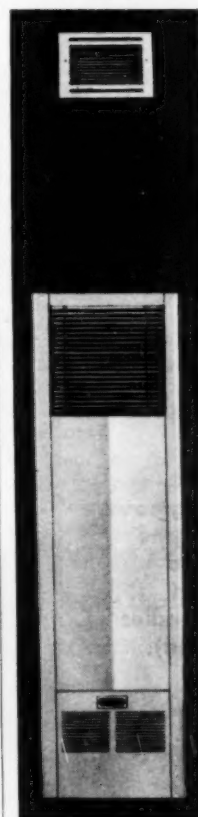
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TRACTOR, check these  
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Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_

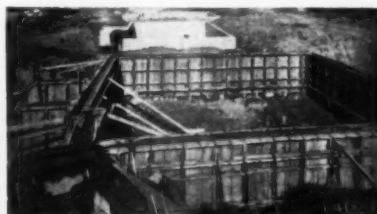


For installing asbestos cement-type wallboard use Hassall wallboard drive screws. Specifically designed with spiral threading for better holding power. Supplied with nickel-plated finish with either casing or button heads. Advise quantities. Prompt delivery.



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8	Inside Corner Brackets	2.80
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4	7" Outside Corners	32.00
		Total \$223.56

Take advantage of Symons Engineering and Sales Service. Send in the plans for your next job and get complete layout and cost sheet which will show the number of standard panels your job requires, as well as the number and size fillers and corner pieces needed, plus all form hardware necessary. Our Catalog F-9 will also be sent upon request. Symons Clamp & Mfg. Co., 4261 Diversey Avenue, Dept. H-4, Chicago 39, Illinois.



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## ARKANSAS SOFT PINE BUREAU

555 BOYLE BUILDING LITTLE ROCK, ARKANSAS

## letters.....

(Continued from page 322)

and below the board to be scribed. The long pieces should be spaced so the scribe mark will be along the edge of the strip and not down the center as shown.

Thomas Phillips  
Charlotte, Mich.

► Thanks for your comment. We are sorry if the idea printed is not what you intended it to be. Readers who plan to send in How-To-Do-It's can be very helpful if they will be exceptionally careful in explaining their ideas to us. Make your drawings as accurately as is possible. State your ideas clearly. Then there will be little chance of misunderstanding.  
—The Editor

### comments about the April directory

#### From Mandan, No. Dak.

Sir: Your 1954 *American Builder* Catalog Directory issue is one of the finest directories a builder can have. I am most pleased with mine. It saves me much time in obtaining information in a matter of minutes.

#### From Erie, Pa.

Sir: Congratulations on a very good issue.

#### From Santa Ana, Calif.

Sir: Two articles alone were well worth the cost of the subscription by themselves. I should like to say something here regarding more plans which run under \$10,000 (about 950 to 1,100 square feet) in future issues.

#### From Newport, R. I.

Sir: You are to be complimented on such an excellent job. This special issue means much to all of us, although many will not take the time to tell you.

#### From Sanford, Fla.

Sir: An outstanding issue. Would like to see last section expanded. Consider second section most valuable.

#### From Deronda, Wis.

Sir: I have been helped a lot by all the information. I think it is a great issue. I have learned a lot about different material and equipment; where to get it and how to use it, and also what to use for different construction.



# ask the EXPERTS

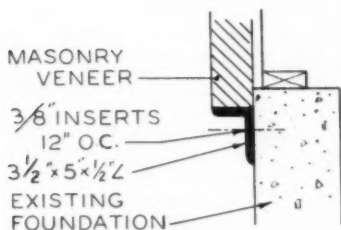
(Continued from page 291)

## stone veneer over frame without additional footing?

An existing frame house is to be covered with stone. There is an 8-inch foundation which, of course, means that there is no footing for the additional stone veneer. Ordinarily I would dig a foundation but owner does not want flowers, shrubs disturbed; does not want stone substitutes applied.

The way I would approach the problem is to attach a heavy steel angle around the exposed foundation wall upon which wall could rest. Would this be feasible?

S. O. G., Kenmore, N. Y.



The diagram shows a method of supporting masonry veneer on an existing frame building where masonry does not exceed 20 feet in height and 4 inches in thickness. Give the steel angle a heavy coat of tar. Anchor masonry to frame structure with metal ties 12 inches on center vertically and 4 feet on center horizontally.

Naturally the weight of the masonry wall puts a great load on the angle and the bolts that secure it. The foundation, too, will have to withstand this shearing action. The success of the venture depends, in part, upon the quality and condition of the existing foundation. The best and the safest method, of course, would be to widen the existing foundation to form a secure base for the masonry veneer.

Wilbur Tuggle,  
Structural Engineer

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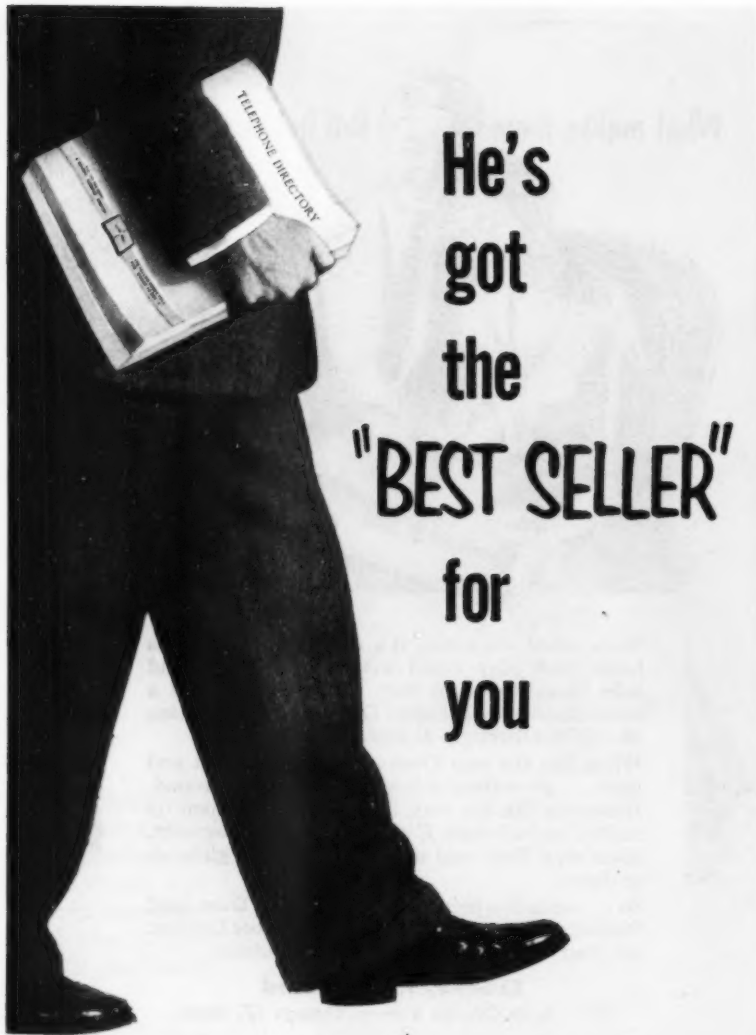
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Call your local telephone business office—ask for the Classified Directory Representative—make a date to let him show you how to put this "best seller" to work for you!



## survey discloses trend to lighter roof tints

Although the average householder will continue to remain loyal to such basic roof colors as green, gray, red and blue, there are indications that home owners would welcome new and fresher variations of them.

This is the concensus of a recent survey of 1,600 owners of old and modern homes sponsored by Minnesota Mining and Manufacturing Company, and independently conducted by Edward G. Doody and Company of St. Louis.

Eight sample boards of shingles were presented in conventional tones of medium red, medium blue, medium green and medium gray; pastels in light red, light blue, light green and light gray.

For the medium, conventional colors, the survey revealed that green remains the dominant choice of home owners. A shift of preference of one color to another is more marked for other hues, however. Here are the comparative figures in percentages:

	Existing Re-Roofing Ownership Choice	
Green roofs	41.6%	40.7%
Gray	26.0	22.3
Red	23.6	18.6
Blue	8.8	10.3
Other colors		6.4
No preference		1.7

The survey also disclosed that roof colors are tangibly affected by style of architecture. Color preference by style of architecture follows:

Present Roof	Newer Homes	Older Homes
Green	37.0%	42.7%
Gray	27.3	25.7
Red	21.5	24.2
Blue	14.2	7.4

Even though pastel granules in lighter tints are comparatively new to the roofing industry, the study pointedly indicated that public desire for lighter tints is mounting rapidly.

Here are the indicated preferences, light roofs as against the conventional medium blends, in answer to the question, "What would you prefer in a new roof?"

New Roof Preference	Medium Colors	Light Colors
Green	60.2%	38.9%
Gray	47.3	52.1
Red	73.2	26.5
Blue	64.6	34.8

While color trends in the interior decoration of homes are subject to constant and sometimes radical change, survey findings emphasized that choice of roof colors continues to be steady, and the number of basic colors remains few in number.

### how to remove oil stains from concrete

An oil stain on a concrete floor is sometimes considered very difficult to remove and is a common problem. How can one remove the stain effectively? Here is the Portland Cement Association's advice in remedying the situation:

Although an oil stain has no detrimental effect upon a concrete floor if the concrete has been properly proportioned, mixed and placed, the presence of oil spots or blotches can make it dangerously slippery.

Naturally, it is always best to remove surface stains as soon as possible from concrete surfaces where appearance is important.

Determine whether the oil stain is merely on the surface or whether it penetrates into the concrete flooring. If a surface stain, clean the floor by scraping off the thickened oil crusts. Scrub the spot with gasoline, taking due precautions against fire.

Then scrub the floor with warm, soapy water and rinse. This treatment, however, will not remove the type of oil stain that has penetrated deeply into the concrete.

For stains that penetrate the concrete flooring, follow the gasoline scrub method described above by scrubbing with a 10 per cent muriatic acid solution or with a strong washing soda solution.

If this method is not helpful in removing the oil stain, it will probably be necessary to use the "poultice" or "bandage" methods.

A poultice is made by mixing active chemicals with fine inert powder to a pasty consistency. This is applied in a thick layer.

Bandages consist of cotton batting or layers of cloth soaked in chemicals and pasted over the stain.

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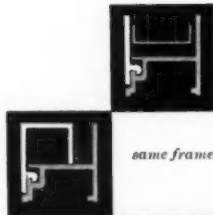
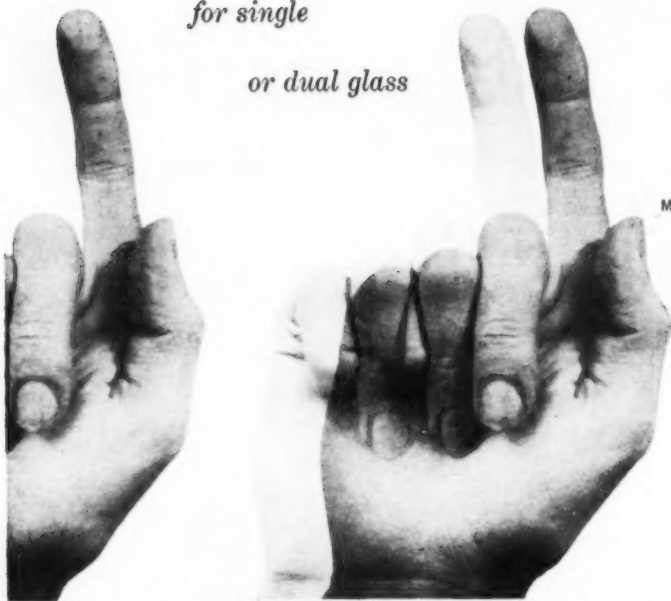
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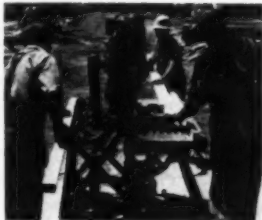
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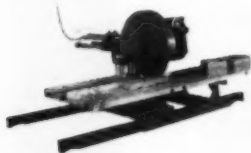
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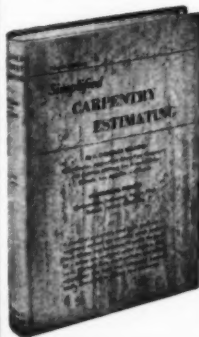
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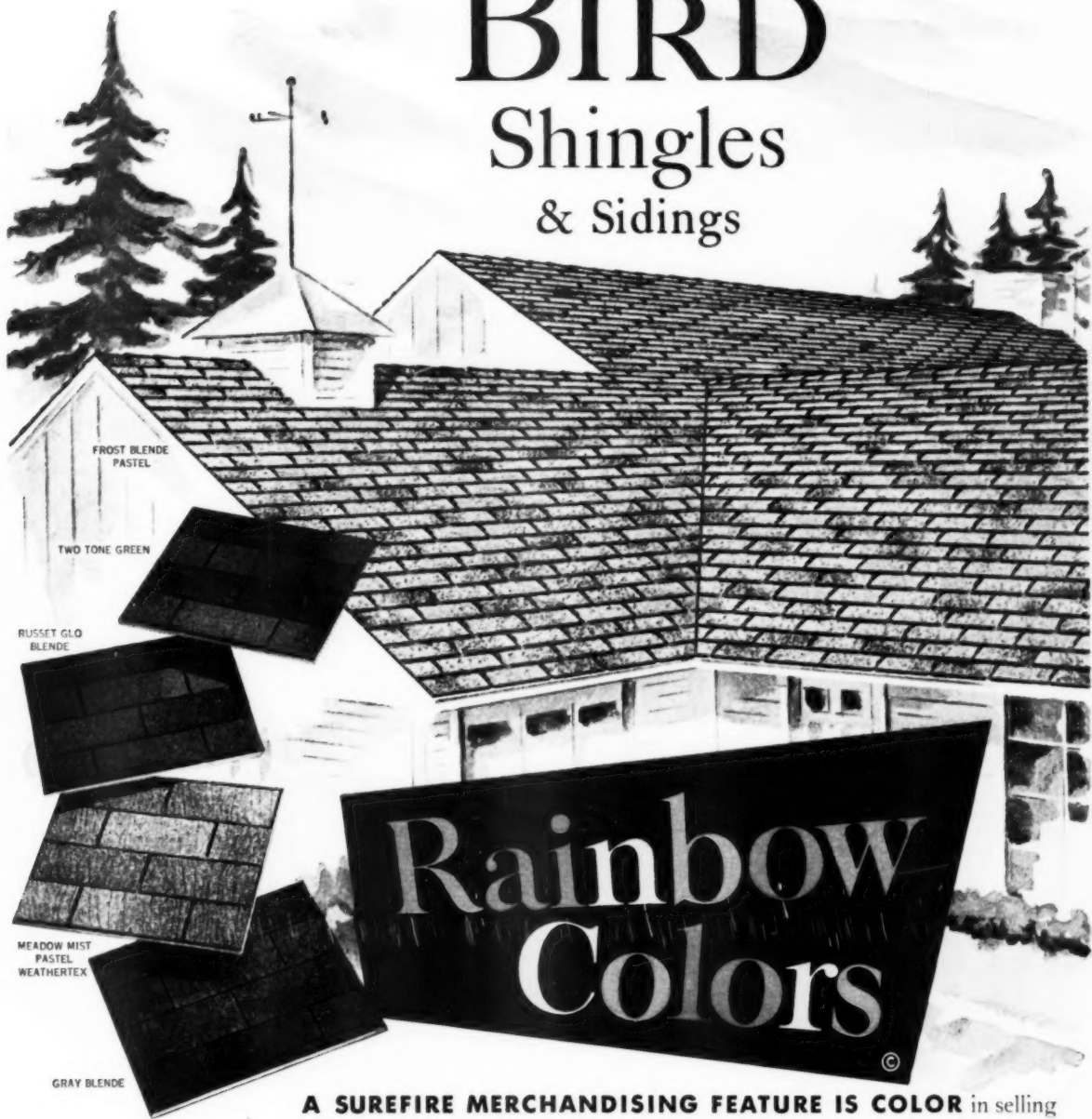
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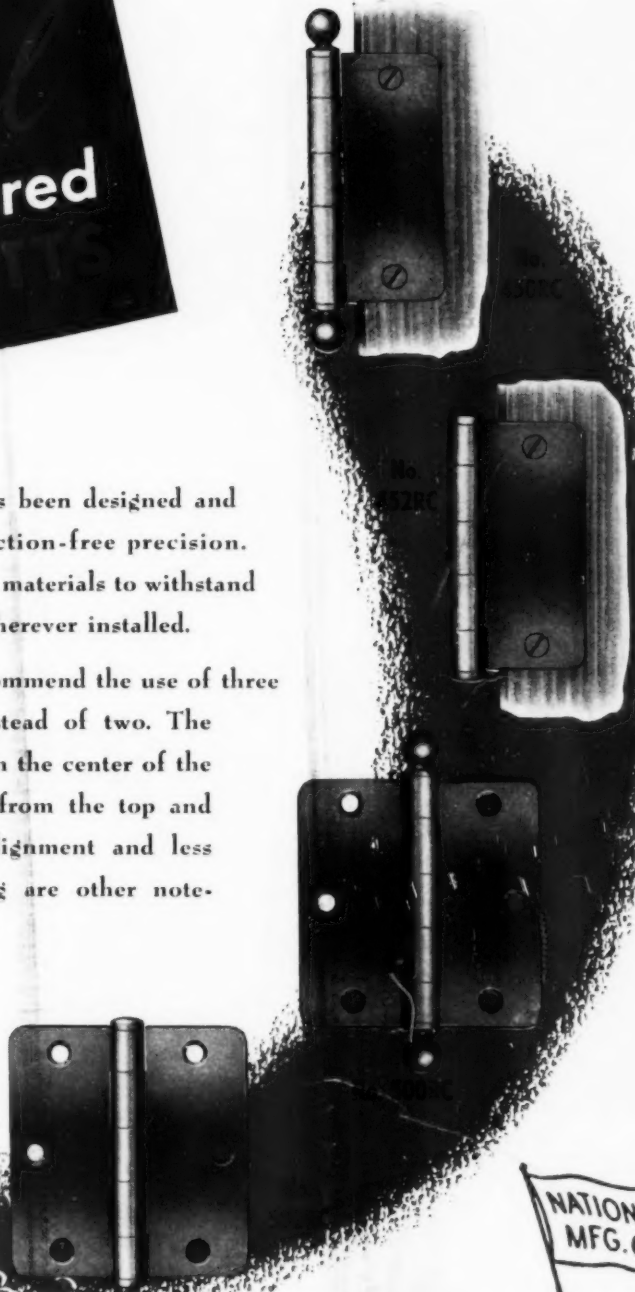
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