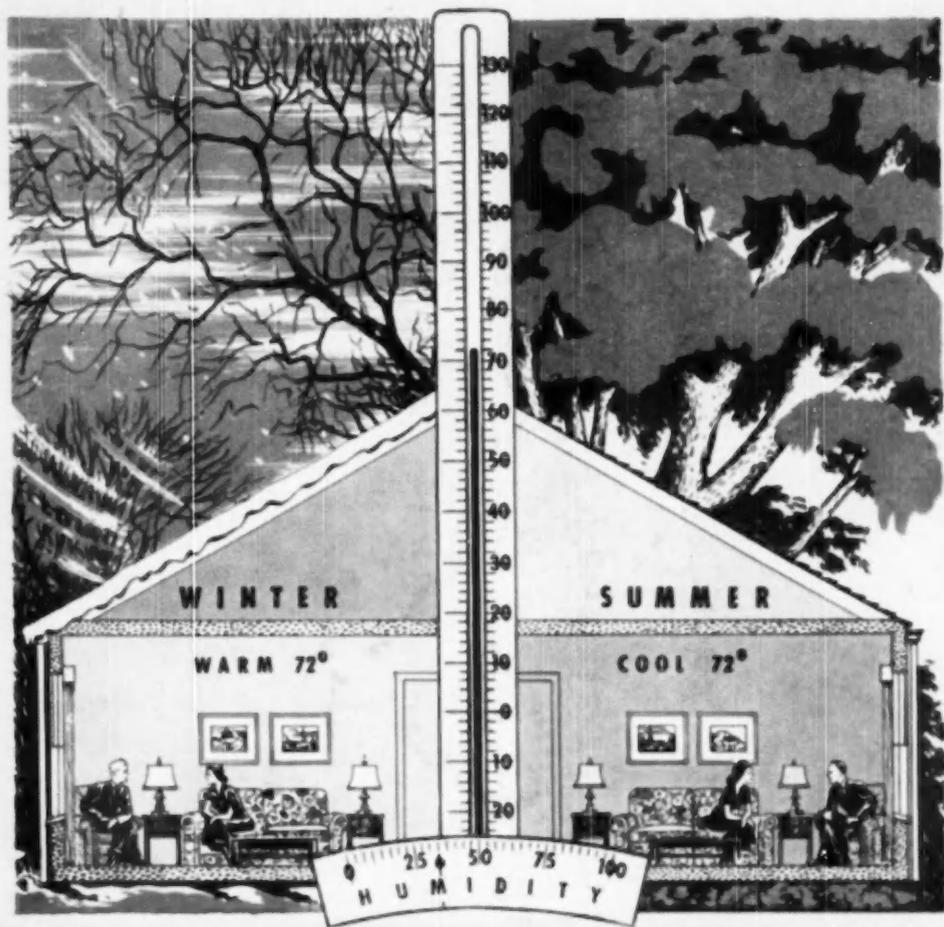


AMERICAN BUILDER

SEPTEMBER 1950
PRICE 50 CENTS

THE WORLD'S GREATEST BUILDING PAPER



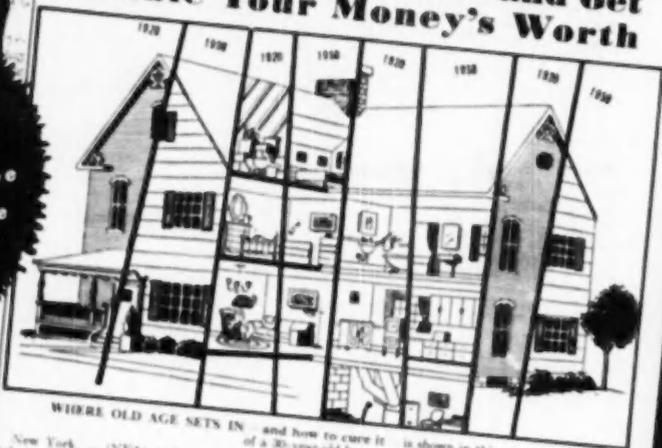
INSULATION

WHY... HOW IT WORKS... WHERE TO USE... TYPES
INSTALLATION TECHNIQUES - MOISTURE VAPOR CONTROL

HONEYWELL MAKES NEWS that makes Business FOR YOU...

More than
3,500
Newspaper stories
on modernization have
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Modernize Your Home and Get Double Your Money's Worth



WHERE OLD AGE SETS IN — and how to cure it — is shown in this cross-section of a 30-year-old home.

New York. — (NEA) — If it takes your wife or your husband should to get the dishes done, maybe you'd better check up on the age of your house.

Very likely you belong to one of 23,000,000 American families living in homes more than 30 years old, or even worse, one of 8,600,000 living in homes built before 1900.

In that case, the slow dish-washing probably is the result of a home "disease" — the architect's specialists go further and call it inefficiency.

That slow-motion dish-washing, or a tedious wait to fill the sponges are full of accumulated suds. Very often the water goes

relatively simple. Flexible copper tubing, instead of rigid piping, obviates the need of ripping out plaster to replace the plumbing.

A national survey just completed by a Minneapolis-Honeywell reports more than half of America's 42,000,000 homes are exposed to the ailment, which takes a toll of weeks of unnecessary labor from the homeowner.

When you modernize your home, the study shows, your expenditure will enhance the value of the property as much as double your investment.

Home owners looking for a suggestion, by making a detailed analysis of what's wrong with the ailing house.

There's excessive dust and dirt being tracked through the floor. A new heating plant may well be the answer. Streaks of smoke on the walls or radiators or warm air may be traced in the same

source — furnace cracks and holes. A good general utility man or a handy man about-the-house can patch these holes quickly at small expense.

If the heating system seems beyond redemption, a new coal furnace or oil burner can be installed at a low price. Or the basement ceiling can be covered with wallboard or other composition material to prevent dirt from filtering through.

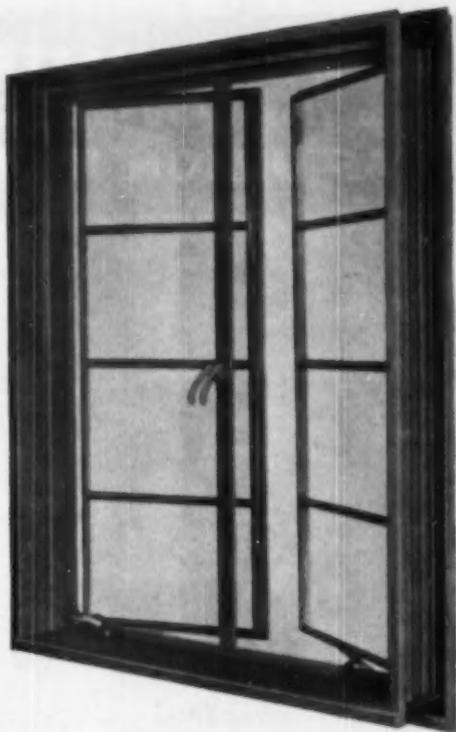
Drafts, cold floors and hard-to-heat rooms may also be the fault of a 30-year-old thermostat.

Ancient kitchens usually are woefully lacking in adequate storage space and modern appliances which take the backaches out of housework. This doctoring job will probably be the most expensive of all, but can be done little by little. New counters, cabinets and sink would run to about \$700 (a handy husband can save a lot here), while the full automatic treatment — dishwasher, laundry and garbage disposal unit would add another \$600.

MINNEAPOLIS
Honeywell
FIRST IN CONTROLS

SAVE ON-THE-SITE TIME and MONEY...

New Metal Window Unit installed in 2 simple steps!



1

Just Nail to Sheathing



2

Anchor to Studding

(Not required for units under 3' 6" in width or height.)

No trimming! It's already completely trimmed inside and out. One man can easily install this new Fenestra® Unit—famous Fenestra Casement complete with Combination Inside/Outside Metal Trim—in a few minutes . . . using only hammer and nails. It's that easy!

Your carpenters make openings the same for frame or brick veneer. They run sheathing right over stud and cripple and saw it off flush. Plaster or dry wall butts against the metal trim inside. Shingles, siding, stucco or brick butt against it outside. No finishing required!

The integral flashing saves you time and makes the window weather-tight. The "pocket" in the inside trim is for Venetian blinds or shades. No need for blocking!

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You have a strong sales point in low maintenance, too. The trim is galvanized and Bonderized . . . has a baked-on coat of prime paint. Head and jamb members are 18 gage steel. The sill is 16 gage for even greater strength.

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Company

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PANELS

Easily identified by the famous BLUE center.

THE UPSON COMPANY

Upson Point, Lockport, New York

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- Have your Representative call to give me more information on the cracked ceiling market.

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AMERICAN BUILDER

IN YOUR OCTOBER ISSUE

Complete blueprints of *American Builder's* first prize house in competition for women students of architecture. Designed by Elizabeth Graham Bell of Carnegie Institute of Technology, this practical, contemporary home design lends itself to construction in any climate. Several of these houses are now being built under the sponsorship of the General Electric Company, Bridgeport, Conn., as demonstration homes. Don't miss this special blueprint presentation of one of the most popular home designs of the year.

Asbestos Cement Products—A graphic eight page editorial feature packed full of information on how and where to use these important building materials.

Latest report on National Home Week, Association News, and Trends in the Building Field.

Other features include Better Detail Plates and How-To-Do-It information, and a presentation of *American Builder Selected Homes*—pictures and plans of houses you will want to build.



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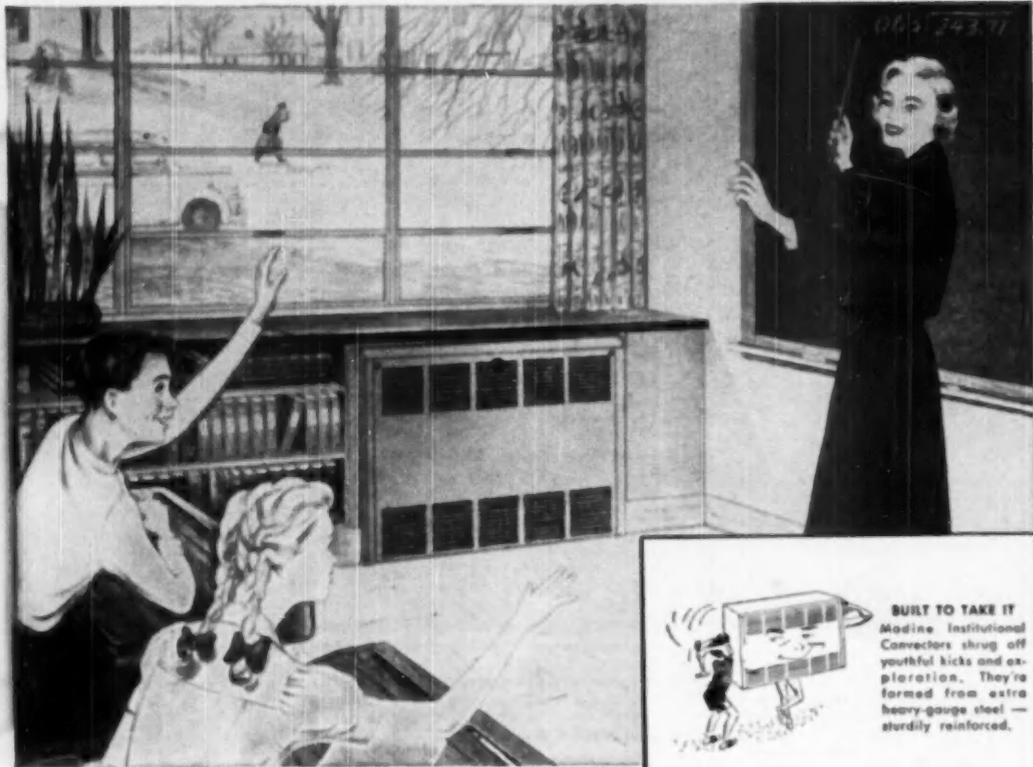
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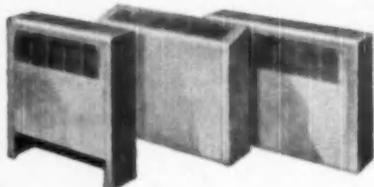
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For Unmatched Comfort . . . Lasting Economy



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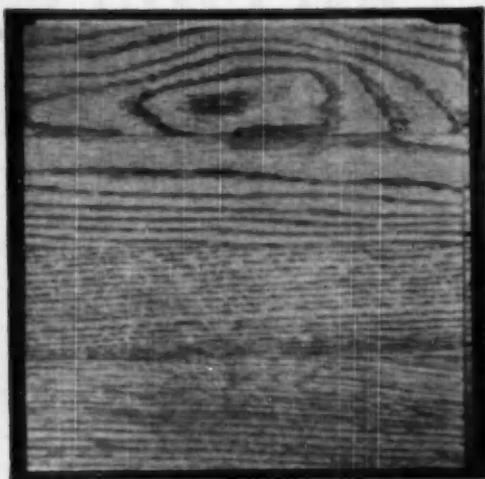


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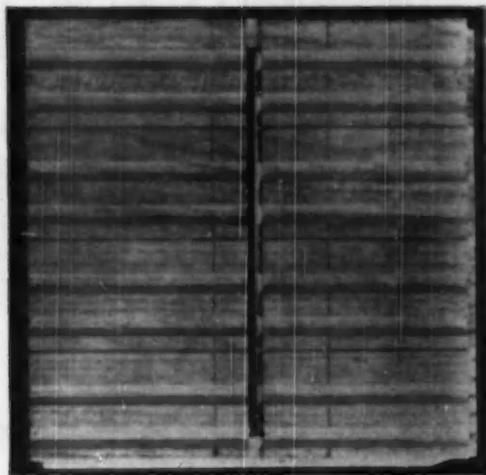
INSTITUTIONAL CONVECTORS

For the full story, call your Modine representative . . . listed in the "Where-to-Buy-it" section of your phone book. Or write direct, Modine Mfg. Co., 1501 Dekoven Ave., Racine, Wis.

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The Real Danger to the Nation—Inflation

THE SUDDEN outbreak of the war in Korea affords another illustration of tragic folly of government deficit spending in a time of great prosperity. Large government spending on public works, regardless of deficits, originally was advocated for periods of depression as a means of partially offsetting the decline of private spending for consumers' and durable goods, especially the latter. But it has been unnecessarily continued and increased during the prosperous years since the war, not only by local and state governments, but by the Federal government largely to promote the "welfare" or socialist state. And now, while deficit spending has been so unnecessarily increased to promote socialistic policies and to buy votes for the politicians advocating them, the nation finds itself in a war that inevitably will largely increase expenditures for military purposes.

There is but one way to prevent this increase in military expenditures from greatly increasing the deficit already being incurred by the Federal government, and that is greatly to reduce its expenditures for non-military purposes. And it has been proved repeatedly, especially by Senator Byrd of Virginia, that this could be done excepting for the pressure from business, labor and other organized groups in behalf of expenditures for their supposed benefit, entirely regardless of the effects on the taxes that all must pay and on the national economy.

We regard ourselves as the best educated people in the world. But what kind of education is it which leaves so many people *totally ignorant* of what is in the interest of the nation and, therefore, in the long run in their own interest? What kind of education is it that apparently teaches most people to grab like a canine grabbing another dog's bone and do nothing about the privileges, duties and responsibilities of a citizenship in a free country in which freedom cannot possibly be maintained without acceptance and performance by a large majority of the duties and responsibilities of citizenship?

This nation is in great danger, but much less from the outside than from the inside—much less from the communists, including their fifth column in this country, than from the many, perhaps a majority, of our own citizens who seem determined to break down our internal economy. The country is very prosperous now; but its prosperity is largely artificial and due to temporary causes, including the buying done here with our huge government gifts to other nations and excessive spending by the Federal, state and local governments for non-military purposes. All the deficit spending by all these governments tends, while they, especially the Federal government, are over-burdened with debt, to stimulate inflation, which, if not arrested, may destroy the present prosperity, wreck the national

economy, and cause a depression much worse than the last one.

This would play directly into the hands of the communists, who know enough economics to know that the great military power we developed in the last war was made possible only by the strength of our national economy, and that we never could do it again if our military power had to be based on an economy ruined by inflation. Every great revolution in any country in the history of the world has been preceded and mainly caused by uncontrolled inflation. When a people find the buying power of their wages and other incomes being rapidly destroyed by the decline in the value of their money, which is *not merely caused by inflation, but is inflation*, they become desperate, and adopt wild measures to save themselves which result in dictatorship and totalitarianism.

This is history that has repeated itself again and again, and those who believe that "it cannot happen here" are ignoramuses or fools—or more probably both. With the nation already involved in a small war, and threatened with a greater one, it is time for all citizens who are not devoid of intelligence and reason to take organized *political* action to stop the most dangerous trend of our time and the cause of it—the trend toward uncontrolled inflation, the *cause* of which is reckless government deficit spending.

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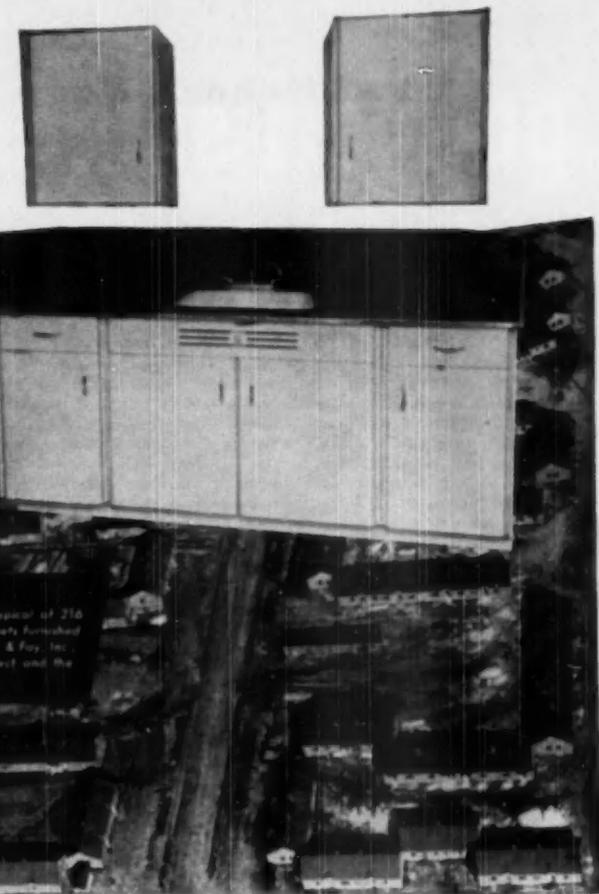
Samuel O. Dunn,

Specify
**NU-STYLE
 WOOD CABINETS**

*Others do...
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Tilman Apartments, Memphis, Tennessee
 The photo above is the Nu-Style Cabinet installation typical of 216 complete assemblies in this large project. Nu-Style Cabinets furnished by Carr-Adams Mfg. Co., Jonesboro, Arkansas, and Clark & Fay, Inc., Building Material Dealers, W. C. Leifer was the Architect and the Contractor was the Tilman Co.

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For the cabinet that is flexible, both to installation and use ... specify Nu-Style Cabinets. Comparison proves Nu-Style Cabinets excel on all six points.

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6. Made from thoroughly seasoned, kiln-dried Ponderosa Pine ... the best base for a wide variety of finishes.

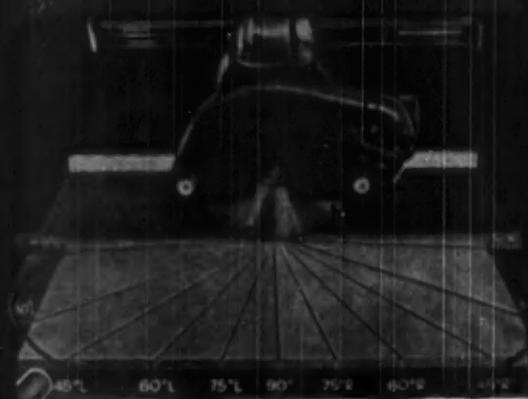
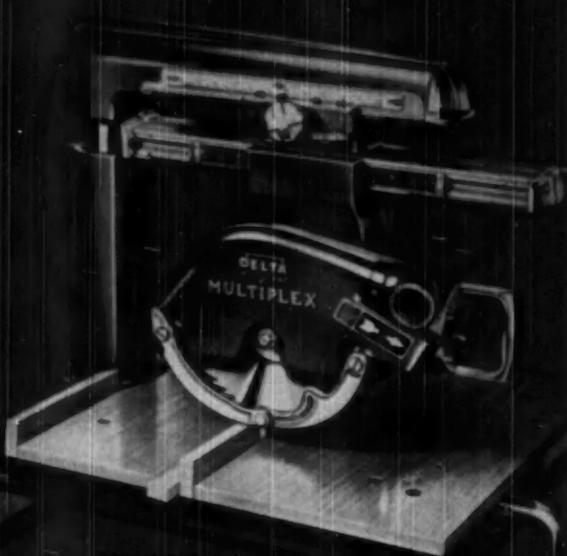
Nu-Style Cabinets are sectional units in graduated sizes offering the utmost in flexibility of Color, Size and Layout.

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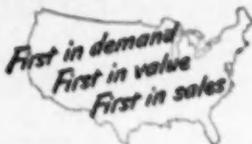


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plywood workers stand
behind this trademark*

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Materials at Associated Plywood Mills are unexcelled—Douglas fir that grows sound and big in the moist Oregon climate... Associated plywood plants are models of efficiency in the industry... And Associated employees, nearly 1000 strong, are experts in their craft, with special skills and long experience.

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- ★ **Cleaner, Easier to Handle**—thanks to the neat, durable casing which also assures more secure installation.
- ★ **Faster Application**—less cutting and fitting



FOR EFFICIENT INSULATION AT **LOWEST COST**
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It's the thriftiest of all Celotex rock wool products. And it's specially processed into pellets of a size convenient for easy pouring direct from the bag into open attic joist spaces and other areas. A single 40 lb. bag covers 25 sq. ft. to a depth of 3".

- ① LOWER COST
- ② QUICKER INSTALLATION
- ③ MORE INSULATION VALUE!

8-Foot Semi-Thick

CELOTEX

REG. U. S. PAT. OFF.

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and remember . . .

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NEW, IMPROVED! Celotex Rock Wool Blankets in the new 8-foot length help make your homes more salable, create lasting customer satisfaction! You'll see why when you compare them with the insulation you are now using . . . for efficiency, for ease and speed of application, for cost. Celotex Rock Wool Blankets come in 8', 4' and 2' lengths. Semi-thick or full-thick. See samples at your Celotex Dealer's!

To make your homes easier to sell . . .

BUILD WITH GENUINE
CELOTEX

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BUILDING PRODUCTS

The Celotex Corporation, Chicago 3, Illinois

Building ideas for today

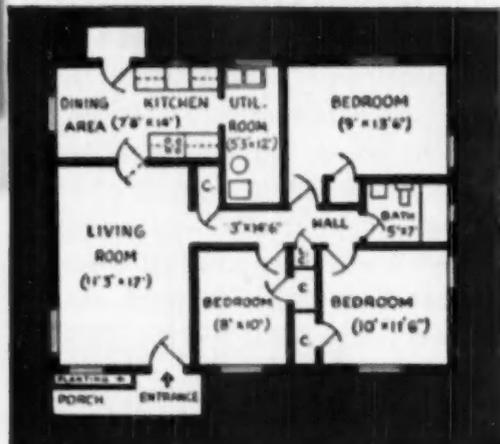


Meet Mr. M. T. Broyhill and his two sons (M. T. Jr., left, and Joel T., right) leading Washington builders and developers. They asked homeseekers "What sort of a home do you really want?"

Here is a capsule of the answers: 74% said, "I want ram-

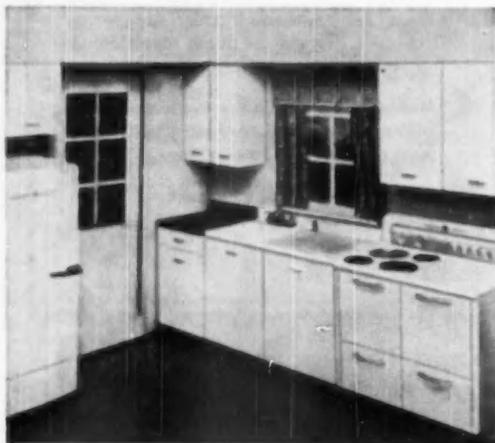
bler!" 63% said, "I want 3 bedrooms!" 83% said, "I want a General Electric Kitchen!"

The Broyhills designed a home to meet these specifications. What followed is a most amazing success story. All 1000 G-E equipped houses were sold within 60 days!



This all-on-one-floor house is built of brick, has 3 bedrooms, a large living room, tile bath, copper plumbing, dining space, clear oak hardwood floors, furred and plastered walls.

Owners were given a choice of eleven distinctive exteriors; all lots are completely landscaped and include shrubbery.



This is the kitchen 83% of the people interviewed in the survey want in their new homes—General Electric! It includes the G-E Spacemaker Refrigerator, G-E Speed Cooking Range, G-E Dishwasher, G-E Disposal® Unit, G-E Steel Cabinets and G-E Texolite® Counter Tops. Yet, the complete house sold in the \$10,000 class!

— *from Washington!*

Take a tip from an enterprising Washington, D. C. builder and developer who asked thousands of homeseekers what they really wanted . . . then built houses to their needs . . . and sold all 1000 General Electric equipped houses within 60 days!



**ADDITIONAL PROFIT . . . LESS SELLING
EXPENSE . . . MORE SATISFIED HOMEOWNERS**
. . . when your houses are equipped with General Electric Kitchens!

TODAY, MORE THAN EVER, people all over the country want complete General Electric Kitchens in the homes they buy.

And that's *good* for you!

It means you can realize an additional profit on your houses. The cost of the General Electric equipment is simply included in the selling price of the house. People recognize this additional value. Furthermore, you can include G-E Kitchen equipment in your homes for as little as \$4.80 a month under the "Packaged Mortgage" Plan.

It means that your selling costs may be reduced. Builders all over America report that their General Electric equipped houses sell much faster than those in the

same areas that do not offer all-electric living!

It means that your buyers will be more satisfied with their modern, all-electric home that eliminates drudgery in the kitchen!

So see your local General Electric distributor. He will be happy to work hand in hand with you on your projects.

Remember that G.E. offers you the brand of electrical appliances that people prefer to all others . . . tested merchandising programs . . . one source of supply for matched equipment . . . assistance in designing and improving kitchen layouts. And most important: G-E *dependability!*

Home Bureau, General Electric Company, Bridgeport 2, Connecticut.

You can put your confidence in—

GENERAL  ELECTRIC

142 GUNNISON. CHAMPION. HOMES

SOLD *in 8 hours!*

... PROOF that CHAMPION Homes
are sound, profitable investments!

John W. Gelbreath & Co.
 Realtors

400 North 10th Street
Columbus, Ohio

NOV 22, 1950

Honorable John F. O'Brien, President
Gunnison Homes, Inc.
New Albany, Indiana

Dear General O'Brien:

As you probably recall, last fall we offered for sale
a project of Gunnison Champion #3 Homes and sold the entire offering
in the opening day of the sale.

Featured in 20-400 a'clock home we offered 175 Gunnison
Champion #3 and 45 homes for sale to be built in Lorain, Ohio. On
Nov. 15, 1950, we received 142 homes before 8:00 a.m., and would have sold
the entire offering if our inventory had been sufficient to handle
the order.

We have found the public to be enthusiastic in its response
to the Champion Homes, and our experience would indicate that
the demand for these homes cannot be met for a long time to come.

It was gratifying to learn, upon arriving in the office
this morning, that satisfactory arrangements had been made with you for
purchase to meet our previous schedule on this project.

With kindest personal regards, I am

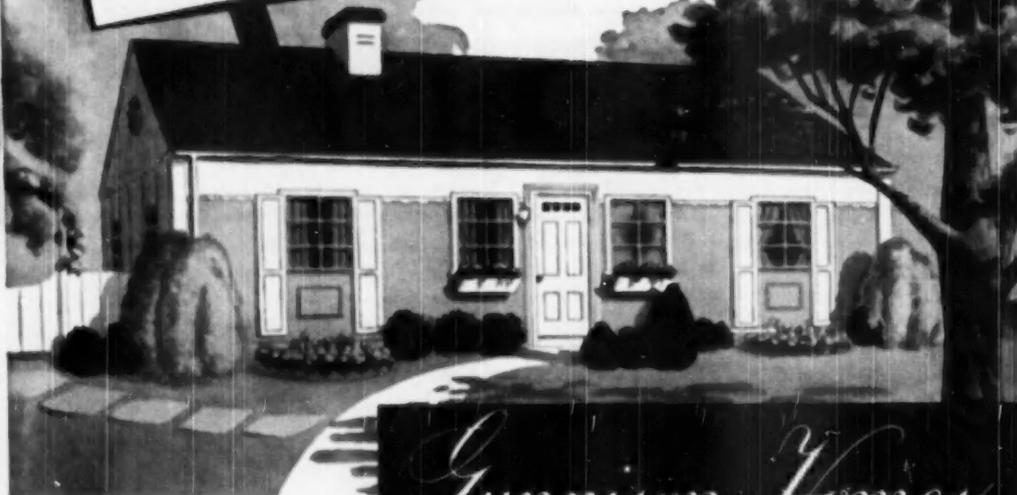
Very truly yours,
John W. Gelbreath
John W. Gelbreath

Rapid turnover

- + Top quality
- + Low Price
- + Eligibility for FHA and VA loans
- + Great public demand

TOTAL: More Profit for YOU

Gunnison Homes, Inc., U. S. Steel Corporation Subsidiary, is now granting additional DEALER FRANCHISES! We welcome inquiries from qualified, financially sound businessmen. Investigate NOW! Write Dept. 5 for complete information.



WHEREVER THERE'S BETTER LIVING . . .

Gunnison Homes

UNITED STATES STEEL  CORPORATION SUBSIDIARY

NEW ALBANY, INDIANA

★ T-14



Using
DeWalt

we saved just about

\$200 in the cost

of this residence.

"We cut and framed a six room, 1100 sq. ft. house in approximately 12 hours, using one DeWalt 5 horsepower, single-phase machine, and gang cutting material whenever possible.

"We have estimated we saved just about \$200 in the framing cost of this residence. Because of the accuracy of cutting with DeWalt, the erection of the framing was much faster and resulted in a much better built house."

That's the comment of one builder. Many others would tell you the same about DeWalt.

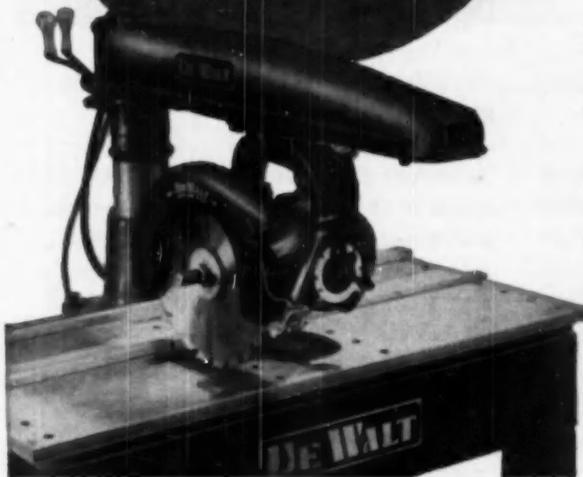
In today's fast residential building—with emphasis on cutting expenses—there's nothing better to have on the job than a DeWalt!

DeWalt helps you build faster, more accurately and at lower cost. DeWalt starts your house for you—cutting rafters, studs, joists, bridging, fireblocks, stair horses, etc. DeWalt finishes your house for you—cutting interior trim, built-in cabinets, shelving, trellises, window boxes, etc.

Write for catalog, DeWalt, Inc., 19 Fountain Avenue, Lancaster, Pa.

DeWalt Inc.

A subsidiary of American
Machine and Foundry Company





Camberley K-5555-A. Double drainboard, single compartment ledge sink with metal cabinet. 54 x 22". Also available in sizes 54 x 25" and 60 x 25".

Cymbria K-5574-A. Single drainboard, single compartment ledge sink with metal cabinet. 42 x 22". Also available in size 42 x 25". For sink at left specify K-5575-A.

KOHLER SINKS in 22" widths for small kitchens

Kohler Camberley and Cymbria sinks in the 22-inch width meet a growing demand for narrower sinks of practical, convenient design for low-cost housing projects and small homes or apartments where space must be conserved.

Kohler sinks provide the durability and modern efficiency that builders, architects and home-owners want. The lustrous white Kohler enamel finish is acid-resisting clear through, easy to keep clean, and protected against cracking and crazing because it is fused to a base of non-flexing iron, cast for



strength and permanent rigidity. Fittings are of durable brass, chromium-plated.

Both the Camberley and Cymbria have a convenient 3-inch ledge extending the full length of the sink, a spout, with aerator, that swings out of the way when not in use, and a lever-control sprayer with retractable hose. Kohler Co., Dept. 17-P, Kohler, Wis. Established 1873.

KOHLER OF KOHLER

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

**85% of all prospective
home owners want oak floors**



oak—sets up a sale

"Higher resale value, a lifetime of service with no replacement, easy upkeep, and beauty with all kinds of furnishings. That's what prospects think of when they look at the oak flooring in my houses."

"The sight of oak floors really warms up homebuyers to my sales story in a hurry, because they prefer oak to any other flooring material."

"Since 85% want oak floors before they come to me, it's no wonder that I always see to it that I have oak in *all my houses*—regardless of price—to set up a sale and make my job quicker and easier."

**Nothing helps
sell a house
faster than
Good Oak Floors**

**NATIONAL OAK FLOORING MANUFACTURERS'
ASSOCIATION • Dept. 6-9, Sterick Bldg. • Memphis 3, Tenn.**

WAR in the Building Field

Builders and the Shooting War

PPRIVATE home builders have made a magnificent show of strength this year; during the first six months of 1950 they started more than 650,000 new dwelling units, breaking all records. Preliminary reports for June showed 142,000 dwelling units started, marking the fifth record-breaking month of home building activity.

Needless to say, no nation at any time has built so many houses in such a short period. Grave doubts were expressed during and at the end of World War II about the ability of the private home building industry to produce new homes at the rate of one million or more a year in order that the drastic housing shortage could be relieved as quickly as possible. It soon became apparent that the rigid controls which had been drafted were useless and builders were then permitted to act on their own initiative to produce the new houses which the nation required.

The record shows that as of last May builders had started 4,000,000 new postwar houses, 670,500 in 1946, 849,000 in 1947, 931,300 in 1948 and 1,025,100 in 1949.

The shooting war nips this peak home building activity in the bud, just as the housing shortage is coming to an end statistically. We say statistically because the housing shortage is still apparent in most cities. The shortage, however, is largely a shortage of rental units still under rent control.

Actually, 5,671,700 permanent non-farm dwelling units were constructed from 1940 through 1949 and during the same period there was an increase of 5,951,000 families, leaving a shortage of less than 300,000 dwelling units. However, a decrease in the size of families and a movement from farm to city makes the deficiency larger.

Could we produce enough houses during a war period to assure enough at war's end to prevent the housing shortages that developed at the end of World Wars I and II? The chances are much better during the 1950's than they were in the 1920's and

Peak residential building nipped in bud as nation gears production to war. Housing shortage neared end when conversion came

1940's because it is estimated that the increase in family formation during the 1950's will be less than 400,000 families annually as compared with 550,000 during the twenties and 600,000 during the forties.

During the war years 1942 to 1945 an average of 222,000 new houses were produced each year. If war conditions permitted and this number could be almost doubled the housing shortage would be practically eliminated. Probably no better morale builder for those in military service could be devised than this assurance that adequate housing would be available at war's end.

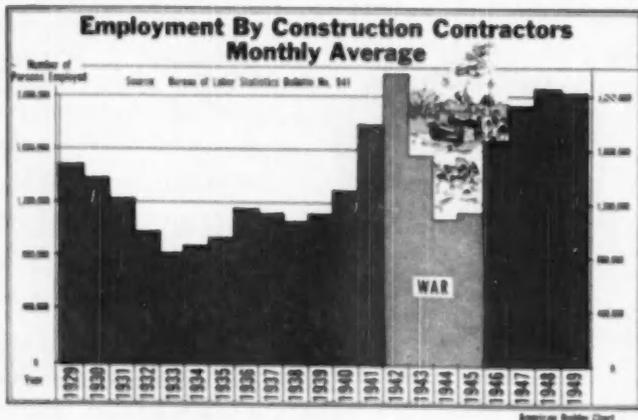
Atomic warfare could change all this. Our cities, industries and transportation were not directly attacked in the two preceding World Wars. We cannot count on this safety or immunity the next time. The present Secretary of Defense, Mr. Johnson, said in 1947, "In the next war if it comes, and God forbid, we are not going to have any Pearl Harbor. We are going to have, if they can get

away with it, fifty Hiroshimas in these United States."

In that event it will be absolutely essential that builders retain their present organizations to meet such large scale destruction. The situation is entirely different than that in World Wars I and II. Professional builders are the only ones who can efficiently make needed repairs in order that production can be resumed again. Their organizations will be as essential as the railroads, the police and fire departments. If practical atomic bomb shelters are devised it will be necessary for builders to build them.

The task of decentralization of cities is so enormous that little planning has been done in that direction except that some industries have been advised not to expand into strategic areas. Decentralization would require the relocation of practically all utility and transportation systems and the replacement of practically all factories, commercial buildings, and homes. Conservatively it would take fifty years.

About 2 million persons are now employed by construction contractors. In 1944 and 1945 only one million were employed. The different character that the present war may take makes it extremely inadvisable to reduce this pool of labor to that extent.



**NEW 8" HEAVY-DUTY
LECTRO-SAW**
Only \$84⁵⁰

**for POWER SAWING
at a POPULAR PRICE!**

Popular price, heavy-duty construction, modern design . . . that's the right combination that makes the new 8" HEAVY-DUTY LECTRO-SAW perfect for you! This new, outstanding leader in popular-priced portable saws gives you such job-proven features as built-in depth and bevel adjustments, abundant power, perfect balance, close-coupled design, ball-bearings throughout, complete safety and a superlative motor developed by Black Decker especially for power sawing . . . all at a remarkably low price!

See your building supply, lumber or hardware dealer today for free demonstration. Write for detailed catalog to: Home-Utility Division, BLACK & DECKER Mfg. Co., Dept. H-666, Towson 4, Maryland.

LECTRO-SAW

Products of HOME-UTILITY Division—
BLACK & DECKER Mfg. Co.

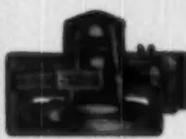
Easy to handle—
Safe to use!



Powerful universal motor runs
on A. C. or D. C.

Sturdy construction
for extra-long life!

A PROFESSIONAL SAW AT A POPULAR PRICE!

<p>Close-coupled design improves balance and ease of handling. Aluminum bearings give smooth action, withstand heavy-duty use, save weight.</p>	
	<p>Bevel Cutting Angle can be adjusted at any point to 45°, while Saw maintains perfect balance. Cutting depth can also be regulated at any bevel angle.</p>
<p>Close-up of calibrated Bevel Cutting Adjustment and front Cutting Depth Adjustment. Front and rear Depth Adjustment may be used in combination to suit your needs.</p>	
	<p>Big Power (23.00) can be used at either side of Saw. Slides through bracket on front. Clamped tight with two wing nuts. Operates on straight or bevel cuts.</p>
<p>Both Cutting Depth Adjustments shown here in open position. Permits decreasing depth of cut to 0.</p>	



What do the back fences say about you?

One neighbor tells another. And the builder who installed Bryant automatic gas heating always rates high in those confabs . . . continues to win more clients over the back fences, too!

Customer satisfaction is built into Bryant equipment. It's drawn in by the product designers, kept safe by the finest automatic controls, retained by the heavier construction that assures longer service life. The user is better satisfied . . . more pleased with the builder who gave him *quality* heating.

Yes, and Bryant lends a helpful hand in other ways. The Bryant distributor offers a single source for most every type of gas heating equipment. He furnishes valuable engineering assistance, maintains an adequate warehouse stock. He stands ready to work with you on every job, from single installation to large project.

If you are interested in having what's said over the back fences mean more clients for you, *keep installing Bryant heating!*



The most complete line of gas heating equipment in the nation

Bryant Heater, Dept. 256,
17025 St. Clair, Cleveland, Ohio

Send me the new booklet that tells
the Bryant story. Have your dis-
tributor call on me.

Name

Company

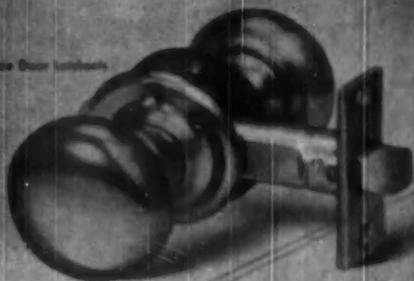
Address

City State

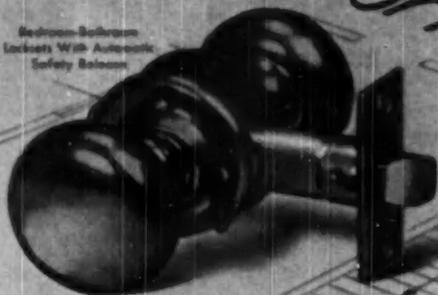


for every door in the house

Inside Door Locksets



Bedroom-Bathroom Locksets With Automatic Safety Bolts



**Extra Quality
Tubular Locks
and Latches
by RUSSWIN**

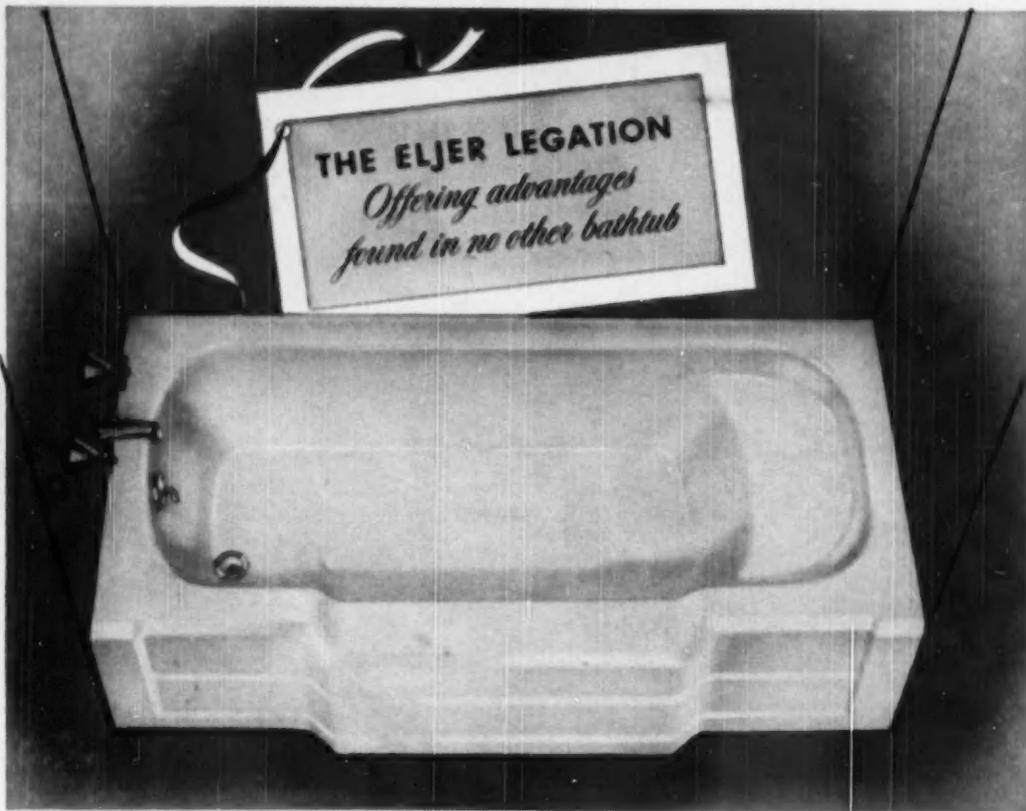
"Keylock" Locksets
Front and Rear Doors



Here's a complete, extra-quality line of tubular locks and latches that you can recommend with confidence. Its eye-appeal, durability and economy will reflect to your credit for years to come. . . . There's a Russwin tubular lock and latch set for every door in the house . . . each designed for its specific function . . . all featuring the exclusive, positive Russwin rack and pinion construction. Double compression springs give heavy spring action on knob—light, easy spring action on latch bolt. All steel case and working parts plus wrought brass or bronze trim assure long service life. Russell & Erwin Division, The American Hardware Corp., New Britain, Conn.

RUSSWIN

dealers always have the edge . . .



EXTRA FEATURES . . . EXTRA CONVENIENCE . . . EXTRA SATISFACTION

Note the features and you'll see why the Eljer Legation Bathtub is in such demand. This *special* tub . . . an outstanding member of Eljer's complete bathtub line . . . offers your clients *plus* advantages found in no other tub. It gives you the opportunity to add extra convenience and satisfaction to the homes that you are planning.

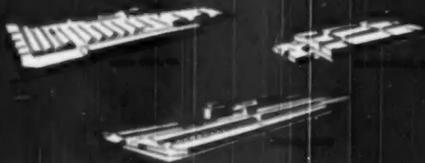
Here are Legation features: thick, vitreous enamel over a *ragged, rigid, cast-iron* base; comfortable end-

seat; low front rim; wide, flat bottom for safety's sake; easy-to-clean rectangular shape; extra-wide front rim-seat; superb beauty; 5½' length; white or pastel colors.

The Eljer Line also includes a complete assortment of recessed and corner tubs in many sizes. For information, see the nearest Eljer Distributor or write to Eljer Co., Ford City, Pa. Specify Eljer and you specify extra convenience and extra satisfaction.

It pays you, it pays us—because we specialize in Plumbing Fixtures and Brass

ELJER





ASSOCIATIONS

Their Plans and Activities



Coogan Asks Builders To Reduce Home Starts

A plea for cooperation and straight thinking by members of the National Association of Home Builders has been issued by Thomas P. Coogan, NAHB president. Asking builders to curtail production in accordance with President Truman's request, Coogan said a voluntary reduction in the number of homes started would reduce materials and manpower for the civilian needs in line with Truman's military program, and help stop the inflationary trend in building construction costs.

"I have asked the builders to do their buying on a day-to-day basis," stated Coogan's message to NAHB members. To builders he said, "If you and your friends keep your heads, there will be enough materials to go around and supply everyone on a reduced program.

"Panic buying, hoarding, outbidding your competitor for scarce materials will have only one result—control and price fixing," he stated. "You know and I know how vicious and dangerous these controls are to our industry. We can avoid them by voluntary action—please cooperate with us and let's see this thing through properly.

"If this becomes a full-fledged war or if the President decides on an expanded defense policy, we will have to divert our energies from home building to war housing, or some other defense

work. Remember, the President has better sources of information than we do—even better than the columnists—and so far he has called for only limited controls. Let's use our heads to operate within this framework.

"Remember—things are different now than in 1941," Coogan's message continued. "Our economy is vastly expanded, our production capacity is tremendous and instead of just emerging from a fearful depression, when people had little money and few durable goods, we are now finishing our fifth year of prosperity. The people generally are well equipped; our plant capacity is high; our food larder is running over, and we don't have to feed the rest of the world. In reverse, American manufacturers are placing machine tool orders in France, Sweden and Switzerland. In our materials, industry production is high and will continue so.

"If builders will refrain from panic buying our supply lines will catch up with our curtailed production. There are only two real shortages—gypsum boards and cement—and they are almost seasonal at this time of year.

"The credit controls imposed on us are reasonable, but they will reduce housing starts drastically for the balance of the year. When the President

(Continued on page 216)



MARTIN C. HUGGETT, executive vice president of the Chicago Metropolitan Home Builders Association, presents the President's quilt trophy to Gunner Jensen of Barrington, Ill., at the Seventh Annual Field Day held at St. Andrews Country Club by the Chicago group. Nearly 800 members and their wives attended the outing.

1951 NAHB Convention Will Be Held January 21-25

Instead of the customary end of February date, the Annual Convention and Exposition of the National Association of Home Builders will be held in Chicago January 21-25 in 1951, according to Paul S. Van Auker, convention and exposition director. Exhibit space, as usual, will be provided in both the Stevens and Congress hotels. Reason for change in dates, Van Auker says, is because many builders in the past have expressed a preference for an earlier date.

"Each succeeding NAHB Convention since 1945 has been larger and better," Van Auker said, "and we expect the January 1951 turnout of builders to be the largest yet."

Programming plans are well under way, a prospectus has already been sent out to building materials manufacturers, and about 3,000 rooms for conventioners have been contracted for in Chicago hotels. All hotel reservations can be made through Van Auker's office beginning about the third week in November.

New Products displays are expected to take the limelight in the 1951 Convention and Exposition, Van Auker says. An even larger number of products on display in the special new products section is expected over this year's record.

An extensive attendance promotion campaign will start in October through the 135 affiliated NAHB associations. Growing NAHB membership and a highly successful year for the building industry as a whole are partial reasons why Van Auker expects the 1951 Convention and Exposition to be "the largest yet."

Hoo-Hoo Boston Convention

The Concatenated Order of Hoo-Hoo will hold a convention in Boston, Mass., September 6-9, in the Copley Plaza hotel, with a program designed for both members and their wives.

Highlights of the program as planned will include an address by the Snark and reports of national officers; entertainment and a talk by Bill Cunningham, well known sports writer; a clam bake in Plymouth; sightseeing through historic Boston, Charlestown, Cambridge, Lexington, Concord and Sudbury; dancing, and a banquet at which Stanley F. Horn, editor of the Southern Lumberman, will be master of ceremonies.



Cy Sweet Says -

C. B. SWEET, President, National
Retail Lumber Dealers Association

A Jolly Childhood Ours, But What of Future Kids?

As this is being written the entire Sweet household is in the throes of getting ready to move. Our home, in which we have lived for 12 years, is sold and we will take a small apartment temporarily until our new home is built. This necessitates a general sorting out of possessions, some to go into storage, some to go with us to the apartment, some destined, we hope, to delight the Salvation Army, and some to fill the already overflowing trash can.

All who have experienced such an ordeal know that one forgets how much can be accumulated in a few short years; there are the things put away for use at some future date which, oddly enough, never seems to come; the useless things saved for sentimental reasons; the inherited "white elephants"; the seasonal things, such as fishing, hunting and skiing equipment; and last but not least, there are the time stealers of the harassed mover, the multitude of old photographs, snapshots, letters, newspaper clippings, and family documents of value to the past generations and, in turn, to the present one. As I pore over childhood pictures of my sister and myself, pictures of us with beloved pets, a pony, a dog, a lamb; pictures of us enjoying ourselves with

friends and relatives at picnics and birthday celebrations; pictures of us with our parents proudly setting out on a tour in the first family automobile, I am filled with thankfulness for the pleasant memories of my early life, memories I will cherish always.

I can't help pausing for a moment to contemplate the kind of memories in store for the children of the future, unless we of the present generation exert our utmost strength to force our Nation's leaders to give us a sincere, truthful, and intelligent administration, devoid of the intrigue and political instability now existent. We have the power of choosing wise and honest men to represent us in National and International affairs and we will be responsible for the consequences if we continue, through ignorance, neglect, or indifference, to put the reins of government in the hands of men of lesser qualities.

But while the lot of the Nation and the children of the future is, and will continue to be, of the deepest and most heartfelt concern to me, the moving day is nigh and for the moment I must get my mind back to the task of deciding what to keep and where to put what I keep, and what to throw away.

NAREB Pledges Aid In Real Property Problems In Case of All-Out War

Should the United States become involved in an all-out war, the National Association of Real Estate Boards will aid and cooperate with the federal government in real property problems, according to a recent announcement by Herbert U. Nelson, executive vice-president. The offer of assistance has been made to President Truman, and to the National Security Resources Board.

"Participation of the United States in another major world conflict would involve serious problems of acquisition, valuation, lease negotiation, construction, and operation of real property that would require seasoned knowledge and experience in these fields," stated the resolution, presented to the executive committee by the Realtors' Washington committee.

"The National Association of Real Estate Boards is proud of the constructive aid rendered by the Realtors of America—some 44,000 in number—to the successful prosecution of the last world war. This included:

"Location of air fields and synthetic rubber plants.

"Assembly of land for cantonments, hospital sites, naval bases, and entire new towns for war workers.

"Aid in war utilization of scarce industrial plant facilities.

"Assistance in framing and carrying out the war housing program.

"Cooperation in wartime stabilization of rents.

"Organization and installation of the Office of Decentralization Service, which efficiently moved Federal agencies and personnel out of Washington to make room for emergency needs.

"Development of black-out and fire prevention technique for apartment buildings, hotels, office buildings, and hospitals.

"Aid to the Alien Property Custodian in listing the property of enemy aliens.

"These and like problems will again become urgent in the event of a full-scale defense emergency," the resolution states.

Prefab Sales Increase In First Half of '50

Three prefabricated homes were built during the first six months of 1950 for every one produced in the corresponding period of last year, Prefabricated Home Manufacturers' Institute reported recently.

The nation's prefabricators shipped 28,000 houses from January through June, according to institute estimates. This output, which greatly exceeded previous shipments for any half year in the industry's history, nearly equalled the total of 30,000 houses produced in all of 1949.

Columbus Builders Publish Book of Local Information

The Columbus (Ohio) Home Builders Association has announced that material for the publication of their 1951 edition of the "Home Builders Guide & Index" is being compiled, and that copies will be mailed sometime early in December.

Known as the "Blue Book" and dedicated to Master Builders and their associates, the helpful guide is designed to give technical trade information to local men in the industry. The book is 6x9 inches, bound in dark blue leatherette, stamped in gold, and contains well over 400 pages. An excellent local promotional idea and information medium, the book will be supported by advertising.

New Milwaukee Executive



ROY F. HEALY, formerly executive assistant of Chicago Metropolitan Home Builders Association, is now executive vice president of Milwaukee Builders' Association. Milwaukee Sentinel Photo

Aavid C. Peterson Appointed To HHFA Branch Committee

Aavid C. Peterson, Detroit builder, has been appointed a member of an advisory committee for the Housing Finance Branch of the Housing and Home Finance Agency, by Raymond M. Foley, HHFA administrator.

Commenting on his appointment of Peterson, Foley said, "Establishment of this committee on Housing Finance is in accordance with our policy of obtaining information and advice from experts in appropriate fields. This committee will include members having a broad range of experience in housing finance. It will give advice and guidance in the formulation of the research program in this field. The committee will also consider specific proposals for research projects, such as studies of the financing of housing construction; the financing of prefabricated homes; the structure and operation of mortgage markets, and similar information needed by home-builders, home buyers and lenders."

Peterson is a director and former two-term president of the Builders Association of Metropolitan Detroit, and is now serving as chairman of its National Legislative Committee. He is also a member of the Board of Directors of the National Association of Home Builders.

Thomas E. McDonald Joins Mortgage Bankers Staff

Thomas E. McDonald, formerly chief accountant of Briggs & Stratton Corp., Milwaukee, has joined the staff of the Mortgage Bankers Association of America to head up a new accounting servicing division of the organization, R. O. Deming, Jr., association president, announced recently.

Organization of the new division is recognition of the growing importance of accounting servicing phases of mortgage lending, Deming said. Mortgage loans, he pointed out, require more attention than any other type of investment since most loans are amortized monthly.

"The new division will study and report on the most efficient and economical methods and seek to create even better procedures so that mortgage borrowers can get the most advantageous service," he said.

Prior to his association with Briggs & Stratton, McDonald was with the Inland Rubber Co. and George Rossetter & Co., certified public accountants. He is a graduate of the University of Illinois and took graduate work at Northwestern and Loyola universities.

Fete Dutch Housing Head

Dr. J. in't Veld, Netherlands housing minister, was honor guest at a recent dinner given by Detroit city officials and attended by builder association members.

Cortright's Column

FRANK W. CORTRIGHT, Executive Vice President, National Association of Home Builders of the United States



On June 25th an entirely new era in American history began.

When the Communist-trained and equipped North Koreans crossed the 38th parallel, a most remarkable era of American peacetime economy ended. Of particular interest to home builders, a period of high volume production such as had never been experienced before, came to an end.

Of course, we will undoubtedly move to far greater heights of achievement in the future, but because no one knows the Kremlin's plans, it is impossible to guess when our re-armament program can be concluded. It would be foolish to predict the course of home building for the period ahead but a few things are reasonably clear.

1. Mortgage credit controls will substantially reduce the last eighteen months' high volume of housing starts.
2. Increased building costs are sure—the extent of the increase is the only unknown factor.
3. Certain building materials—undoubtedly all metal items—will be in diminished supply.
4. Personal income and corporation taxes will be raised.
5. The volume of housing starts will be set by the government by indirect methods—and will be in maximum volume permitted by the supply of manpower and materials.

Amplifying the above statements, it is quite clear the President of the United States and his top advisers are very conscious of the fact that maintenance of a sound economy here at home is as important as successful prosecution of the war abroad. They want home building maintained at good volume within the limitations of the demand for steel and other items by the military.

Insofar as allocation, rationing, priorities and other controls are concerned, it is presently hoped that much can be done by voluntary methods and by the people exercising self-control. If a panicky public boards and stockpiles sugar, coffee and other items, rationing will be imposed. If home builders similarly over-buy merely to protect against future needs, drastic action will be taken under the powers given the President by the Defense Production Act of 1950.

Home builders in Miami and San Francisco have set a fine example for builders in every city throughout the country. They met with building material suppliers and representatives of the lending institutions and agreed upon certain rules of procedure which will spread materials and make them available as needed. NAHB is preparing a typical plan for such procedure and making it available to its builders' organizations throughout the country.

As the emergency period develops, the home builders of America will certainly have the wisdom, patience and courage to meet new conditions as they develop from time to time. They have long since proven their ability to serve both under war and peacetime conditions.

Story of Private Building

"You Can Own Your Dream Home" is the title of a handsomely done booklet published by the Home Builders Institute of Los Angeles, which points up the accomplishments of private home builders in California.

The booklet tells voters the facts about the evils of public housing and about the progress made by private housing.

Money for the Birds

Our government is the world's largest publisher, spending \$55 million yearly for printing. It distributes such world shakers as "Interaction of Sex, Shape, and Weight Genes in Watermelons," "Mist Netting For Birds in Japan," and "Habits, Food and Economic Status of the Bandtailed Pigeon."

—John I. Hennessey
Home Builders Council of California

Technical Program Presented At ASHVE Meeting in Canada

Regarded as a valuable contribution to knowledge in the field, the technical program of the semi-annual meeting of The American Society of Heating and Ventilating Engineers, held recently in Canada, was presented in an atmosphere which served to emphasize the bond of friendship between the two countries and the close cooperation of their technical men. The meeting was held at the Royal Muskoka hotel, Muskoka Lakes.

Eleven papers were read during three technical sessions, one held each day during the three day meeting. The Ontario Chapter, whose president, John E. Fox, was general chairman of the committee on arrangements, was host to the Society. E. Holt Gurney, past president of ASHVE, was honorary chairman of the meeting, which was called to order by Lester T. Avery, president.

John A. Marsh, general manager, Canadian Exporters Association, spoke on the subject of "This Canada of Ours" at a banquet during the meeting. President Avery announced that a new chapter of the Society has been chartered by the Council at Dayton, Ohio, bringing the total number of chapters to 43. He pointed out that applications for membership are being received at the rate of approximately 125 a month, even though no intensive campaign is being conducted. There are now 8,066 members.

Frost Snyder Re-elected By Plywood Group

Plywood Industry President, Frost Snyder of Tacoma and Vancouver, Wash., president of Vancouver Plywood Co., is president of Douglas Fir Plywood Association for a second term.



Frost Snyder

Snyder was elected at annual Tacoma meeting of plywood manufacturers attended by over 250 industry executives. In his "State of Industry" address, Snyder pointed out that continued aggressive promotion is needed if plywood is to maintain its favorable competitive position now held.

140 Take Heating Course



PART of class assembled for short course in hot water and steam heating at the University of Illinois, offered by university and Institute of Boiler and Radiator Manufacturers

One hundred and forty students from 20 states attended the fourth short course on hot water and steam heating systems at the University of Illinois, Urbana, Ill., this summer. The course was conducted by the Department of Mechanical Engineering of the University of Illinois and the Institute of Boiler and Radiator

Manufacturers, New York 17, N. Y. During the four days the students heard lectures on subjects pertaining to hot water and steam heating systems, attended classes, made an inspection of the IBR research home, attended a banquet and were guests at a luncheon following the final session at which certificates were awarded.

New CCNY Builders' Classes

A new "Home Builders Course" designed to give young builders a professional understanding of modern cost-conscious methods used by successful builders is on the fall agenda at Midtown Business Center of the City College of New York. The college project is being conducted with the encouragement and advice of Emanuel Spiegel, former regional vice president of the National Association of Home Builders and president of the New Jersey Association.

All the basic operations in construction, management and business phases of home building will be studied with a view to improving the efficiency of builders and their assistants.

The training program is an outgrowth of the successful experience of last winter when the New Jersey Home Builders Association adopted and helped to present the Center's course in "Merchandising, Materials and Methods of the Light Construction Industry." Because of the interest shown among home building personnel, the new more specialized and more intensive course was designed, leaving the comprehensive light construction course to serve men and women who do not have experience in the industry.

The fall session, starting October 9, will be given two evenings a week for 19 weeks, for a total of 150 hours.

Tuition is \$150 plus \$15 for books. It has been found that persons from many parts of Connecticut, New York, New Jersey and nearby Pennsylvania have enrolled for similar courses. Veterans may enroll under the G.I. Bill of Rights.

Applications for enrollment may be made to the Supervisor of Admissions, City College Midtown Business Center, 430 W. 50th St., New York 19, N.Y.

October Meeting of Community Builders Council in Denver

A meeting for the purpose of analyzing development plans of members of the Enlarged Community Builders' Council has been called by President Richard J. Seltzer and Chairman Hugh Potter of the Urban Land Institute, for October 12 and 13 in Denver, Colo.

Seward H. Mott, executive director of the Institute, has stated that every effort is being made to allocate sufficient time for the thorough analysis of each project and that this will be a unique opportunity for members to secure advice and counsel of the outstanding operators in this country.

He has also asked that members notify him of their decision to attend.

For additional Association
News turn to page 204

SKIL Saw™



You can always see both the blade and the mark

SKIL Saw lets you see what you're doing . . . on every cut. There's no need to look around motor housings. There's no leaning over the saw to see what's going on. Your line of cut is always in plain view. You see the SKIL Saw blade as it cuts. You work in a normal, easy position.

Full visibility, perfect balance and extra power make SKIL Saw easier to use on any job. Tough, heavy-duty construction keeps SKIL Saw out of the shop, keeps SKIL Saw on the job. Ask your SKIL Tools Distributor for a demonstration of easy-handling, hard-working SKIL Saws today.



SKIL
PORTABLE TOOLS

SKIL Products are made only by
SKILSAW, INC.
5023 Elston Avenue, Chicago 26, Ill.
Factory Branches in Principal Cities
In Canada: SKILTOOLS, LTD., 66 Portland St., Toronto, Ont.



Mack says... Check the Weather

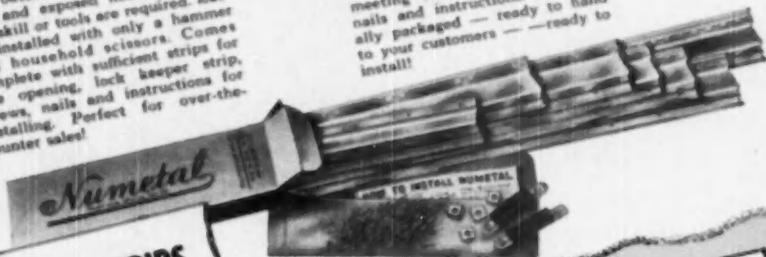
Numetal WEATHER STRIP



FOR DOORS

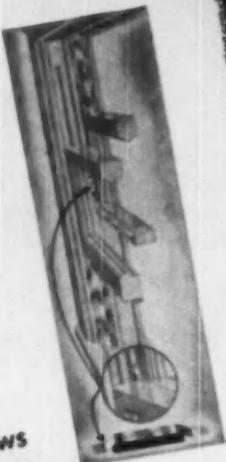
Conveniently packaged in sets for almost all standard doors. Available with regular brass and felt strips or with threshold door strips or with threshold and exposed hooks. No special skill or tools are required. Easily installed with only a hammer and household scissors. Comes complete with sufficient strips for complete opening, lock keeper strip, size opening, lock keeper strip, screws, nails and instructions for installing. Perfect for over-the-counter sales!

This door equipped with Style "C" Numetal on sides and top, lock keeper strip and a brass and felt door bottom.



FOR WINDOWS

Numetal Window Sets also come complete in convenient packages. Fits all standard 28", 30", 32" and 36" double hung windows. Cut-to-dimension strip and It is a practical and efficient type of permanent weather strip and can be quickly installed by anyone. Each set contains necessary strip for top, bottom and sides, meeting rail strip, sash plugs, nails and instructions. Individually packaged — ready to hand to your customers — ready to install!



This window is completely weatherproofed with strip from Numetal Window set. Includes Style "A" for top, bottom and sides; Style "B" for regular meeting rail; sash plugs. Style "D" available for rabbeted meeting rails.

Numetal DOOR BOTTOM STRIPS



Just what your customers need to keep cold air, dust, and dirt from blowing under doors. A popular seller! Made of wool felt and extra heavy gauge brass or aluminum. Furnished in standard lengths for 28", 30", 32", 36", 42" and 48" doors. Also available in special lengths. Packed 1/2 dozen same length in each carton.



Nu-WAY WEATHER STRIP

Easy to sell because it's so easy to put on! Works perfectly on any type window or door. Made of moth proof, pre-shrunk, color-fast, wool felt and white metal. Attractive display carton contains 12 individual 20-ft. rolls.

**proof Items You Need
... and Order Now!**

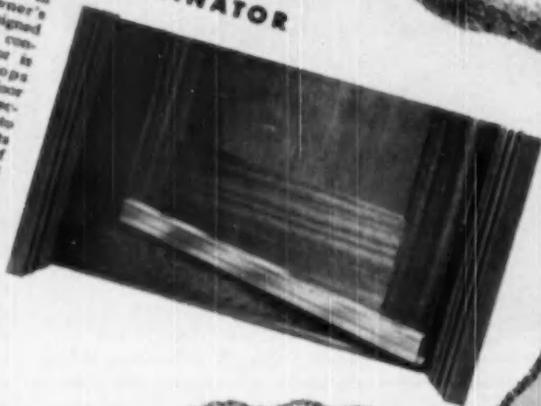
**Nu-GARD Automatic
DOOR BOTTOM AND DRAFT ELIMINATOR**



This is the door bottom in answer to a home-owner's prayer! Beautifully designed door bottom keeps firm contact with floor when door is closed. Saves fuel—stops drafts under door! When door is opened under door it stops automatically raises to clear carpet. All working parts and cover shield are made of high quality Alacrome metal—will not rust or tarnish. Easily installed. Furnished in 28", 32", 36", 42" and 48" lengths. May be shortened 2". Fits right or left hand door. Packed in individual cartons, including necessary screws and completely illustrated instructions. A Nu-GARD Automatic Door Bottom is a boon to your customers and a boost to you'll sell 'em!

This handsome double-duty display case takes little space and makes sales! Given to you with your order for the introductory assortment. Removable top becomes handy shelf on front to hold actual working model. Case contains 24 door bottoms, twelve 32" and twelve 36" lengths—each individually packaged! Don't be without these—order today!

- WE NEED**
- Hummel Weather Strip
 - No-Way Weather Strip
 - Hummel Door Bottoms
 - No-GARD Automatic Door Bottoms
 - No-ART Thresholds
 - On-GARD Coil Weather Strip
 - No-CALK SPEED LOADS
 - No-GLAZE



NU-ART THRESHOLDS



Thresholds are becoming increasingly important in the weatherproofing picture—residential as well as commercial and industrial! You should have a complete stock of these attractive thresholds. Available in brass or Alacrome, with holes drilled, screws furnished—each individually wrapped and labeled.

ON-GARD BRONZE COIL WEATHER STRIP

Here is the perfect coil strip! Patented nailing zone feature eliminates buckling and forms weather-tight edge. Double turned outer edge forms a hump, rigid contact. Packed 100 ft. or 200 ft. in exclusive patented dispensing carton or sive patented order for five 100 ft. rolls we give you a sturdy counter display case.



No-CALK SPEED LOAD

America's favorite calking compound in the most efficient calking load on the market. Packaged 10 loads to each carton and 4 cartons per shipping case. Keep a good supply on hand of this fast-seller!



No-Glaze GLAZING COMPOUND

Sells better because it really "stays put" — crack or peel off! Won't for all glazing. Packaged in attractive cans from 1/2 pint to 12 1/2 lbs.—in drums from 25 lbs.—to 880 lbs. Order now!



ORDER NOW! Your order will be shipped same day received.

MACKLANBURG-DUNCAN CO.

OKLAHOMA CITY 1, OKLAHOMA



THE MOST INSULATING EFFICIENCY IN THE SMALLEST PACKAGE!



Reynolds Aluminum Reflective Insulation



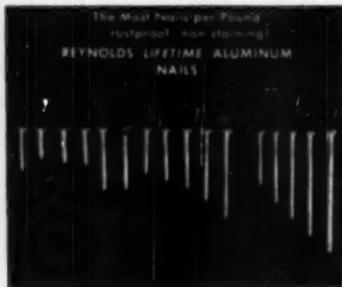
With just a 15-lb. package under each arm you've got 500 square feet of high-efficiency insulation, ready to tack or staple in place (250 sq. ft. to the roll; 25", 33" and 36" widths). And you've got a vapor barrier that rates top of the list in the National Bureau of Standards Report BMS63. All at extremely low cost!

This aluminum reflects up to 95% of radiant heat... away from the house in summer, back into the house in winter. It's aluminum foil mounted to both sides (Type B) or one



side (Type C) of tough kraft paper. Pressure-embossed in attractive design for extra solidity... clean, pliable, easy to cut and handle.

Type B is the ideal insulation and vapor barrier under floor joists over unheated crawl spaces. It divides stud space in side walls to provide two reflective faced air spaces. Excellent over ceiling joists or under rafters. Especially important under new FHA vapor barrier requirements. Mail coupon for full details. **Reynolds Metals Company**, Building Products Division, Louisville 1, Ky.



The Biggest Line of
ALUMINUM BUILDING PRODUCTS
RESIDENTIAL CASEMENT,
FIXED AND PICTURE WINDOWS
FLASHING—ROOFING ACCESSORIES
CORRUGATED, S-V CRIMP,
WEATHERBOARD SIDING
INDUSTRIAL CORRUGATED
BUILT-UP ROOFING



REYNOLDS METALS COMPANY,
Building Products Division,
2003 South Ninth St., Louisville 1, Ky.

Please send full information on your
 Reflective Insulation Gutters
 Nails Roofing & Siding Windows
 Flashing Built-Up Roofing
 Roofing Accessories

Name _____

Address _____

Check and Mail this Coupon NOW

REYNOLDS ALUMINUM

Right
from

House Beautiful

BETTER your home...better your LIVING

A DIGEST OF
SALES-BUILDING IDEAS
FOR YOUR BUSINESS
FROM THE PAGES OF
OCTOBER HOUSE BEAUTIFUL
WHICH REACHES YOUR BEST
CUSTOMERS ON OR ABOUT
SEPTEMBER 20th.

CLIMATE CONTROL

Introduced to the public in October 1949, *House Beautiful's* Climate Control Project is now having an anniversary. And the October 1950 issue celebrates by presenting a complete review of all the important Climate Control principles published during the past year.

Have you missed any of this valuable information? Here's your opportunity to catch up!



FIVE MAJOR SELLING POINTS FOR YOUR SMALL- HOUSE PROSPECTS

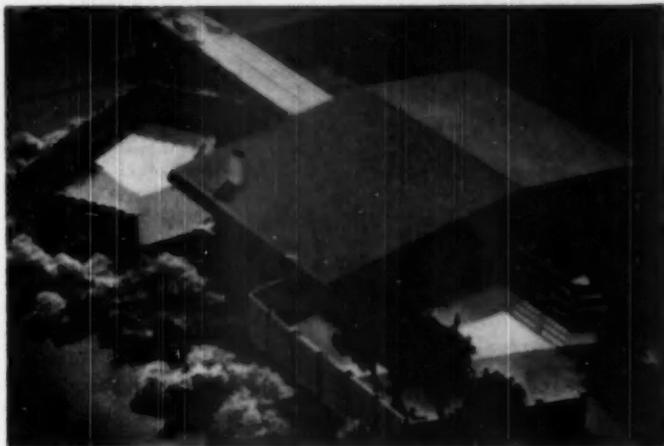
October *House Beautiful* presents it in detail—the house given First Honor Award for 1950 by the American Institute of Architects.

It shows that a good house can be built for less than \$10,000.

It affords true privacy—for the family and for its individual members.

(Please turn the page)

SEPTEMBER 1950



This small-scale model of the A. I. A. award-winning house, featured in October House Beautiful, illustrates how the living space seems to overflow the walls and spill out to the terraces. The real boundary of each room is the fence beyond the glass wall. Three different types of available fences are shown with the demonstration house, which, on a permanent site, would make backgrounds for planting.

REVOLUTIONARY NEW METHOD OF SELLING YEAR-'ROUND HUMID-CLIMATE COMFORT

"The most revolutionary new house of the last 50 years" is presented in the forthcoming *House Beautiful*. Its design isn't bizarre. Its appearance isn't extreme. But its performance is way out front!

Nine pages of the October issue feature this exciting new concept of winter heating and summer cooling in a humid Ohio climate... based entirely upon radiation!

Its mechanism is simple... easily adaptable to your year-round comfort building problems. But it's revolutionary because of the way it

works. And it's going to cause plenty of talk among your progress-minded prospects!

In a nutshell, it's based upon radiant heat rays flowing to and from the human body. All ceilings, walls and floors are covered with aluminum foil (in wallpapers, carpets with the right conducting qualities, etc.) which reflect these rays. In troughs around the ceilings are cooling coils which absorb the rays from the body during hot weather. In cold weather, electric heating ele-

(Continued on following page)

ADVERTISERS

FOR EASIER, MORE PROFITABLE SALES TIE-IN YOUR FORTHCOMING PROMOTIONS WITH THESE FAMOUS NAMES FEATURED IN THE ADVERTISING PAGES OF OCTOBER HOUSE BEAUTIFUL

INSULATION

38. BALSAM—WOOL SEALED

INSULATION

WOOD CONVERSION CO.

39. NOMASOTE DRY WALL CONSTRUCTION

NOMASOTE COMPANY

SURFACING MATERIALS

a) Walls & Ceilings

40. BLUE RIDGE PATTERNED GLASS

BLUE RIDGE SALES DIV.
LIBBY, OWENS, FORD GLASS CO.

For stunning decorative effects—and to carry light from one room to another—use walls of translucent patterned glass. Blue Ridge Sales Division of L.O.F. makes this practical suggestion in *House Beautiful* readers in October. If an idea you can use to put extra color appeal into homes you build.

41. IMPERIAL WASHABLE WALLPAPERS

IMPERIAL PAPER & COLOR CORP.

42. PITTSBURGH CARRARA GLASS,

STRUCTURAL MIRRORS

PITTSBURGH PLATE GLASS CO.

Pittsburgh Plate Glass Company offers a complete line of glass products for residential and commercial use. They include Pittsburgh Plate Glass, Twindow—the window with built-in insulation, Panoverman Window Glass, Carrara Structural Glass, Mirrors, Pittsburgh Doorways, Herault Doors, Pittco Shores Front Metal, PC Glass Blocks, and Pittsburgh Paints.

43. SANITAS FABRIC WALL COVERING

STANDARD COATED PRODUCTS
DIV. OF INTERCHEMICAL CORP.

Sanitas Fabric Wallcovering starts its big Fall promotion in *House Beautiful* telling the Sanitas story—a wall conditioner that's as tough as it is beautiful. No peeling, chipping, cracking. Wonderful. Washable Sanitas wears for years and years. Currently introducing special, new, high styled patterns in addition to regular line.

MORE ABOUT

REVOLUTIONARY COMFORT

(Continued from page 1)

ments in the same location generate heat rays which are reflected to the body. (See the diagrams reproduced on the following pages.) Regardless of the actual air temperature in the house, the body remains comfortable at all times.

The story of this house is told by the man who lives in it . . . and enjoys its great advantages. Study it for ideas you can use in your locality. It's a basic principle of Climate Control working for better living!

44. STRAHAN WALLPAPERS

THOMAS STRAHAN COMPANY

45. SUNTILE

CAMBRIDGE TILE MFG. CO.

46. "TREND OF-THE-TIMES" WALLPAPER

C. W. STOCKWELL CO.

"MASTURTIUM" is another appealing wallpaper design in Stockwell's collection of "Trend of the Times Wallpapers" and is featured in the October issue of *House Beautiful*. These "California Loaded" wallpapers are noted for their versatility in both contemporary and traditional homes, and for style setting color schemes that are fresh and livable.

47. WALLPAPERS

UNITED WALLPAPER

48. VIKON METAL TILE

VIKON TILE CORPORATION

Combining beauty, style and economy, Vikon lightweight tiles are available in 27 fade resistant decorator colors. A hard baked-on enamel finish will not crack, chip or craze. Adaptable to walls and ceilings, Vikon tiles are fire-resistant, waterproof and a seal against insects. Available in steel, aluminum and stainless steel.

49. WELDWOOD

U. S. PLYWOOD CORP.

b) Flooring

50. AMTICO RUBBER TILE

AMERICAN TILE & RUBBER CO.

PEARL GRAY IS 330 AMTICO COLOR . . . AMERICAN TILE & RUBBER CO. Most complete line of decorator-styled colors available in rubber floor tile is featured by AMTICO—product of specialists in rubber flooring exclusively. The



ideal combination of beauty, comfort, quiet, fire-resistance, easy cleaning, lifetime wear, full color ads monthly in consumer magazines.

51. FLOR-EVER FLOOR COVERING

MADE OF BAKELITE

VINYLITE PLASTIC

BAKELITE DIVISION,
UNION CARBIDE & CARBON CORP.

52. RUBBER TILE

DAVID E. KENNEDY, INC.

Rubber Tile, by the makers of Seattle, provides quiet, luxurious floors of "cushioned beauty" that won't wear out through years of use. No other Rubber Tile offers all these beautiful colors and exclusive, decorative ThermoTile and Feature Strips. 14 harmonized colors. David E. Kennedy, Inc., 38 Second Ave., Brooklyn, N. Y.

SIDING

53. JOHNS-MANVILLE SMOOTHGRAIN ASBESTOS SIDING SHINGLES

JOHNS-MANVILLE CORP.

To the eye they are beautifully grained but to the touch they are smooth. Being smooth they resist soiling better. Having the same cross-section throughout they cut cleaner and easier. Available in several colors, Smoothgrain Asbestos Siding Shingles are used on new buildings or for re siding old houses.

DOORS, WINDOWS & EQUIPMENT

54. BURROWES HEALTH-GUARD COMB. WINDOWS

THE BURROWES CORP.

55. CINCO COMB. WINDOWS

CINCINNATI FLY SCREEN DIV.
F. C. RUSSELL CO.

56. FLEXALUM VENETIAN BLINDS

HUNTER-DOUGLAS CORP.

Non-porous Flexalum plastic tape does not absorb dirt, won't shrink, fade, stretch, mildew, fray. Aluminum slats exclusively spring-tempered to snap back to shape when bent; smooth finish won't chip, peel, crack, rust. Blinds of Flexalum wipe completely clean with a damp cloth, can be ordered from custom dealers everywhere.

57. LEVELOR-LORENTZEN VENETIAN BLINDS

LEVELOR-LORENTZEN, INC.

58. MODERNFOLD DOORS

NEW CASTLE PRODUCTS

59. RUSCO ALL-METAL COMB. WINDOWS

F. C. RUSSELL CO.

60. THERMOPANE

LIBBY, OWEN, FORD GLASS CO.

Thermopane has proved an easy practical way to insulate picture windows and window walls. Now many homeowners want it for every window in their homes. Many types of sash are available for this. In *October House Beautiful*, Libby, Owens, Ford shows how easily Thermopane can be used in steel casements.

PAINTS, SHELLAC

61. COLORIZER PAINTS

COLORIZER ASSOCIATES, INC.

62. LECTRO PAINT PEELER

LECTRO-WELD, INC.

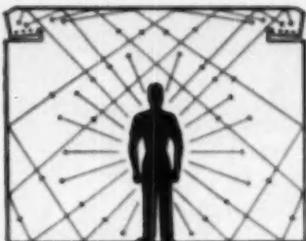
63. RAMUC ENAMEL FOR POOLS

INERTOL CO., INC.

64. SHELLAC

AMERICAN BLEACHED SHELLAC
ASSOC.

Shellac Information Bureau of the American Bleached Shellac Manufacturers Assoc. continues its national advertising emphasizing the advantages of shellac as a finish for floors, primer for woodwork, sealer for plaster walls, finish for unpainted furniture and "natural" wood so popular today in new construction and modernizing rooms of old homes.



The above diagram, reproduced from *October House Beautiful*, shows how radiant heat waves from the body are reflected by aluminum-treated walls, ceiling and floor and eventually absorbed by cooling coils during hot weather.

MORE ABOUT

MAJOR SELLING POINTS

(Continued from page 1)

It uses "optical illusion" to make 1,000 square feet look and feel like 1,500.

It demonstrates that even a small house can include the fundamentals of Climate Control.

It has the indigenous American look.

All of these are practical, down-to-earth principles . . . selling points aimed at your hardest-to-please prospects. Watch for them, realistically illustrated in the forthcoming issues!

WOODWORK

65. CURTIS WOODWORK

CURTIS COMPANIES SERVICE BUREAU

Curtis Woodwork, made by Curtis Companies Incorporated, is advertised in the October "House Beautiful." This month Curtis features their attractive line of entrances, mantels, china cases and other fine woodwork for the home. A booklet is offered at 10c to interested prospects - but this is sent free to architects, contractors and lumber dealers. Write Curtis Companies Incorporated, Clinton, Iowa.

SANITARY EQUIPMENT

a) Plumbing

66. AMERICAN-STANDARD BATHROOM FIXTURES

AMERICAN RADIATOR & STANDARD SANITARY CORP.

Showing a handsome selection of American-Standard bathroom fixtures, this ad keeps the interest of the public alive to the continuing progressive development of American-Standard. Chosen from the complete line of American-Standard plumbing fixtures and heating equipment, the fixtures shown here are typical of the quality products of American-Standard.

67. CASE PLUMBING FIXTURES

W. A. CASE & SON MFG. CO.

68. CHURCH SEATS

C. F. CHURCH MFG. CO.

69. CRANE "KITCHEN PRIDE" SINK & CRANE-LINE STEEL CABINETS

CRANE COMPANY

The Kitchen Pride Sink, featured in the Crane advertisement in the October issue of *HOUSE BEAUTIFUL*, is one of a complete line of sinks to suit every preference and fit any budget. Crane also manufactures a full line of bathroom and heating equipment suitable for any home.



70. ELJER PLUMBING FIXTURES

ELJER CO.

Complete selection of Eljer Fixtures, modernly designed in matching colors or white, provides the answer for every bathroom, kitchen or laundry requirement. Exclusive Eljer construction features assure trouble-free operation . . . complete satisfaction for both the home owner and for the installer or contractor. Catalog and booklet on bathroom ideas currently offered.

b) Garbage Disposers

71. IN-SINK-ERATOR GARBAGE DISPOSER

IN-SINK-ERATOR MFG. CO.

c) Water Heaters, Soft Water Service

72. CULLIGAN SOFT WATER SERVICE

THE CULLIGAN ZEOLITE CO.

Soft Water . . . that clear, filtered kind of water which is better for cooking, laundry and bathing . . . can save the average family over \$100 a year. Culligan Soft Water Service saves up to

70% on soap - 25% on clothes - 24% on water heating costs! Free booklet *Soft Water At Your Service* available from Culligan, Northbrook, Illinois.

73. PERMAGLAS AUTOMATIC GAS WATER HEATERS

A. O. SMITH CORP.
WATER HEATER DIVISION

HEATING

74. CHRYSLER AIRTEMP HOME HEATING

AIRTEMP DIV.
CHRYSLER CORP.

75. B & G HYDRO-FLO HEATING

BELL & GOSSETT COMPANY

76. DUNHAM BASEBOARD HEATING & CONVECTORS

C. A. DUNHAM CO.

How to stay within a building budget without "taking a smaller house" is a problem plaguing home builders today. Heating contractors can benefit from this real problem by showing how heating through Dunham Baseboard - rather than conventional radiators - actually increases room size. Tie in with Dunham's national promotional campaign, pitched to the sales-producing agent.

77. FITZGIBBONS STEEL BOILER

FITZGIBBONS BOILER CO., INC.

Fitzgibbons Steel Boilers for residences and small home heating are particularly noted in the heating trade for extremely high efficiency and fuel economy. In addition they provide year-round domestic hot water without an outside water heater or storage tank. The Fitzgibbons reputation for fine heating goes back to 1886.

78. MODINE CONVECTORS

MODINE MFG. CO.

79. MOR-SUN FURNACE

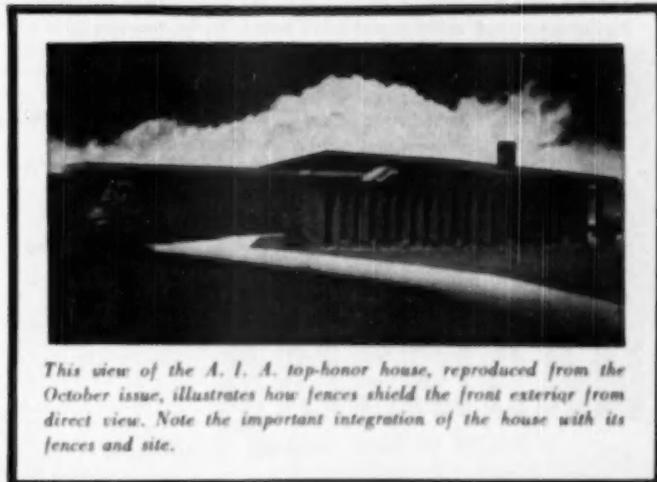
MOBRISON STEEL PRODUCTS CO.

*WEBSTER BASEBOARD HEATING

WARREN WEBSTER & COMPANY

81. WILLIAMS OIL-O-MATIC OIL BURNER

WILLIAMS OIL-O-MATIC DIV.
EUREKA-WILLIAMS CORP.



This view of the A. I. A. top-honor house, reproduced from the October issue, illustrates how fences shield the front exterior from direct view. Note the important integration of the house with its fences and site.

RIGHT FROM HOUSE BEAUTIFUL

MAJOR APPLIANCES

82. FRIGIDAIRE HOME APPLIANCES

FRIGIDAIRE DIV.
GENERAL MOTORS CORP.

"FRIGIDAIRE's full-page advertisement features a complete Frigidaire kitchen, including America's No. 1 Refrigerator, Frigidaire Kitchen Cabinets and Sink, and America's Most Beautiful Electric Range. A complete Frigidaire laundry is also featured, with Frigidaire Automatic washer, Automatic Clothes Dryer, and Electric Ironer—plus a Frigidaire Food Processor and Electric Water heater.

83. G-E AUTOMATIC DISHWASHER

GENERAL ELECTRIC COMPANY

84. GENERAL T-12 FLOOR CONDITIONER

GENERAL FLOORCRAFT, INC.

Only General T-12 Floor Conditioner gives—larger, perfectly balanced precision-built machine covers over 12' paths, larger, more fully padded brushes with longer fibers, complete line of attachments for every floor cover; side handles—light extra cost—replace long handles for polishing furniture, table tops, etc. Cooperative and national advertising.

85. PHILCO HOME FREEZER

PHILCO CORP.

86. THERMADOR BUILT-IN ELECTRIC RANGE

THERMADOR ELECTRICAL MFG. CO.

The Thermador Built-in Electric Range with separate oven unit brings a new flexibility to kitchen design and both units are of stainless steel, and may be placed at any height or location. Ovens may be easily installed at the individual's own eye level. Cooking surface comes with four units or three units and a deep well cooker.

HOME ELEVATORS

87. INCLINATOR HOME ELEVATORS INCLINATOR COMPANY OF AMERICA

88. SHEPARD HOME LIFT & ESCALIFT SHEPARD ELEVATOR CORP.

FIREPLACE ACCESSORIES

89. FLEXSCREEN FIREPLACE SCREEN BENNETT-IRELAND, INC.

90. PEERLESS FIREPLACE ENSEMBLES PEERLESS MFG. CO.

HARDWARE

91. KIRSCH DRAPERY HARDWARE KIRSCH CO.

Kirsch leadership is cultivated by aggressive advertising and publicity . . . just as it is carefully maintained in the design and quality of Kirsch products. You share in the fame of the Kirsch name when you tie-up with it in your advertising . . . and when you mention Kirsch on your sales floor.

KITCHEN CABINETS

*LYON KITCHENS LYON METAL PRODUCTS, INC.

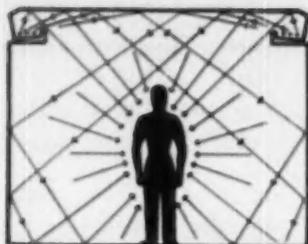
COMMUNICATIONS

35. LIBERTY DOOR CHIMES THE LIBERTY BELL MFG. CO.

*MASCO MIDGETALK INTERCOM. SYSTEM

MARK SIMPSON MFG. CO., INC.

36. RITTENHOUSE DOOR CHIMES THE RITTENHOUSE CO.



As part of House Beautiful's radiant heating feature, this diagram shows how heat rays, generated by electric heating elements in troughs around the ceiling, keep the room occupant comfortable during cold weather. See the first page for a digest of the "Revolutionary House" story.

MASONRY

92. PORTLAND CEMENT PORTLAND CEMENT

MISCELLANEOUS

93. NEVER-STAIN ALUMINUM CLOTHESLINE

NICHOLS WIRE & ALUMINUM CORP.

Here is a new profit line for you! Now available in the shiny new Lustre-Brite finish in either the stranded or solid type. The stranded type is especially adapted for use with pulleys. NEVER-STAIN Aluminum Clothesline is economical, lasts a lifetime, won't rust, or rot, and holds all types of clothespins.

94. RAIN-FLO GUTTER TUBE WYNNCO PRODUCTS CORP.

Rain-Flo Gutter Tube, amazing new product of Wynncor Products Corporation, 344 Luckie Street, Atlanta, Georgia, prevents gutter overflow. Three inch mesh tube merely laid in gutter keeps out leaves, etc. Proved by use on thousands of Homes; approved by leading architects and builders. Company now contacting national distributors, manufacturers, dealers.

FENCES

95. ANCHOR FENCE ANCHOR POST PRODUCTS CORP.

96. DU' BOIS FENCES DU BOIS FENCE & GARDEN CO.

97. HABITANT FENCES HABITANT SHOPS, INC.

98. RUSTICRAFT FENCES & GATES RUSTICRAFT FENCE CO.

GARDENING

a) Fertilizers

99. RA-PID-GRO RA-PID-GRO CORP.

b) Bulbs

100. HOLLAND BULBS ASSOCIATED BULB GROWERS OF HOLLAND

After requesting this free Counter Card from HOUSE BEAUTIFUL, also write Associated Bulb Growers, 41 E. 42nd St., New York 17, N. Y. for free window streamers, display cards, planting charts, other merchandising aids to increase sales of Imported Holland Bulbs. It's not too late to plan Flower Bulb promotions this fall.

* No card available.

Send for your
FREE DISPLAY

Send for your FREE House Beautiful Window
and Counter Display Card this easy way. . .

Circle the numbers below which appear beside the advertisements you wish
mounted, fill in your name and mailing address and mail coupon to: Merchandising
Division, House Beautiful Magazine, 572 Madison Avenue, New York 22, N. Y.

AB Oct.

35 36 38 39 40 41 42 43 44 45 46 47 48 49
50 51 52 53 54 55 56 57 58 59 60 61 62 63
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78 79 81 82 83 84 85 86 87 88 89 90 91 92
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NAME

ADDRESS

CITY

ZONE

STATE

This NEW 3-FOOT CHART tells all about
FINISHING FLOORS!



Now you can have the complete facts about finishing floors—right at your fingertips—in this handy new 3-foot chart prepared by American! Helpful in estimating coverage, drying time, selection of materials and other data for all floors. Gives data and recommendations on 15 quality materials for treating floors, including penetrating floor seal finishes, surface floor finishes, floor cleaning and maintenance materials, and rapid drying special finishes. This chart will be sent free to contractors and architects upon request. Also, a complete new A.I.A. file on preparation, finishing and maintaining all types of floors is available to you without obligation.

New—a complete line of American finishes now offered for *all kinds of floors!* This gives you the correct material—in the finest quality—for each type of floor, and for each desired result. There are American seals, finishes, waxes and cleaners for every requirement—glossy or satin—fast-drying or normal drying—on wood, cork, linoleum, terrazzo, asphalt tile, rubber tile, concrete, plastic, and other types. The right materials for *long life and easy maintenance!*

SEND for the free 3-foot chart showing all materials for all floors... also ask for the new complete file of specifications on finishing floors. The American Floor Surfacing Machine Co., 511 So. St. Clair St., Toledo 3, Ohio.

AMERICAN
 FLOOR SURFACING MACHINE CO.

Made for plenty of
room...and board!



DODGE TRUCKS

are "Job-Rated" to
lower hauling costs!

You can haul more lumber per trip . . . keep your hauling costs down . . . with Dodge "Job-Rated" trucks.

You see, Dodge trucks are "Job-Rated" to carry more payload—without overloading. What's more, every unit from engine to rear axle is sized right for hauling your loads of lumber or building supplies

over your roads. No wonder operating and upkeep costs are unusually low!

More than that, Dodge "Job-Rated" trucks are priced with the lowest—right across the board! See your Dodge dealer for a truck that's "Job-Rated" to fit your hauling operation . . . to save you time and money.

Job-Rated
...for low cost
transportation

POWER: . . . 8 great truck engines—each "Job-Rated" for PLUS power.

ECONOMY: . . . priced with the lowest. "Job-Rated" for dependability and long life.

BIGGER PAYLOADS: . . . carry more without overloading axles or springs because of "Job-Rated" WEIGHT DISTRIBUTION.

EASIER HANDLING: . . . sharper turning!

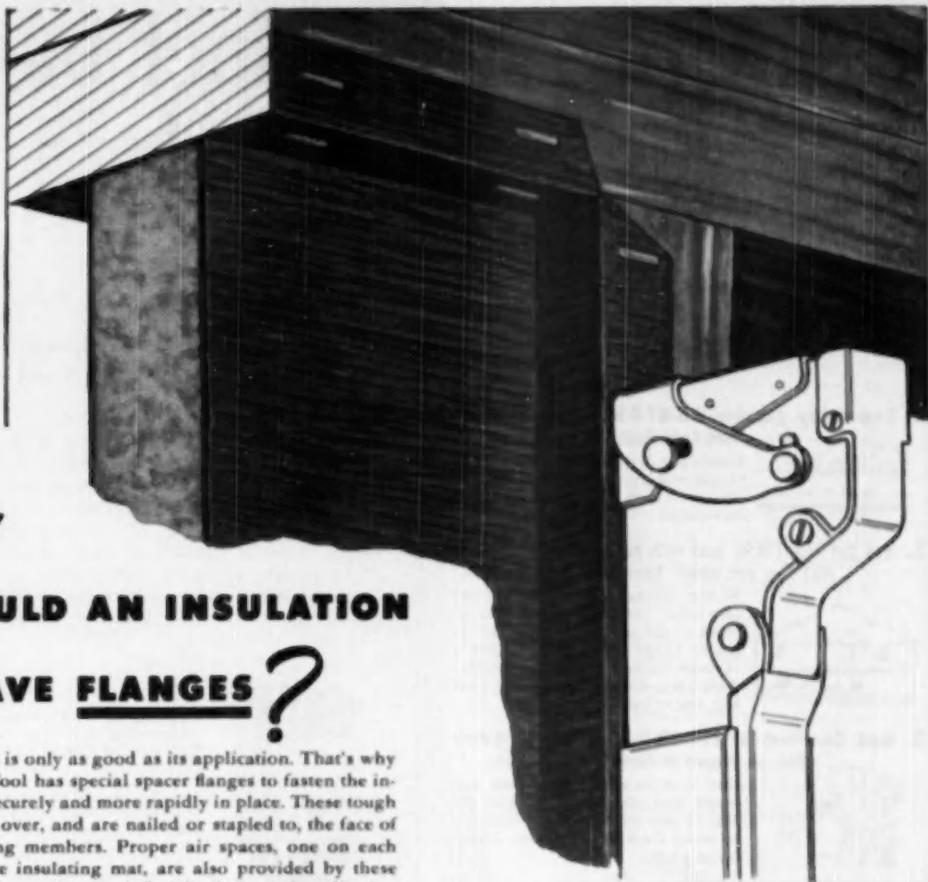
Parks in tight places. "Job-Rated" maneuverability!

COMFORT: . . . widest seats . . . windshield with best vision of any popular truck. Air-cushioned, adjustable "chair-height" seats.

SAFETY: . . . finest truck brakes in the industry . . . hand brake operating independently on propeller shaft on all models—½-ton and up.



With all their extra value **DODGE** *Job-Rated* **TRUCKS** are priced with the lowest



WHY SHOULD AN INSULATION HAVE FLANGES?

Insulation is only as good as its application. That's why Balsam-Wool has special spacer flanges to fasten the insulation securely and more rapidly in place. These tough flanges fit over, and are nailed or stapled to, the face of the framing members. Proper air spaces, one on each side of the insulating mat, are also provided by these flanges. The result: a sealed, tight, foolproof application for maximum Balsam-Wool insulating efficiency!

Balsam-Wool, the completely sealed insulation, constantly adds latest scientific developments to its own time-tested features . . . combining practical "on-the-job" experience with laboratory research. The ever-increasing popularity of Balsam-Wool as the complete insulation results from these advantages to you and your clients:

You'll want to specify Balsam-Wool on your next job . . . for it's the insulation that stays put for life. Send today for your complete set of Balsam-Wool Data Sheets in A.I.A. folder.



- Continuous, Integral Vapor Barrier
- Sturdy Wind Barriers
- Double Air Spaces
- Special Spacer Flanges
- Rot and Termite Treatment
- Highly Fire Retardant
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32 Data Sheets provide hard-to-get facts on insulation application problems . . . mail the coupon now!

Balsam-Wool *

SEALED INSULATION

BALSAM-WOOL • Products of Weyerhaeuser • NU-WOOD®

*REG. U. S. PAT. OFF.

Wood Conservation Company
Dept. 119-90, First National Bank Building
St. Paul 1, Minnesota

Please send me a set of Balsam-Wool Application Data Sheets.

Name

Address

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

America's best fuel buy is Anthracite!

HERE'S WHY

Hard Coal is a better, more efficient fuel because:

1. You enjoy greater COMFORT with STEADY Hard Coal Heat



Other fuels heat in "bursts," result in varying temperatures. But Hard Coal fire gives you steady, even, dependable heat all the time!

2. You get HEALTHFUL heat with Hard Coal—NOT "up and down" heat—NO "cold pockets"



Wildly varying temperatures you get with other fuels create cold areas in home—"cold pockets"—a danger to health. (Cold pocket behaves like a vacuum—draws air to itself, causes drafts.) But with STEADY Hard Coal heat you're SAFE!

3. Hard Coal Heat is CLEANER heat—leaves no greasy film on drapes or furniture—no odor



Hard Coal burns more completely and cleanly than other fuels. No greasy deposit or oily smell with Hard Coal . . . no soiled furniture or curtains. Lower cleaning bills!

4. Hard Coal CAN'T SMOKE under any conditions

Hard Coal is the perfect fuel—impossible for it to smoke. Makes for cleaner homes, cleaner neighborhoods!

5. SAFE heat . . . no worries about possible explosions

People with other fuels often worry about "something going wrong"—leaks or explosions—perhaps during the night or when there's nobody home. But not people in Hard Coal homes—they enjoy peace of mind.

6. You can STORE a full winter's supply—in advance



With Hard Coal, you don't have to worry about bad weather holding up mid-season deliveries—you can fill your bin ahead of time, with enough fuel for the whole winter!

7. Undreamed-of CONVENIENCE is yours, with modern AUTOMATIC Hard Coal equipment

You just set the thermostat and forget it—fuel-feed and control are automatic! Hard Coal heat is modern heat!

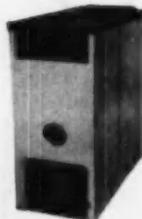
8. With automatic equipment, Hard Coal SAVES you up to \$125 a year

You burn the most economical sizes of Hard Coal . . . get the most efficient automatic combustion!

Now—Hard Coal Heat is **AUTOMATIC** with modern equipment!

Gives amazing **CONVENIENCE** and **SAVINGS**

Now everyone can have **AUTOMATIC** heat at a price they can afford. New automatic Anthracite equipment feeds itself with fuel right from bin, removes ashes automatically. Thermostatic control—set it and forget it! Year-round hot water too! 100% clean, compact equipment turns basement into a "living area"! It's the **STEADIST**, healthiest, coziest heat of all. Fuel costs **FAR LESS**—because the equipment burns the **most economical sizes** of Anthracite! Savings up to \$125 a year pay for equipment! Write Anthracite Institute, 101 Park Ave., N. Y. 17, N. Y.



ANTHRAFLO . . . A low-priced, efficient furnace-burner unit. Compact. Feeds self from fuel bin. Rugged construction, no complicated parts to get out of order. Completely automatic, silent, clean. Burns **MONEY-SAVING SIZES** of Anthracite (Anthraflo models also available for steam and hot water systems.)



ANTHRATUBE . . . A complete boiler-burner unit with induced draft. Delivers maximum heat with hard coal. Compact, neat-looking. Completely automatic from coal bin to ash removal. Provides year-round hot water. Highly efficient. Burns **MONEY-SAVING SIZES** of Anthracite!



MODERN HARD COAL STOKERS specially designed in complete boiler-burner units (such as *Morse Stoker, Electric-Furnaceman and others*), offer high efficiency, are smaller in size and greater in economy of operation. Completely automatic from bin feed to ash removal.

Modern conversion stokers can be quickly installed in your present boiler or furnace. Stoker automatically feeds the coal and removes the ashes.

ANTHRACITE (HARD COAL) INSTITUTE

*What this
unconditional
guarantee
means to
you!*

Every Kwikset box carries the statement "Unconditionally Guaranteed Against Defects in Materials and Workmanship." What does this unconditional guarantee mean to you?

FIRST, IT GUARANTEES QUALITY MATERIALS

No manufacturer can afford to make an unconditional guarantee unless highest quality materials are used in his products. Kwikset adheres strictly to this policy of using only the highest quality materials scientifically selected for the particular service to which they are put.

SECOND, IT GUARANTEES FINE WORKMANSHIP

The finest of materials are useless unless they are processed into the final product with care and precision. Kwikset's simple design and advanced facilities make possible cost-saving precision manufacture. Tolerances are held to .001-inch... equivalent to $\frac{1}{4}$ the thickness of a human hair! Kwikset's gleaming finishes are permanently protected by a specially compounded plastic.

THIRD, IT GUARANTEES CUSTOMER SATISFACTION

Every one of the millions of Kwikset locks now in use is its own best testimonial. When you specify Kwikset, you are backed by Kwikset's unconditional guarantee. Kwikset challenges comparison on beauty, quality, ease of installation and low price... no other lock combines all of these desirable qualities so well!

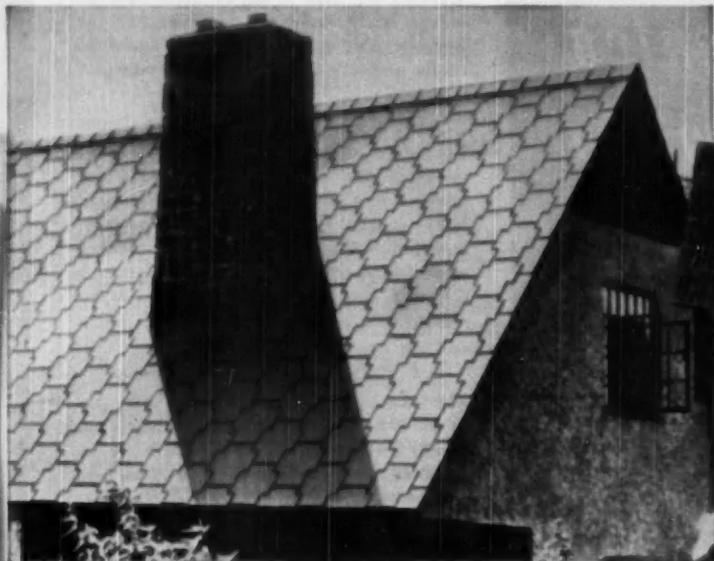
Kwikset
GUARANTEE
UNCONDITIONALLY GUARANTEED
AGAINST DEFECTS IN
MATERIALS AND WORKMANSHIP

Kwikset
LOCKSETS

KWIKSET LOCKS, INC.
ANAHEIM, CALIFORNIA,

Look to Kwikset to be First and Foremost
with Top Quality Residential Hardware

Presenting the new Barrett EVER-FAST[†] SHINGLES



● Here's a true double-coverage, lock-down shingle that is locked in 4 places against even a hurricane!

The lock is a part of the shingle itself—no metal clips.

And the lock is flexible—provides for the expansion and contraction of the roof, and for movement of the roof deck.

Each shingle locked in 4 places.

The heaviest winds can't lift these Barrett EVER-FAST[†] Shingles, nor can they ever slide out of place.

Only two nails for each shingle.

All nails are concealed and protected from the weather—no rusting or staining.

Extra large nailing area to insure nails

being driven into roof-boards.

Fewer shingles for your job—only 111 to the square means faster application.

The beautiful colors and blends of Barrett EVER-FAST[†] Shingles—in plain and weathergrain finish—give a handsome appearance on the roof—a balanced design that is architecturally attractive.

The shingles have a deep head-lap of 3½", and wide side-lap of 6" for greater protection. Fire-resistant, they carry Underwriters' Class "C" Label. High rag-content felt gives greater tensile strength. Permits greater saturation. Makes for longer life.

Phone, wire or write today for complete information.

a 4-point-locking
shingle that gives
100% DOUBLE
coverage... and
puts 3 thicknesses
on 50% of the roof!



THE BARRETT DIVISION

Allied Chemical & Dye Corporation
40 Easton Street, New York 6, N. Y.
26th St. & Grey's Ferry Ave.
Philadelphia 46, Pa.
1327 Erie Street
Birmingham 8, Alabama
208 W. Wacker Drive
Chicago 4, Ill.

SPECIFICATIONS

Size	20" x 20"
Head-lap	3½"
Shingles per Square	111
Bundles per Square	3
Approx. Weight per Square	235 lbs.
Underwriters' Label	Class "C"

COLORS

Plain	Weathergrain
Blue Black	Greengrain
Deep Green	Redgrain
Deep Red	Bluegrain
	Slategrain
	Browngrain

*Reg. U. S. Pat. Off.

†Trade Mark of Allied Chemical & Dye Corporation

Letters to the Editor

Tools For Australia

Sirs: This country is still experiencing a very severe housing shortage and governmental authorities have accepted European (Sterling currency) Tenders for the erection of several thousand prefabricated houses. As a builders' supply house this company has been successful in tendering for the supply of the major items of a large proportion of these homes. Henry R. Cohen of our company is shortly leaving for abroad to arrange for the purchase and dispatch of these items. He expects to be in the United States the latter end of October and would be pleased to make contact with you there. We would be keenly interested in negotiating agency arrangements with manufacturers of portable builders' tools, etc., which would assist to speed up the building of houses in this country and anything you could do to put us in touch with manufacturers of these goods would be appreciated. The writer has had the instructive pleasure of regularly reading your magazine and it is felt that you are the best medium to approach in this matter.

L. J. Minchin
Sales Director
Robert Douglas Pty. Ltd.
39 Sussex St.,
Sydney, Australia

EDITOR'S NOTE: Correspondence with Mr. Cohen should be addressed to *American Builder*, 79 W. Monroe, Chicago 3, Ill., where it will be held until his arrival here in October. If, when he reaches the coast he wishes to have any correspondence we have received, we will forward it to him at that time.

150-Year Span

Sirs: I remodeled an old house here, built about 150 years ago. The corner posts were 12x12, hewed out to 4x12-inches each way. Everything was morticed and pinned with wooden pegs. Nails were blacksmith shop made. The shingle lath were split by hand, drawn up 16 feet in length. They were chopped bevel on the rafters, lapped and nailed with hand made nails. Dental blocks were hand made, and all wood is heart pine. . . .

Frank O. Muth
Snow Hill, N. C.

Dear Mr. Muth: Thank you for your letter and actual samples of wood taken from the house. We were greatly impressed with the splendid condition of this wood, and with the meticulous attention the craftsmen gave details of their work 150 years ago. One thought we had may be one you experienced as you inspected this workmanship: Will some builder, 150 years from now, remodel another home and, in inspecting the work, say with deep respect for our craftsmanship, "This house was exceptionally well built in 1950?"

Sorry, Wrong Number

Sirs: We wish to draw your attention to the fact that a serious error was made in paragraph two on the story of Haco, page 250, June issue. We are obliged to ask you to retract the wrong statement. It should read, "Cole said that with conventional finishing materials the house can be built for approximately \$8.00 per square foot, exclusive of lot and foundation." We appreciate your cooperation very much. . . ."

Haco System of Construction
Houston 22, Texas

EDITOR'S NOTE: Many thanks for calling our attention to the error made in the story of Haco. The only way such an error could occur is in proof reading. But any builder would hold up his hands in horror at a price of \$38.00 a square foot, even with today's high building costs.

Liked June Issue

Sirs: We thought your June issue was tops! Can we get from you a dozen more copies? "A Report on Cement" was of particular interest to us. If the magazine is not available, a reprint of this article will do.

Henry Lash
Los Angeles Trade
Technical Junior College

Sirs: Enclosed find request for additional information on products listed in the June *American Builder*. I also wish to state that I have gleaned information from a single issue that was well worth the price of a three-year subscription.

C. F. Gaffney
Lohrville, Iowa

(Continued on page 172)

she knows what she wants



and it takes ADEQUATE WIRING

Houses sell faster when they are planned for electrical living. Here's why:

Millions spent in appliance advertising have convinced prospective home purchasers that electrical living is for them.

Many alert builders are taking advantage of this fact. You can do it, too.

Make the wiring a selling point. You must wire anyway. Adequate Wiring is one of the least costly "plus values" you can add to clinch sales and outsmart less acute competitors.

Use this selling tool. For Adequate Wiring information and other sales help.

Just use the handy coupon.



Selling's Loss Wiring
With Adequate Wiring

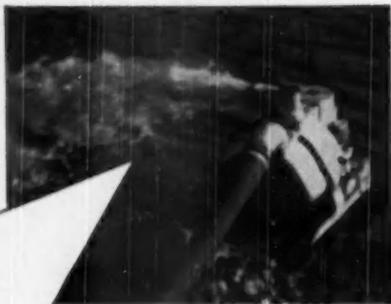
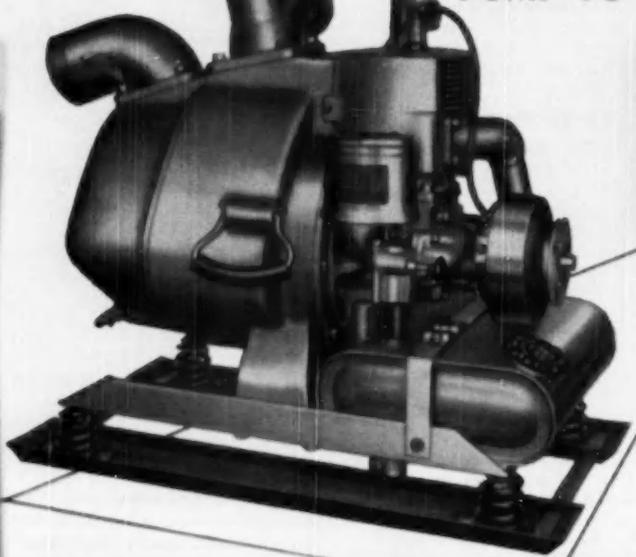
National Adequate Wiring Bureau
Department A9

155 East 44th Street, New York 17, N. Y.
Please put me in touch with the nearest local Adequate Wiring Bureau. I'm interested in giving my houses more sales appeal.

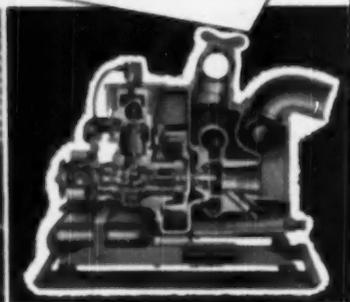
NAME _____
COMPANY _____
ADDRESS _____
CITY _____ STATE _____

FOR 3 BIG REASONS

A HOMELITE CARRYABLE PUMP IS THE
PUMP TO HAVE ON THE JOB



1. PERFORMANCE. Just add it all up ... lightweight for easy handling, 15,000 gallons per hour, the fastest self-priming possible, a guaranteed 28 ft suction lift, automatic seepage control, no trouble with clogging even when handling mud and solids ... that's what you always get from a Homelite carryable gasoline-engine-driven pump that can be set up for operation easily and quickly anywhere.



2. DEPENDABILITY ... continuous trouble-free performance ... is the result of all the special features that Homelite engineers build into their pumps ... replaceable abrasive-resistant wear plates, a simple five-part sealing device and impeller that require no grease, packing or attention and a non-clogging pump body directly attached with no bearings necessary, to the famous Homelite Gasoline Engine, the result of building over 275,000 gasoline-engine-driven units this past quarter century.

3. SERVICE. To keep Homelite pumps operating continuously, just as the day they were first delivered, a chain of exclusive Homelite service shops extend across the nation. These service stations are completely stocked and staffed by trained Homelite men who are ready to keep your Homelite pumps in top notch condition at all times.

STICK TO THE RULE OF THREE 1. Performance 2. Dependability
3. Service, and you'll always stick to a Homelite.

PERFORMANCE
DEPENDABILITY
Homelite Corporation
SERVICE

300 RIVERDALE AVENUE, PORT CHESTER, NEW YORK

You can win medals (and money) with



MICARTA

PRE-BONDED TO PLYWOOD

Micarta is the quality plastic surfacing material made by Westinghouse, sold by United States Plywood, and advertised in such magazines as The Saturday Evening Post, Good Housekeeping, etc.

It's the surface your customers want on kitchen counters, sinks, dinette tables, in bathrooms and playrooms. It's the surface that is famous because it dares customers to chip, dent or scratch it . . . dares them to stain it . . . even dares them to burn it with cigarettes. And it's so easy to clean!

Now **YOU** can install Micarta anywhere — and **YOU** DON'T NEED A PRESS. Any carpenter can use Micarta.

- You can buy $\frac{7}{8}$ " Micarta panels, already bonded to exterior grade Weldwood Plywood, from your lumber dealer.
- Pre-bonded Micarta is made in new sizes (less waste) : 24" x 96" 48" x 96" 30" x 60" 30" x 96".
- You can saw, trim, plane or drill these ready-to-use Micarta panels with inexpensive hand tools. (Complete instructions on request.)



Manufactured by **WESTINGHOUSE**
and sold for decorative purposes only by
UNITED STATES PLYWOOD CORPORATION
and U. S. - MENDEL PLYWOODS, INC.

Now, get the better-paying jobs yourself—new installations and modernizations. Discover MICARTA.

- 1 Ask your lumber dealer to show you Pre-bonded Micarta and samples of the handsome colors and patterns.
- 2 MAIL THE COUPON for a sample which will prove how Micarta resists scratching, denting, chipping or staining, plus complete data on how easily any carpenter can use Pre-bonded Micarta.

Discover

MICARTA

today!

UNITED STATES PLYWOOD CORPORATION
33 West 44th Street, New York 18, N. Y. A.S. 9-30

Please send me free sample and full information on MICARTA.

NAME _____

COMPANY _____

ADDRESS _____

CITY _____ STATE _____



HOW EVERY HOUSE NEEDS

SISALKRAFT PRODUCTS



ASSURE LIFELONG PROTECTION AGAINST WATER, MOISTURE, WIND AND DUST



As Sheathing Paper



For Curing and Protecting Concrete



For Use Over Subfill under concrete slabs



Under All Finished Flooring



THE BEST VALUE IN REFLECTIVE INSULATION AND VAPOR-BARRIER COMBINED



SISALATION for SIDEWALLS
Costs 50% less than "bulk" or "blanket" types of insulation. Bonded in between studs, SISALATION provides essential air spaces and two reflective surfaces to repel escape of radiant heat from inside the house in winter, and to repel entry of greatest percentage of summer's strong radiant sun-heat from outside. Also costs far less to apply!

SISALATION plus SISALKRAFT for Insulated Dry Walls
The use of SISALATION and SISALKRAFT together, as shown above, assures economical, effective insulation, plus dry walls. This combination costs less for materials and application-costs than other insulating methods that do not provide dry walls. Keeps homes warmer in winter, cooler in summer, moisture-vapor protected all year 'round. Application details and free samples on request.

SISALATION for CEILINGS
Applied underneath or between ceiling joists, SISALATION provides both insulation and vapor-barrier protection... at a single, low application-cost. Applied under roof rafters, SISALATION keeps attics brighter, more attractive, cleaner, remarkably cooler in summer and noticeably warmer in winter. For old or new homes.



COPPER ARMORED SISALKRAFT SAVES MONEY and IMPROVES QUALITY

Provide the protective advantages of pure copper at a saving of 75% or more of the cost of heavier copper sheets. Ideal for

concealed flashing, dampcourseing, termite barriers, membrane waterproofing, etc. Application simple and economical.



BUILD *Lasting Quality* IN HOMES... *At Low Cost*... WITH SISALKRAFT PRODUCTS

AVAILABLE AT LUMBER DEALERS EVERYWHERE

Mail Coupon for Samples and Data

(BRIEFED SPECIFICATIONS AVAILABLE FOR ARCHITECTS)

The SISALKRAFT Co., Dept. AB9
205 W. Wacker Drive, Chicago 6, Ill.

Please send samples and complete data on SISALKRAFT Products.

I am a Contractor; Architect; Realtor;

Other: _____

Name _____

Address _____

City, Zone & State _____



THE SISALKRAFT CO., CHICAGO 6 • NEW YORK 17 • SAN FRANCISCO 6

On and Off the Record

News, Views and Comments



UNCERTAINTY—Implementation of association programs appears to be on a tentative basis, contingent on what develops in Korea, and possibly elsewhere.

NRLDA—The retailers' national association committees met in Chicago in mid-July to check progress on programs launched at the annual meeting last fall, and to chart the path for the remainder of the fiscal year. All discussions of plans for the immediate and long future had to be qualified.

MIDDLEWEST—Visitors from the eastern states to conventions of various kinds held in Chicago during July voiced considerable surprise at the war talk heard in the Middle West. Usually considered more or less isolationist, middle westerners appeared to be making much more of the Korean war than easterners were.

WEST COAST—Not so in California. Californians were alerted to the possibilities of a long war from the moment they read the first headlines of shooting in Korea.

CONCENSUS—Generally, throughout the home building industry and financing institutions, the view was held that Korea is the first of a series of perhaps five years of isolated wars. No one, apparently wanted to predict what would happen at the end of the five years.

ALTERNATIVES—The alternatives usually expressed were that after a series of short wars, World War III would start or be indefinitely postponed.

ANOTHER—There is a third possibility, seldom mentioned, but not to be discarded lightly. It is that somewhere along the line, U.S. policy might revert to staying out of foreign wars. Basis for this is theory that since war is a continuing European and Asiatic institution, U.S. might decide that fear of Russia controlling bi-continental military and economic power strong enough to menace U.S. is groundless.

TITO—He is used as the example. Since Russia must have a local dictator in every country absorbed, and since no dictator can stand still, theory is that a new and continuing

series of wars between dictators would go on, and that U.S. need have no part of any of them.

GUESSWORK—All of that, however, is pure speculation, and even if it has merit, there is no indication that the American people or their government are ready to make such a switch of policy.

INFLATION—The proponents of the theory of five years of small wars feel sure that companion to them is more inflation, higher taxes, higher prices, and, of course, higher wages.

POLICY—Some business policy is being predicated on that theory, and accompanied by expansion plans.

SHORTAGES—None due to the Korean situation has been reported by mid-July. There were shortages of some building materials, but they were due to the abnormal number of starts in the first five months of the year.

HOARDING—There was, of course, no opportunity to hoard building materials in mid-summer. Just about everything that could be produced was being used. Home builders in practically every section of the country were working at top capacity, and many were refusing work for the remainder of the year.

COSTS—Costs of home building were reported up five to seven per cent, generally, and in some places, as much as ten per cent.

UNSUPPORTED FEAR—Rises in costs led many builders to believe that volume would drop in May. It didn't. It rose sharply. Apparently, buyers of new homes believed that there is still further inflation in prospect, and that was before the Korean war started.

CREDIT RESTRICTIONS—The new restrictions certainly should cut volume and restore home building to a sharply competitive basis as far as materials are concerned. The restrictions also should increase the relative number of larger homes.

ATTITUDE—Home builders, generally viewed the tighter credit restrictions with more relief than dismay, feeling that it would be a good thing for the economy to slow starts to something below a million a year.

POROUS MASONRY STAYS TIGHT WITH **KAY-TITE**



**FOR DRY
BASEMENTS
USE**



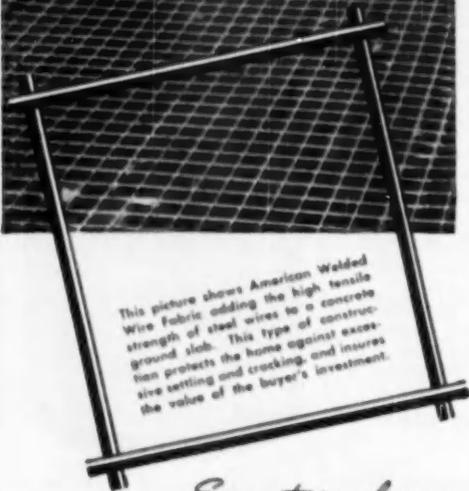
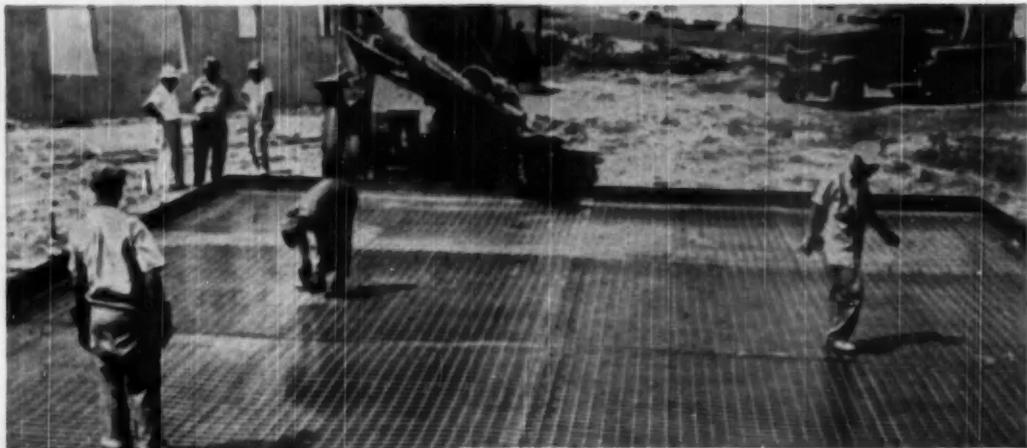
Available in 50 lb. drums
White and 9 colors. Write

KAY-TITE

COMPANY
Box 550

West Orange, New Jersey

Build more salable homes
with American Welded Wire Fabric



This picture shows American Welded Wire Fabric adding the high tensile strength of steel wires to a concrete ground slab. This type of construction protects the home against excessive settling and cracking, and insures the value of the buyer's investment.



Home buyers are demanding reinforced concrete foundations, floors, driveways and sidewalks, as insurance against disfiguring and cracking. That is why so many building contractors are using American Welded Wire Fabric for concrete reinforcement.

Closely and accurately spaced, the many high tensile strength steel members of American Welded Wire Fabric strengthen the concrete slab. They minimize the effect of crack-causing stresses and strains due to unequal loading caused by settling of the ground.

American Welded Wire Fabric, the world's most widely used reinforcement for concrete, has proved to be definitely superior to other types of reinforcement during years of practical use and in sample slabs tested to destruction.

American Welded Wire Fabric is easily handled, quickly laid. Reduce costs—build more sales pull into every dwelling—use U·S·S American Welded Wire Fabric.

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SOUTHERN DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

Every type of concrete construction needs



AMERICAN WELDED WIRE FABRIC

reinforcement

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Cut Your Costs On Every Type Of Construction Job... With **BLUE BRUTES!**

Here are typical examples of the up-to-the-minute design, long-lasting construction and smooth, dependable performance now proving to contractors all over the world that there's more worth in a Blue Brute. Your nearby Worthington-Ransome Dealer has the complete line of Blue Brute Construction Equipment. Write for his name.

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Count on Blue Brute Portable Mixers for lower-cost concrete on every job. Quickly spotted and towed, and with such features as smooth, positive gear-and-pinion drive . . . high-carbon, Timken-equipped drum rollers . . . and Ransome's famous mixing action, they're sure bets for speedier, better mixing.



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You'll move more water — faster, farther, easier with a Blue Brute Self-Priming Centrifugal Pump. Rugged in every detail, with fast pickup, extra reserve power and high resistance to rust, corrosion and ordinary wear. Built in A.G.C. sizes to A.G.C. standards.



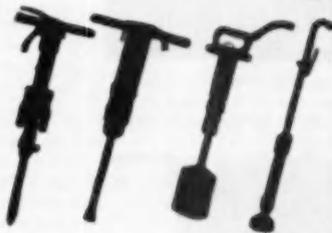
More Air For Less Money!

Get all the air-power out of every drop of fuel with a Blue Brute 60' Portable Air Compressor. Strong, light and efficient, it provides constant, dependable, economical air supply through its easy-breathing Worthington Feather® Valves. Other Blue Brute Compressors, from 105' to 500'.



* REG. U.S. PAT. OFF.

Construction Expenses at Rock Bottom!



Team up these fast, hard-hitting Blue Brute Air Tools with Blue Brute Compressors — and watch your daily expenses go down. Though tough and powerful, they have the lightness and compactness to keep your workers more satisfied — and more productive.

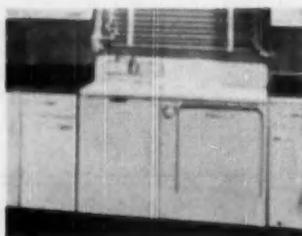


IF IT'S A CONSTRUCTION JOB, IT'S A BLUE BRUTE JOB

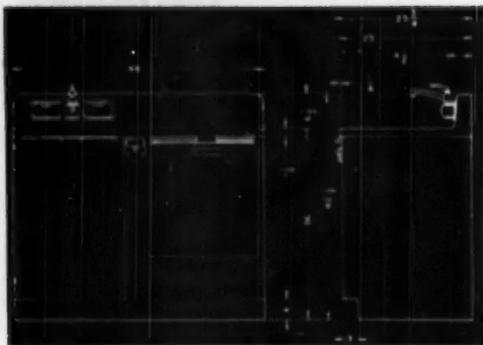


TECHNICAL GUIDE for Builders and Craftsmen

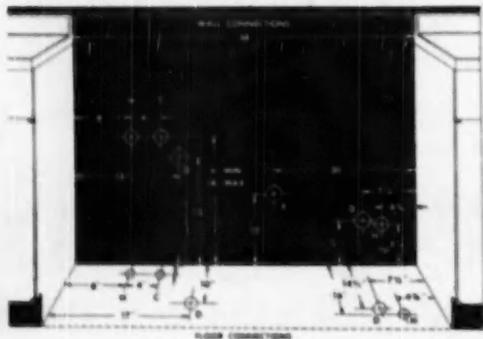
Working Dimensions for Sink and Dishwasher Installations



INSTALLATION of Hotpoint automatic electric dishwasher sink with built-in electric dryer in position under window



OUTLINE drawing of front and side view of Hotpoint sink and dishwasher, indicating detailed and overall dimensions of unit including backsplasher, to assure proper installation in kitchen



BUYERS today are seeking homes that feature kitchens that are complete in all details, including mechanical equipment and appliances. Builders, likewise, are taking note of the trend, and it is predicted that the day is not too far off when appliances such as automatic dishwashers and garbage disposer units will be recognized as standard equipment for modern living.

Although new kitchen arrangements with built-in automatic "clean-up centers" are now the exception rather than the rule, nevertheless it is the purpose of this article to acquaint the building industry with the over-all heights established by the manufacturers of this type equipment, and the location for the roughing-in piping to assure proper installation. In the event that no provision is made for a "clean-up center" at the time of building, the basic construction work such as the position of the kitchen window sill, should be kept high enough to accommodate the most extreme height in equipment, for future consideration by owner.

The planning of the kitchen today centers around the location of the three basic appliance units, such as refrigerator, sink, and range. It is considered good practice to place the sink between the other two units, usually on an outside wall with a window directly above counter. This position of sink gives the user additional light and an outdoor view. The range, on the other hand, should not be placed under a window because curtains near the surface units are a fire hazard. The importance of specifying window sills that meet manufacturers equipment requirements is reflected in scientifically designed kitchen plans.

Manufacturers have standardized the height of appliance counter work as 36 inches above the floor. This was adopted as the height most convenient for the average housewife. Sinks, dishwashers and base cabinets are designed to be placed under a continuous counter top for a custom installation, or can be located side by side with matching tops. However, the majority of consumers buy appliances individually, and the height of the backsplasher on the dishwasher-sink will affect installation beneath a window.

One manufacturer recently introduced its latest combination
(Continued on page 52)

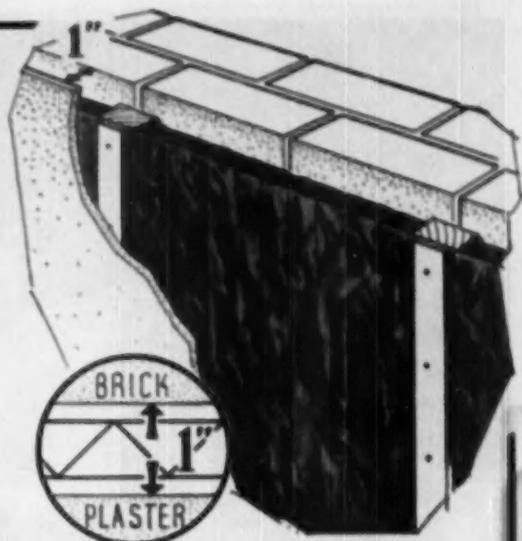
ROUGHING-IN dimensions for installation of Hotpoint sink, dishwasher and Disposall shown at left. H & C— $\frac{1}{2}$ inch sink hot and cold water line openings. D— $1\frac{1}{2}$ inch sink drain line opening. E—Standard electrical connection box. H—Dishwasher hot water line opening; must be reduced to $\frac{1}{2}$ inch before entering dishwasher. D— $1\frac{1}{2}$ inch dishwasher drain line opening

THAT BRICK, CONCRETE, OR BLOCK WALL—

Give 1" Space 2" DRY Insulation Value!

FOR LESS THAN *7½¢ SQ. FT.,
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*In new construction between furring strips.



Use 2 Aluminum sheets ½" apart...

Permanently separated, with 4 reflective surfaces, and 4 reflective accordion spaces; they have zero permeability, are non-condensation forming, non-moisture retaining, will force out fortuitous vapor.

Invaluable under cement floors or floor radiant heating panels—1" space is so economically created. R factor for Down-Heat Flow is 10.30, equal to 3¾" dry rockwool. A must for shallow spaces around air ducts and for pre-fabricated buildings, trucks, trailers, railroad cars, ships and planes. Heat flow through air spaces in walls is 65% to 80% radiation. Two such aluminum sheets absorb only 3% of heat rays, and radiate only 3%. They are impenetrable by convection; conduction is insignificant. This construction is technically called Type 4 Jr. Infra.

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Down Heat C.097, R10.30, equals 3¾" Dry Rockwool

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GEORGE PAUL, Architect

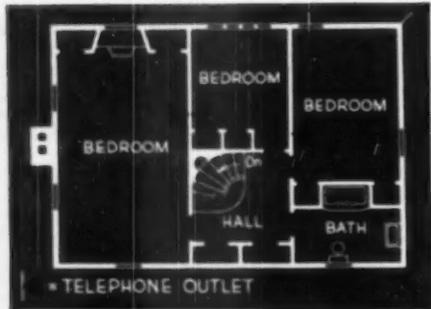
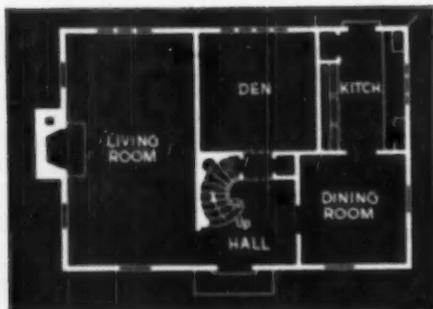
PLAN A HOME WITHIN A HOME— FOR TELEPHONE WIRES

Give telephone wires a place of their own and they'll never interfere with attractive walls and woodwork. Built-in raceways conceal telephone wires. And they provide for telephone outlets at the right places—a real convenience for home owners.

Simple wiring channels can be installed easily while a home is under construction. A few lengths of

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For homes large or small, your Bell Telephone Company will be glad to help you plan modern telephone arrangements. For free telephone planning service, call your Telephone Business Office.



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has proved
satisfactory...

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"When dry wall has once been accepted and gotten a hold, it has become general. The Washington, D.C., Metropolitan area is such an example. Before the war, everything was lath and plaster; now it is a rare thing in residential construction. Dry wall has proved satisfactory — not only because it is much more economical, but also because it produces a true, straight wall . . . and eliminates the introduction of many gallons of moisture into the house. In addition, it is a time saver."

Why build wet — when Dry Wall Construction is safer, faster, less expensive?

For 32 years Homasote has been used for Dry Wall Construction—in millions of dollars of private homes. Since 1936 its use has been supported

by intensive research costing more than \$500,000.

Dry Wall Construction — with Homasote Big Sheets — offers many major advantages . . . The average wall is covered with a single sheet;

batten strips and unsightly wall joints are eliminated. Joints are made at doors and windows, as desired . . . Labor costs are minimized; many fewer handling operations; many fewer nails . . . In a single material you provide lasting insulation value and great structural strength . . . You build a quieter home, free from dampness — with dependable insurance against musty closets and mildewed walls.

Dry Wall Construction — with Homasote Big Sheets — means walls that are permanently crackproof, ideal for paper or paint, lending themselves to modern decorating effects, modern mouldings and trim.

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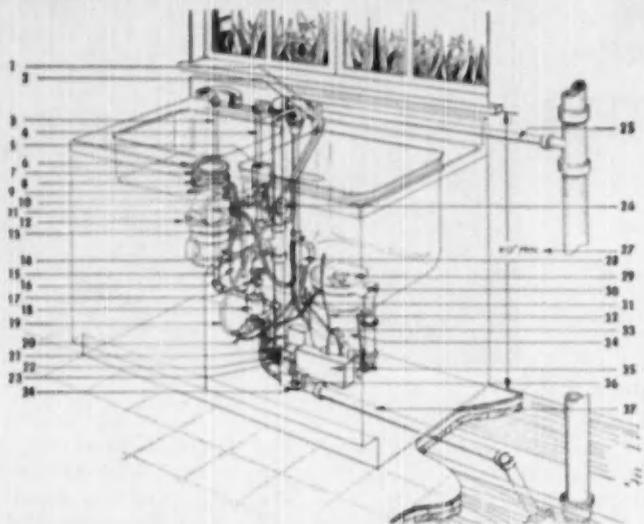
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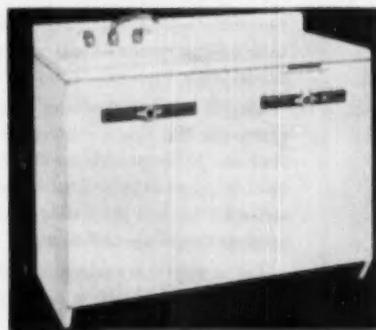
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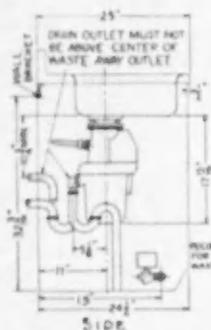
TECHNICAL GUIDE for Builders and Craftsmen



DIAGRAMMATIC drawing showing General Electric Company's sink, Disposal and pump model dishwasher for installation under kitchen window. Connections to basic soil and vent pipes indicated



ASSEMBLY of the Westinghouse Electric Corporation 48 inch wide combination sink and dishwasher. The 40 inches indicated show the total height required for installation under window steel



OUTLINE drawing of front and side view of Westinghouse electric dishwasher and sink, indicating the position of basic component to establish roughing-in dimensions for installation. Over-all height to backplash is 40 inches. Plumbing and wiring may be brought through floor or side cabinet as shown

Kitchen Equipment Specifications

DESCRIPTION of the numbered parts are as follows: 1—Vacuum breaker cover. 2—Vacuum breaker assembly. 3—Hot water line. 4—Cold water line. 5—Flow interlock switch. 6—Clamping ring. 7—Supporting ring. 8—Mounting gasket. 9—Mounting studs—rubber washer. 10—Flow interlock strainer. 11—Connection to flow interlock switch. 12—FAJIR Disposal. 13—Disposal power supply. 14—Tailpiece assembly. 15—Hot water line to dishwasher. 16—1 1/2 inch "T" trap minimum. 17—Hand valve. 18—Solenoid operated water inlet valve and strainer. Note: Standard equipment with dishwashers. All pipe and fittings to be purchased locally. 19—Water inlet to dishwasher. 20—Ground wire to motor. 21—Water inlet valve plug. 22—Heater plug. 23—Motor plug. 24—Soil pipe cleanout. 25—Vent. 26—Water inlet to dishwasher. 27—40 inches from floor to underside of window steel. 28—Electric outlet box for Disposal and dishwasher—Maximum load 1500W. 29—Impeller. 30—Drain Opening. 31—Pump drain hose. 32—Dispenser cup release cable. 33—Main switch and cover lock cable. 34—1/2 H.P. 1725 r.p.m. 115 volts A.C. 60 cycle, 4.8 AMP. motor. 35—Control. 36—Power supply terminal block (use BX cable). 37—Not more than 15 feet long 2 inch minimum pipe size slope 1/4 inch per foot minimum

(Continued from page 48)

tion sink model with a six-inch high backsplash, paralleling the trend in higher backsplashes on electric ranges. This new model has a single control faucet located on the backsplash, as well as storage compartments for soap, brushes and other articles used at the sink. They assert that this arrangement gives uninterrupted work surface on the sink top and simplifies cleaning. While automatic dishwashers are in use in less than two per cent of the nation's

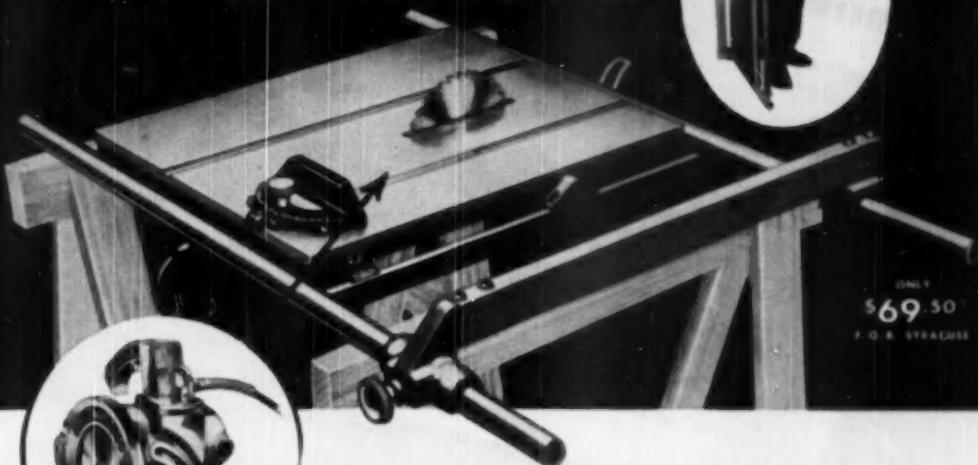
wired homes, yet it has been tagged by manufacturers as an appliance with an excellent potential market.

The majority of manufacturers of dishwasher-sinks have followed the practice of mounting the faucets on the deck of sink and provide for a four inch high backsplash. This method conforms to the present trend in backsplashes used in conjunction with manufactured kitchen cabinets and counters.

(Continued on page 116)

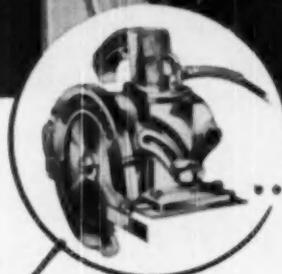
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PORTABLE...WEIGHS ONLY 44 LBS.



ONLY
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...makes your Speedmatic Saw

DO DOUBLE DUTY!

Amazingly Easy to Make the Changeover

Simply turn back table top. It's pivoted to swing over easily. Attach your Speedmatic to bottom of table. Use straw on base of saw.



Return table top to operating position. Swings back easily.



*Price includes extra gauge and rip fence, guard and special leg extra.

Always the pace-setter of electric hand saws—your present Speedmatic Portable now can be converted easily into a table saw—by means of the new Speedmatic Saw Table—simple, highly practical, conveniently set up anywhere. The cost is only a fraction of what you'd pay for a separate table saw. And you have the satisfaction of a quality-proved sawing unit—your reliable Speedmatic. Here's your chance to save and still have the finest tooling to boot.

FACTS about the new Speedmatic Saw Table . . .

One man can carry it—weighs only 44 lbs. Made of steel frame and rust-proof aluminum table and slide rails. Mounts anywhere on 2 saw horses—or on set of Speedmatic Table Legs (extra). Working surface (26" x 20") is precision ground for true cuts. Fence adjustment wide enough to handle 4' x 8" plywood sheets. Easily set up to saw multiple pieces for framing, angle cuts, compound mitres. Gauge with adjust-

able index stops assures accurate square and bevel cuts. Can't be beat for cupboards, built-in furniture and trim work. Safe, with easy controls and adjustments. Transparent plastic saw guard, mounted on splitter (extra). And remember—the Speedmatic you've mounted on this Saw Table cuts practically every material you're likely to use in carpentry operations. See your Porter-Cable distributor today.

The Balanced Line

The *Swing* to Crosley increases every day

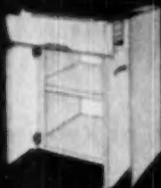
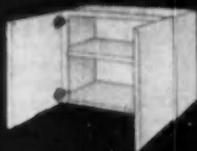
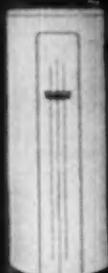
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*Better Products for
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STEEL KITCHEN CABINETS

ELECTRIC WATER HEATERS

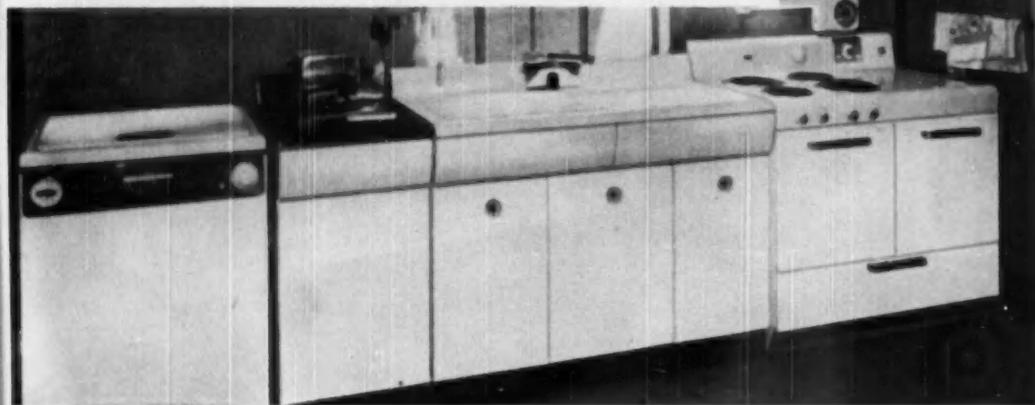
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▶ Walker Homes, Inc., Samuel H. Walker III, General Manager, have erected and sold more than 100 of these manufactured Gannison Homes. All have been equipped with modern, automatic Electric Ranges. "Our experience proves very definitely the sales appeal of the all-electric kitchen," says Mr. Walker.

▶ "More often than not, the kitchen equipment is among the most important features considered when the contract is signed," says Mr. Walker. The attractive, efficient kitchen of a Walker home is shown below. Speaking of the range—of course, it's ELECTRIC!



"Homes with Electric Ranges have Sales Appeal,"

says builder Samuel H. Walker III, of Kensington, Md.

"Most prospects are particularly impressed with the Electric Range, and the greater convenience and cleanliness that it promises," says Mr. Walker. "We find it to our advantage to give customers what they want in the way of kitchen equipment, as well as in the other features of our houses." From coast to coast, successful builders are having the same experience!

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**ELECTRIC
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ELECTRIC RANGE SECTION, National Electrical Manufacturers Association, 155 E. 44 St., New York 17, N. Y.

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EDITORS'
Round Table

ROBERT H. MORRIS, publishing director of *American Builder*, recently addressed the following editorial to a number of interested individuals. It is published here because it embodies a timely warning.

UNDER THE TITLE, "Let's Prevent a Repetition of 1942," Mr. Morris writes as follows:

ON THE DAY this editorial is written, President Truman appeared before Congress to ask that legislation be passed "now" authorizing priorities and allocations for materials needed for national security, to limit use of materials for non-essential purposes, and to requisition or seize materials required for defense. Having the day previously directed the FHA and the VA to demand higher down-payments and to cut down on building programs generally, he recommended that Congress authorize more controls to curb the expansion of privately financed real estate credit. What more in the way of all-out war controls may soon be asked will be determined by the temper and anxieties of a Congress facing an election in early November, and the extension or containment of the Korean "incident," which, again according to the President, is not a war.

TO THE BEST of our knowledge, there is no group of professional small industrialists in the country more patriotic, more willing to sacrifice and more eager to serve the nation than the light construction builders, contractors and material distributors. They proved their caliber fully in the last war, despite all the obstacles bureaucracy managed to devise. Let's review briefly a few editorials appearing in *American Builder* during 1942.

JANUARY 1942—"This publication maintains that this is no time to demobilize the building industry. . . . What about critical materials now, or threatened to be, denied? The actual tonnage of steel, copper, zinc, lead, etc., absolutely necessary for 500,000 low-cost dwellings, is too small a percentage of the annual production to permit a *thinking* and *intelligently planning government* to deny them." Also, "There is reason to fear that SPAB (Supply Priorities and Allocations Board) may be pre-

(Continued on page 59)

SEPTEMBER 1950



8-FT.
LENGTHS

REMEMBER BERMICO AND FORGET PIPE TROUBLES

Cut costs . . . Build with Bermico

One place you can cut costs . . . and safely . . . is with Bermico Sewer Pipe.

Bermico weighs so much less . . . $\frac{1}{4}$ lighter than other types of pipe. It stores with far less breakage . . . and its convenient 8-foot lengths save time, money, trouble on the truck and the job. Easily laid, too. A few hammer blows and joints are tight! No joining compound needed. And joints won't "give" or open when soil settles unevenly underneath!

Watertight . . . rootproof, Bermico sewer lines stand up under extremes of heat or cold . . . deliver high water capacity flow.

Each length of Bermico is individually inspected to measure up to a high standard of engineering. The result? Millions of feet of Bermico are now in use . . . perforated pipe for drainage systems . . . regular pipe for house-to-sewer or septic tank connections.

Cut costs, increase profit, build goodwill with Bermico, the pipe you can trust! For more details, write: Dept. A-19, Brown Company, 500 Fifth Ave., N. Y.

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SEWER PIPE

MILLS, BERLIN, N. H.

A PRODUCT OF BROWN COMPANY



Here's what the men who use ATLAS MORTAR say:

"We like Atlas Mortar because it is possible to get a more workable mortar with less effort,"

*says expert mason, Willard Randolph,
of A. S. Randolph & Son, Detroit Lakes, Minn.*



"Plastic as butter." Buttery, plastic Atlas Mortar responds smoothly and easily to the mason's trowel.



"Never seen anything like it." Contractors praise again and again the excellent appearance of walls laid up with Atlas Mortar.



"Strong bond." Atlas Mortar makes stronger walls and more water-tight joints.



*** Actual quotations from reports of satisfied masons and contractors who use Atlas Mortar Cement.**

Mr. Randolph's statement and others shown here are typical of reports we constantly receive. They praise the outstanding workability, appearance and durability of Atlas Mortar. Try it yourself!

Backed by years of research, Atlas Mortar Cement complies with ASTM and Federal Specifications for masonry cement. For further information, write Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Avenue, New York 17, N. Y.

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SKILLED HANDS PREFER

ATLAS MORTAR CEMENT

THE SATIN OF MASONRY CEMENTS



"THE THEATRE GUILD ON THE AIR"—Sponsored by U. S. Steel Subsidiaries—Sunday Evenings—NBC Network

EDITORS'
Round Table

(Continued from page 57)

paring a drastic ruling. . . ." Sullivan Jones, head of the Housing Division of OPM (Office of Production Management), told a group that "no new construction of any type except that vital to defense will be permitted." He added that "private industry has fallen down on the job of producing defense housing" and warned that "The government would take over construction of defense homes with public funds unless, etc."

FEBRUARY 1942—"FHA's stubborn, persistent refusal to recognize present building costs finally brought on the crisis to be expected. Private builders of homes were stymied at a time when pressing need existed. It took direct pressure from OPM to convince lawyer Ferguson (FHA) that an emergency exists."

SEPTEMBER 1942—"The housing conditions in Detroit became more critical as government agencies crowded into the picture, each staking out its claim as the most qualified for the job. Meanwhile, a stalemate developed and building practically ceased."

HOUSING, early in World War II, became a political football, and regulations and controls the delight of a succession of ambitious bureaucrats. Private home builders, in the face of almost insurmountable obstacles, did an outstanding and highly essential job. Had the obstacles not been there, they would have done a much better and larger job. Government housing agencies, by and large, fell down on the job, despite outlandish outlays of the taxpayers monies.

IT MUST NEVER be forgotten that bureaucracy remained in the saddle after V-J day. Mr. Truman appointed the amiable Mr. Wilson Wyatt, a lawyer who had been mayor of a southern city, and whose predilections were widely viewed as "leftish," as Housing Expeditor. Mr. Wyatt promptly "expedited" the housing industry into a state approximating paralysis in executing his and his clique's ideas of "controlling and directing" building to meet the post-war housing crisis. The memory of his actions, and lack thereof, is too fresh to require further discussion. Let the Lustron fiasco be his monument!

(Continued on page 61)



"YEAH!"

"You bet! I'm putting Master No-Draft Sash Balances like this in every window. They give the windows smooth metal tracks to run on, and their counter-balancing springs make windows easy to raise and lower. Think what a selling point this gives me, Joe: windows that always work right. . . windows with no ropes to break, no pulleys to rust. But that isn't all! These Master No-Draft Sash Balances weatherstrip the windows, too. That means they keep out dust, dirt, wind and water. . . and cold, besides. What's more, they cost less to install, because they don't need pulleys, cords, weights or bun-frames. And MAN. . . you ought to see how easy they are to put in!"

MASTER NO-DRAFT SASH BALANCES ARE PRECISION-MADE of the finest, highly-tempered non-corrosive metal. They can't rust. Springs are correctly-tensioned to give perfect balance of the upper and lower sash. . . and easy, fingertip operation. These sash balances are made in a factory that's recognized by the industry as outstanding for its efficiency and the craftsmanship of its workers.

SMOOTH OPERATION IS ASSURED by Master No-Draft Sash Balances, because they automatically adjust for shrinkage and expansion in the wood. Runways are completely metal-covered and require no painting. (Of course, cross-members should be installed). Double contact prevents rattle when windows are open.

USED BY THE U.S. GOVERNMENT AND PROMINENT BUILDERS all over the country, Master No-Draft Sash Balances are tested to mechanical perfection. They make windows neat and weathertight—and there's nothing to cause trouble. You can forget maintenance!

See Our Catalog in Sured's 74



MASTER METAL SHIP SERVICE, INC.
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Please send me, without obligation, complete information about Master No-Draft Sash Balances.

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Builders' big business-building promotion features **YALE hardware exclusively!**



HOW TO PROFIT FROM THE "GOOD AMERICAN HOME PROGRAM"

Tie in with the "Good American Home Program" that's showing all America that low-cost homes *can* be bought! Feature YALE, and reap the prestige of using the *only* hardware endorsed for this special promotion, backed by a powerful, nationwide publicity campaign. Watch your paper to find out when the "Good American Home Program" hits your town, then call up the sponsors to tie in.



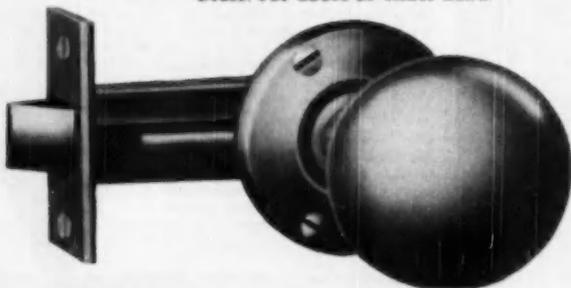
XH2 FRONT AND BACK DOOR SET

Front Door: XH 291 Latch Set, XH handle outside and knob and rose inside. 170 KA deadlock with XH cylinder collar.

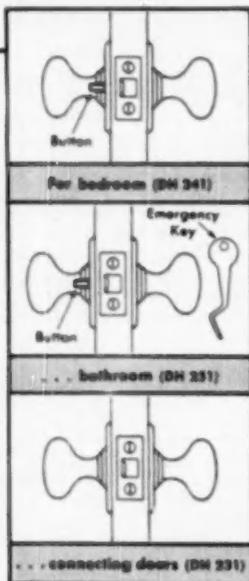
Back Door: 170 KA deadlock, inside trim chromium; keyed alike with front door lock.

TUBULAR SETS HADIAN DESIGN

Brass. For doors of either hand.



THE YALE & TOWNE
MANUFACTURING COMPANY
Stamford, Conn., U. S. A.



EDITORS'
Round Table

(Continued from page 59)

WHILE HOME BUILDERS and others in this industry still have time, let them resolve that the nation and its housing shall not again be placed in the hands of ambitious politicians and economics quacks who, though well-meaning, perhaps, are ignorant of the job and its performance. Bureaucracy loves power and power over the second largest basic economic activity of the nation is a juicy morsel, indeed.

LET US QUESTION our candidates for seats in the House of Representatives and the Senate in the November election and determine in advance that those we send to Washington next January are staunch advocates of freedom and liberty.

GREATEST LESSON any home owner can get as a result of watching craftsmen and subcontractors working on his new home is why some men remain tradesmen all their lives and others become contractors.

ATTITUDE of most tradesmen is that it is smart to do only the bare minimum required by their trades. Maybe it is, if the man wants nothing more in the way of responsibility or rewards than the union scale all his life.

IT IS INTERESTING, however, to watch building tradesmen at work. Generally, they seem to divide themselves into three classes.

FIRST, is the group—and they are in the majority—who choose to just get by, knowing that on an employees' market, they can get steady work any time. They are the ones who apply no imagination to their work, fail to think of it in relation to the whole. They are also the ones who have trouble getting work when work is scarce.

NEXT, is the group who take pride in what they are doing, altho they lack the ability to think farther than the immediate job they are doing. They are the ones who will always have work, but will never get beyond the tradesman classification.

FINALLY, and quite rare, is the occasional man who takes pride in his work, and thinks of it in terms of the finished house. He is the one industry has to look to as a graduate from the ranks of labor—the man who later will become a contractor.



they'll
thank you **THREE** times for
choosing **WOOD** window units



they'll thank you for...

MORE COMFORT. Homeowners and apartment tenants who appreciate comfort will thank you for specifying weathertight wood window units. In these windows, precision construction joins with the natural insulating qualities of wood to provide lasting protection from heat, cold, wind and dust. Wood windows, too, discourage the annoying condensation that causes water spots and extra "mop up" work.

they'll thank you for...

SUPERIOR BEAUTY. Available as pre-assembled units with modern sash balances and weather stripping, wood windows come in many beautiful styles, both double hung and casement, with the slender mullions and wide glass areas that modern taste demands. Wood windows, too, with their satin-smooth surfaces, take any finish beautifully.

they'll thank you for...

LOW MAINTENANCE. Wood windows today give lifetime service. Chemically treated, they resist stain, decay, insect attack or humidity... never rust or corrode... hold paint or other finishes with a firm grip. On every count, wood windows provide more value!

WOOD WINDOW INFORMATION SERVICE
38 South Dearborn Street, Chicago 3, Illinois

SEE YOUR LOCAL LUMBER DEALER FOR WOOD WINDOW UNITS

TEXACO



Your customers –
and prospects – *know*
they can rely fully
on this famous name

***** FACTORY SHIPPING POINTS *****

PORT NECHES
TEXAS

LOCKPORT
ILLINOIS

PORT WENTWORTH
GEORGIA

EDGE MOOR
DELAWARE

MOBILE
ALABAMA

THE TEXAS COMPANY

regular and half surface

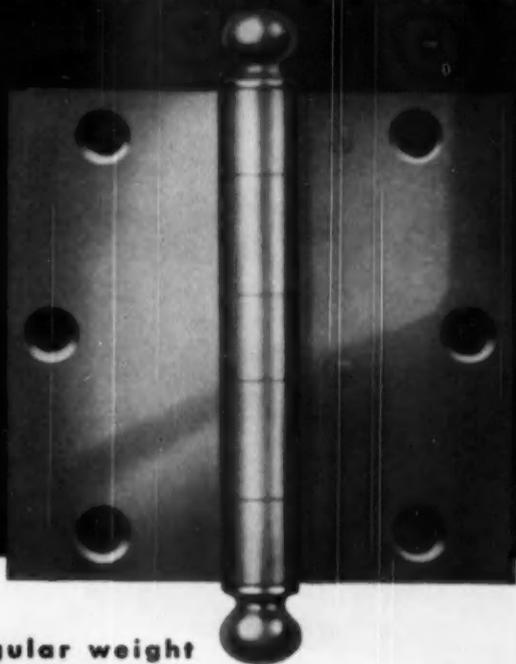
Butt Hinges by NATIONAL LOCK

ANOTHER EXAMPLE OF
NATIONAL LOCK'S COMPLETE LINE
OF QUALITY-BUILT

ASK YOUR
FAVORITE SUPPLIER

*Builders
Hardware*

A65-015 3-1/2" x 3-1/2" Ball Tip Butt Hinge



A wide selection of regular weight

Butt Hinges and regular weight,

Half Surface Butt Hinges . . . both Ball Tip

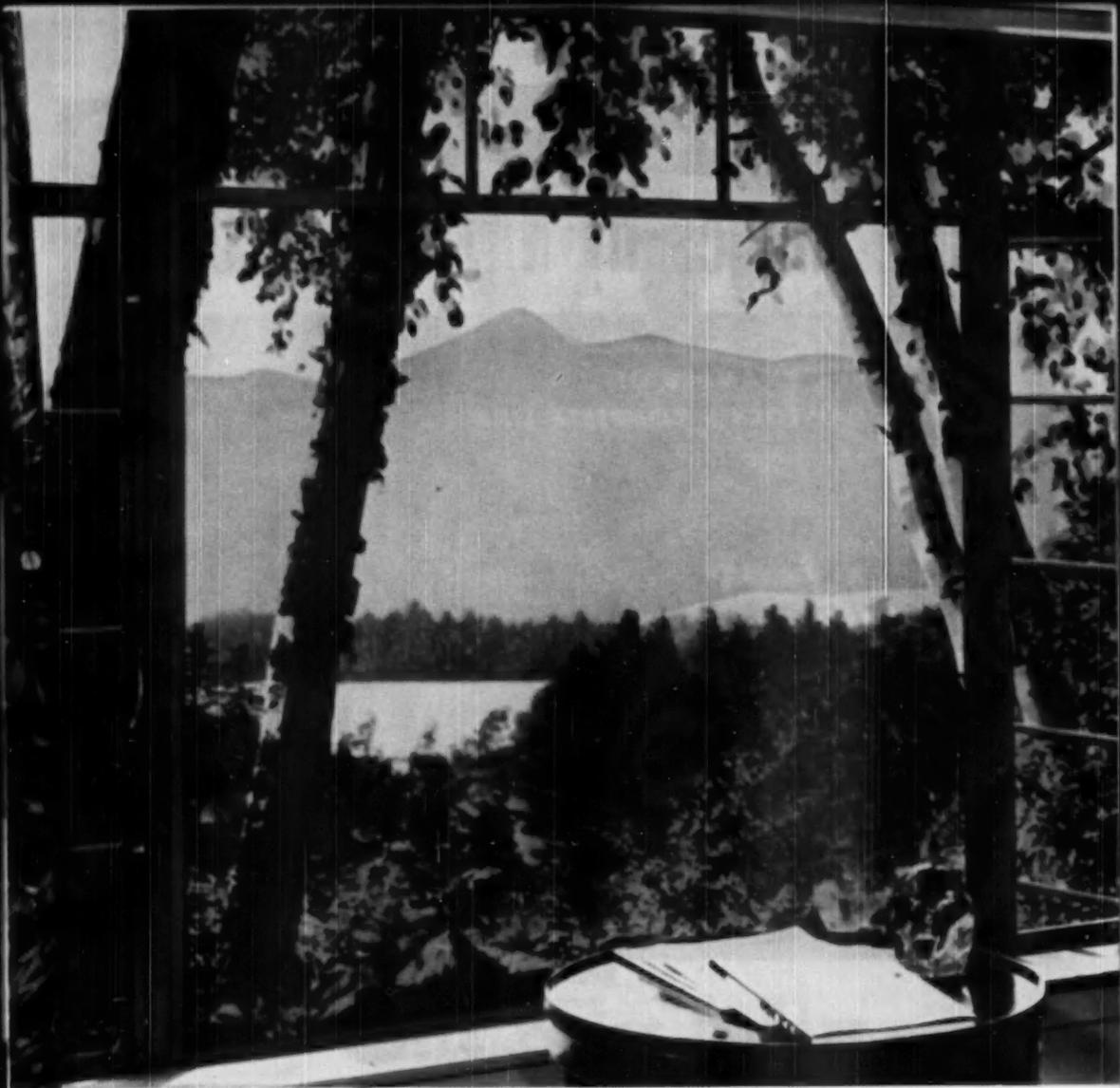
and Button Tip (with Loose Pins)

NATIONAL LOCK COMPANY

ROCKFORD, ILLINOIS • MERCHANT SALES DIVISION

Distinctive Hardware . . . All from **1** source . . .





Window

Nature splashes color with carefree abandon in the glorious, glamorous outdoors. Here, with her magic brush, she paints dazzling scenes—breath-taking views. And they are truly enjoyed through Ceco Picture Windows of Steel because more view gets in. Slender frames and muntins do the trick. So, bring window wonderland to the homes you build—bring nature's murals in motion right into every room. There are other reasons you'll want to provide these better-than-ever windows. They're engineered

**CECO
STEEL**

In construction products **CECO ENGINEERING**



Advantages of Ceco Steel Casements



Controlled ventilation
up to 100%



Easy to open and close
Can't stick or warp



Easy to wash
from inside



Easy to install screens and
storm windows from inside

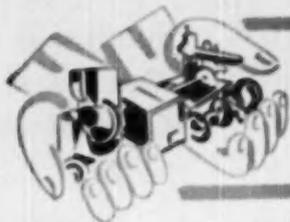
Wonderland...

to assure tightest weatherseal. Then, too, they are extra strong with sections $1\frac{1}{8}$ " deep. Yes, when you use Ceco Steel Windows—you know you've used the very best—you're sure of economy too.

CECO STEEL PRODUCTS CORPORATION

GENERAL OFFICES: 3601 West 28th Street, Chicago 30, Illinois
Offices, warehouses and fabricating plants in principal cities

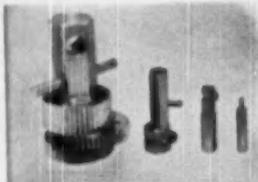
makes the big difference



NEW PRODUCTS

Offered by Manufacturers

INTERNAL PIPE WRENCHES AB95033
 Reddick internal pipe wrenches are available in a new range of sizes. Addition of the 1/2-inch, 2 1/2-inch, 3-inch and 4-inch sizes brings



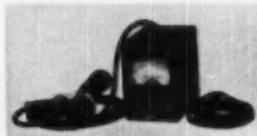
to twelve the total number of sizes now available. Popular for use where electrical conduit or any type of tubing is being used, and where pipe and fittings are involved. Heat-treated alloy steel made to withstand the toughest usage. Only one moving part. Reddick Tool Co., Dept. AB, 112 Rochester St., Costa Mesa, Calif.

FLEXIBLE DOOR AB95021
 Bu-Tax flexible doors for home or apartment use as doors for walk-in closets, room partitions, and similar applications, are available



in a range of eleven lustrous enamel colors. Made of woven wood splints, air can circulate through door. Door is hung by suspending from ordinary traverse channel. Folds to either side of door frame. Made of Northern basswood splints, 1/2 inches wide by 1/10 inches thick, which run vertically in the door. The Hough Shade Corp., Dept. AB, Jonesville, Wis.

MOISTURE METER AB95013
 Moisture content of wood and plaster can be determined quickly with Tag Midget moisture meter. Portable instrument indicates



per cent moisture direct, at the touch of a button. To check wood, user inserts needle electrodes in sample, presses a button, and

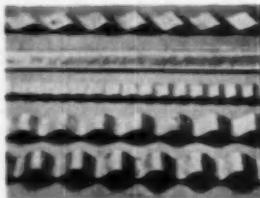
reads moisture content direct from large, open scale, calibrated from 7 to 30 per cent moisture. To check plaster, needle is removed and electrodes are pressed directly against surface being tested. Model 8009 is light, compact and self-contained, requiring no charts or conversion tables. It is 4 1/2 x 4 1/2 x 2 1/2 inches, weighs less than four pounds. Tagliabue Div., Dept. AB, Weston Electrical Instrument Corp., 614 Prellinghuysen Ave., Newark 5, N.J.

SUBMERSIBLE SUMP PUMP AB95020
 Kenco floatless liquid-level control switch in new submersible sump pump cannot fail to operate as long as there is water and electric power to operate it. Submersible switch has no moving parts exposed to water, and entire



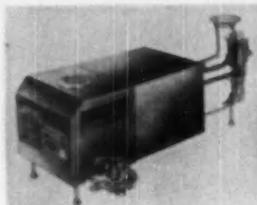
unit is of corrosion resistant bronze construction. All wiring, packing and connectors are made of synthetic rubber that is oil, gasoline, water and acid resistant. Switch may be located to actuate pump when water rises to a height of as little as 6 inches. Higher tonnage may be obtained by locating the switch through a tee connection anywhere in the discharge line. Kenco Inc., Dept. AB, 159 Ridge St., Elyria, Ohio.

PREMOLDED CAULKING AB95001
 Premolded caulking for corrugated metal buildings is available in strips made of neoprene composition, rubber composition or asphalt compound. Will fit any standard car-



regated roofing and siding sheet. Strips seal openings by contact of the corrugations against curbing, flashing at corners, eaves, ridge rail or cap, gutters, gables and around doors and windows. Called Fabca, closures are made by Fabricated Products Co., Dept. AB, Box 8005, Pittsburgh 14, Pa.

CONVERSION GAS BURNER AB95024
 Mar-Sun gas conversion burner has 75,000 to 150,000 B.T.U. per hour input. Equipped with single port, non-clog type burner. High



chrome content flame spreader plate assures long life. Burner has adjustable main needle orifice, an automatic safety pilot, a simple demountable pilot assembly, an electric pilot shut-off valve, an accurate gas pressure regulator, adjustable air shutters, and a thermostat. Finished in two-tone grey, the front head is easily and quickly removed. Guaranteed for one year. Morrison Steel Products, Inc., Dept. AB, 601 Amherst St., Buffalo, N.Y.

UNIVERSAL PLANER AB95012
 The 13-inch Barton Universal planer, with four heads, can be used for finishing 2x4's and 2x6's on all four sides in one operation. Recommended for small mills and lumber



yards desiring to plane rough lumber, it planes a maximum width of 13 inches, a thickness of two inches with 1/8-inch cut. Housing is made of cast iron. Table is of one piece cast iron, wall ribbed, accurately planed and ground to smooth finish. It is 12 1/2 inches long, with slot for bottom head, 3x7 1/2 inches. Casa Corp., Dept. AB, Chrysler Bldg., 405 Lexington Ave., New York 17, N.Y.

WALL HEATING UNIT AB95035
 Royal Mid-Jet is an easy to install wall heating unit, with a new non-reflecting fabric finish that blends with all types of walls. Non-vision registers, curved similar to venetian blinds, hide the element and block vision between rooms. Patented porcelain burner. Made in 25,000 and 45,000 B.T.U. sizes, with low fire temperatures. Elevated case, 3 inches or more above floor, allows free flow of base board and eliminates cutting of rugs. Fits between standard 16-inch O.C. studs. Royal Heaters, Inc., Dept. AB, 1025 Westminster Ave., Alhambra, Calif.

(Continued on page 68)

You get more built-in builder benefits when you get **DUO-THERM** gas floor furnaces



CHECK THESE PERFORMANCE-PACKED FEATURES



Exclusive Equiflame Burner. Built for long-life efficiency on all types of gas. Clean-burning, quiet. Burns a uniform flame at all ports at all stages of fire.



Exclusive Comfort Selector. A flip of the switch on the side of the thermostat tailors low fire setting to fit the weather. Ends on-and-off heating.



Revolutionary All-in-One Control. The first really compact, complete, easy-to-operate package control for gas heating. No pipe cutting required to convert to automatic. Automatic safety shut-off standard on all Duo-Therm Gas Floor Furnaces.



Generous 10-Year Warranty—on all models.

CHECK THESE BONUS-BENEFITS FOR BUILDERS:

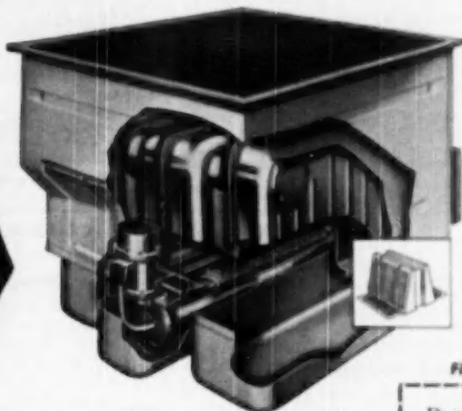
- All models shipped ready to install to save you time and trouble.
- So compact only one joist need be cut on any installation.
- Designed to that most service jobs can be done from above the floor!
- Built to one high standard of quality—the Duo-Therm standard. Yet priced amazingly low.
- Two Series—shallow and standard—to fit any home.
- The 19 Series only 23½" deep overall. The 25 Series a mere 30" deep overall.
- Choice of floor or dual-wall registers.
- Range of BTU inputs from 35,000 to 60,000.
- Thermostatic or manual controls available on every model.
- Waterproofed to meet regional FHA requirements.
- AGA approved.

CHECK DUO-THERM'S LIBERAL BUILDER DISCOUNT PLAN

Your Duo-Therm supplier has the facts on our special single and quantity discounts. You'll like the way they listen!

CHECK THE "SPECS" on Duo-Therm Gas Floor Furnaces—YOURS FOR FREE!

Just send the coupon below if you're too busy to write. We'll send you—without a penny's worth of obligation—complete specifications on all 4 Duo-Therm Gas Floor Furnaces. We'll even throw in a copy of our colorful 8-page catalogue. (It tells the Duo-Therm story in a way your prospects will understand.)



Over 1,500,000 Warmly Satisfied Customers

DUO-THERM

Always the Leader

Fill out and mail coupon for descriptive literature.

Duo-Therm Div. of Motor Wheel Corp'n, Dept. AB-9
Lansing 3, Michigan.

Please send your floor furnace facts pronto, without obligation or cost.

My name _____

Firm _____

Firm address _____

City _____ Zone _____ State _____

DUO-THERM is a registered trade mark of Motor Wheel Corp., Copyright 1950

SEPTEMBER 1950

(Continued from page 66)

PLASTIC PIPE AB95018

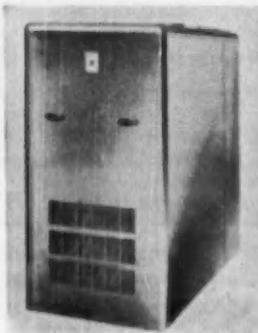
Flexible and rigid types of Corlon plastic pipe are tough, durable, resilient, lightweight, and guaranteed against rot, rust, and electrolytic corrosion. Can be used for drinking water, drainage and irrigation systems, ventilating and cooling lines, hydraulic



slicing, and intake and exhaust piping. Has application in transmitting sludge, as low-pressure air lines, and, in some installations, as both exposed and concrete incased electrical wiring conduit. Available in diameters up to 8 inches and in lengths up to 400 feet, depending upon diameter, in flexible type. Rigid pipe is furnished in diameters up to 8 inches and shipped in 20-foot lengths. Carter Products Corp., Products Div., Dept. AB, 10242 Meach Ave., Cleveland 5, Ohio.

WINTER AIR CONDITIONER AB95006

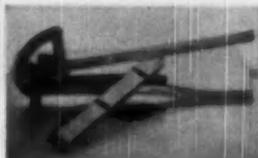
The Winterway, basement type, automatic, oil-fired winter air conditioner, is designed to meet heating requirements of wide range of small and medium-sized homes at low cost. Furnished with Range type Arcoflame



oil burner. Prewired controls and master control switch. Heating element, consisting of shell and radiator, is welded into a single assembly. Flange-mounted burner is easily attached, and blower slides into position. There are eight major jacket pieces, all easy to handle. Blower motor is quiet, and will not cause interference with radio or television. Adaptable to gas if so desired. American Radiator & Standard Sanitary Corp., Dept. AB, P.O. Box 1226, Pittsburgh 30, Pa.

INSULATED BRICK SIDING CUTTER AB95034

Insulated brick siding cutter feeds siding into blade as lever is worked up and down, by means of three small teeth on each side of the blade. Cuts thicknesses of a little less than 1/4 inches. Blade is continuously oiled by felt pads lubricated with oil or kerosene which are installed on each side of the blade. Handles are about 25 inches long, and are



made of mild plate steel. Blade is tempered spring steel. Unit can be held steady while in use by placing foot on base plate that folds out from lower handle, or unit can be attached to a table, since small holes for bolting are provided on under side of carriage. Weight, 7 pounds. O. Pearson Manufacturing Co., Dept. AB, Lake Villa, Ill.

TEN MACHINES IN ONE AB95011

New DeWalt Power Shop, with ten machines in one, has 100 different uses. Model GS, a completely revamped unit, is mounted on a light steel cabinet. Entire unit weighs 115 pounds. Recessed cabinet top permits quick and easy removal of saw unit, table and table



base from cabinet, allowing machine to be used as a portable power saw. GS cabinet is roomy and can be equipped with shelves and drawers for storing tools. Cabinet is available to present owners of Model 18B DeWalt, enabling them to make a new model GS of their machine. Equipped with 1/2 H.P. motor, saw can cut 2-inch thick material, cross-cut 12 inches wide, and rip to center of a 43-inch panel. DeWalt Inc., Dept. AB, 12 Fountain Ave., Lancaster, Pa.

OIL CONVERSION BURNER AB95002

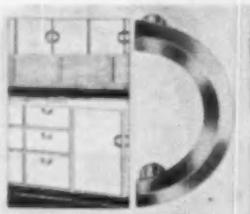
Coleman high-pressure oil conversion burner, suited to small and medium-sized furnaces, is designed for use with warm air, steam, hot water or vapor heating systems. Fully auto-



matic, quiet in operation, and easily installed and serviced. Finished in Hammerhead baked enamel. Split-phase 1725 r.p.m. 1/12 H.P. motor has overload protection and a radio interference filter. Capacity for either C.S. No. 1 or No. 2 oil from 1/2 to 3 gallons. Width, 18 1/2 inches. Height, 14 13/16 to 19 1/16 inches. Weight, 76 pounds. The Coleman Company, Inc., Dept. AB, Wichita 1, Kas.

DRAWER AND CABINET PULL AB95030

No. 550 semi-circular drawer pull lends itself to any period of decoration. Pulls can be applied on adjacent door openings to form a



complete circle. Designed with standard 3-inch centers. Die-cast of No. 5 Zamak, it is heavily plated in polished chrome, dull chrome, polished brass, dull brass or dull bronze. Ajax Hardware Manufacturing Corp., Dept. AB, Los Angeles, Calif.

New products continued page 132

INSERT NUMBERS AND MAIL COUPON FOR INFORMATION

American Builder, 79 W. Monroe Street, Chicago 3, Illinois

Name

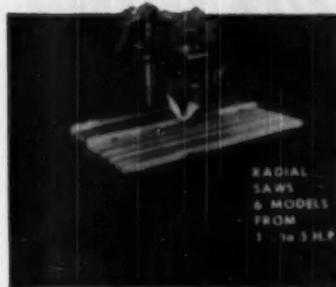
Address

City State

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

A model to fit your needs...



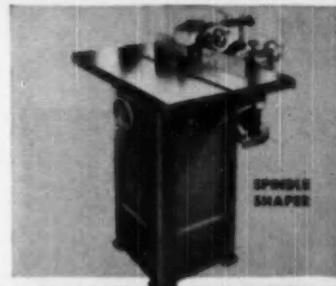
RADIAL
SAWS
& MODELS
FROM
1 to 3 H.P.



VARIABLE
SPINDLE
LATHE



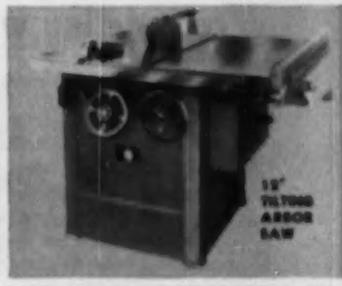
NEW 10"
TILTING
ARBOR
SAW



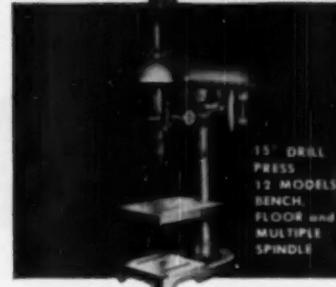
SPINDLE
SHAPE



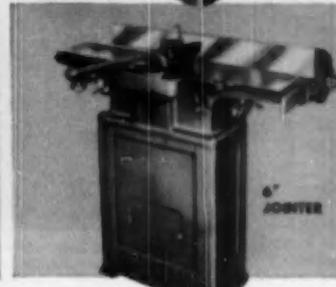
12" 14" 16"
3 MODELS
BAND
SAWS FOR
METAL OR
WOOD



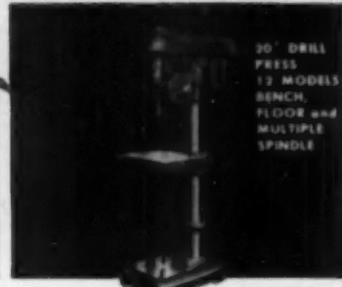
15"
TILTING
ARBOR
SAW



15" DRILL
PRESS
12 MODELS
BENCH,
FLOOR and
MULTIPLE
SPINDLE



6"
JOINTER



20" DRILL
PRESS
12 MODELS
BENCH,
FLOOR and
MULTIPLE
SPINDLE

DRILL PRESSES • BAND SAWS

RADIAL SAWS • JOINTERS

BELT AND DISC SURFACERS

LATHES • TABLE SAWS

JIG SAWS • TILTING ARBOR SAWS



WALKER-TURNER DIVISION

PLAINFIELD, NEW JERSEY

There's a Walker-Turner Machine—designed with industry's special needs in mind—for practically every metal and woodworking requirement.

In the woodworking shop Walker-Turner radial, tilting arbor and band saws, jointers, spindle shapers and lathes quickly repay their modest investment. Drill presses, metal cutting band saws, radial drills, cut-off machines and flexible shafts cut metal working costs.

If you are not taking advantage of Walker-Turner functional design in your plant call in your local Walker-Turner distributor. He'll be glad to show you what others are doing—and what you can do—to save on machine investment and operating cost. Write for new industrial catalog. Address Department AB9.

SOLD ONLY THROUGH AUTHORIZED DEALERS

THE SATURDAY EVENING
POST

pages tell 'em!

YOU SELL 'EM!

Full page, full-color ads sell your customers on remodeling with Gold Bond Insulation Board!

THERE'S a gold mine of remodeling ideas for your customers in these full-color Gold Bond ads. And only Gold Bond does this steady, month-after-month spadework to dig up remodeling business for you. Here's how you can put these ads to work: When customers consult you about repair work, show them these Gold Bond ads. (We'll send you reprints if you like.) Tell them how new Gold Bond Insulation Board is ideal for building an extra bedroom, gameroom, or for remodeling a store, restaurant or bowling alley. You'll be surprised how many customers you'll find on the verge of doing some remodeling. And a few suggestions from you will clinch many profitable extra jobs.



NATIONAL GYPSUM COMPANY, BUFFALO 2, N. Y.

*Decorative Insulation Boards, Fireproof Wallboards, Lath, Plaster, Lime, Sheathing,
Wall Paint, Rock Wool Insulation, Metal Lath and Sound Control Products.*

If building is
your business

BRIGGS *Beautyware*

IN COLOR is **GOOD** business!



Fixtures illustrated in Sea Green are: Prince reverse-trap closet combination, Whitman ledge-back vitreous china lavatory, Cadillac recess tub with wall-surface-fitting.

Where else for \$14.50 more can you get a sales clincher that makes any house look as though it cost \$1000 more? Nowhere but with *Briggs Beautyware*! For Briggs fixtures in color are absolutely unique. Actually cost only 10% more per set* than white . . . yet lend such an air of individuality and smartness that the entire house

looks *custom planned*. Big builders discovered this the day Briggs announced its unprecedented low price (and are bigger than ever as a result). Discover for yourself what *good business*—what a *fast building business*—you, too, can have when you specify Briggs Beautyware in color! *Briggs Mfg. Co., 3001 Miller Ave., Detroit 11, Mich.*



Merit Award granted by American Society of Industrial Engineers for excellence in engineering and manufacturing.

© 1955 BRIGGS MFG. CO.

Briggs four famous fixture colors—plus white

*10% extra charge for colored ware applies to complete sets including brass fittings.



TAKE IT FROM

THESE SUCCESSFUL BUILDERS

Co-operating in National Home Week



September 10-17



VINCENT CRAVERO, Cravero Constructors, Inc., Miami, Florida.



Their demonstration homes as well as many others from coast-to-coast will feature Kelvinator kitchens during National Home Week.

Kelvinator has co-operated with builders everywhere to make this year's National Home Week a success in every way, and Kelvinator salutes the building industry for the outstanding job it is doing in meeting the nation's housing demands.

The successful builders featured on this page all base their choice of Kelvinator products on long years of building experience. The years have proved to each man that Kelvinator beauty helps clinch home sales . . . that Kelvinator performance delights homemakers . . . and that Kelvinator dependability keeps maintenance costs extremely low.

Get full information for your next project — write to Dept. AB, Kelvinator, Division of Nash-Kelvinator Corporation, Detroit 32, Michigan.



J. HAROLD BEMICK, Georick Builders, Inc., Buffalo, New York.



MARK DOTZE, Jerome Homes, Inc., Whittier, California.



Kelvinator featured exclusively, nation-wide, in the Good American Home Program.

Kelvinator

DIVISION OF NASH-KELVINATOR CORPORATION, DETROIT 32, MICHIGAN

ELECTRIC REFRIGERATORS - ELECTRIC RANGES - HOME FREEZERS - WATER HEATERS

Need Control of Controls

WHEN this was written, four weeks after the start of the Korean war, it was not known by anybody outside the Politburo whether the action was a brief flare-up, the beginning of a continuing series of small wars, or the preliminary of World War III. It was known, however, that Mr. Truman wanted ten billion dollars for war, the right to reinstitute the controls of World War II and many others, and increased taxes.

Without attempting to analyze the Korean war or what it will have developed into by the time this editorial is published, one subject can and should be discussed. That subject is controls, and specifically, controls over home building. If the Korean war is of short duration, and is not followed immediately by another in some other arena, there will be no need for controls other than those voluntarily applied by the industry for temporary guidance. The situation should therefore be watched very carefully, because there can be no doubt that the socialist planners will seize upon the situation as an excuse for the usurpation of more power to regiment the lives of individuals.

On the other hand, if Korea proves to be the fuse of World War III, and another global war with Russia and the United States as the major antagonists breaks out, there will be a justifiable need for emergency control of industry. It is in this eventuality that the home building industry will have to exercise the greatest vigilance, and probably appeal to the public for support to prevent a repetition of the stupidity that characterized controls between 1942 and 1946. It is well to reflect that both Mr. Roosevelt and Mr. Truman, with characteristic scorn for the administrative and executive abilities of businessmen, chose impractical visionaries to carry out their schemes. Neither in war nor peace can the country stand another parade of Blandfords and Wyatts. Nor can it stand another Chester Bowles, power-hungry to the extent that he tried to fasten wartime controls on the country permanently. We are still paying for Wyatt's folly, and if Bowles had had his way, price controls would have stayed and there would have been no industrial recovery or performance, including the more than four million new homes that have been built since OPA was dissolved. Even in the relative peace since 1945 the battle to keep America free from socialism, regimentation and the blight of big government has been bitter. It should be obvious that with a series of small wars, let alone a major conflict, the efforts of the socialist destroyers of individual freedom will be redoubled.

If there is no need for anything beyond very limited and self-imposed controls on home building, home builders should know it, be able to prove it, and, as a patriotic obligation, take their case to the public. If strict, centrally operated controls do become necessary, home builders should demand this time that the controls be operated by experienced industry men drafted and recommended by the industry itself. It is only in this way that the country can hope to survive a series of small wars or a major war. Neither this nor any other economy is elastic enough to take another beating from academic planners.

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National Home Week

Gains in Popularity



ENCOURAGED by the greatest building year in history and by two years previous experience with National Home Week, the building industry is preparing for the most elaborate NHW observance to date. A preliminary survey by Walton Onslow and Associates, Washington, D. C., indicated at the time of this writing that the third annual observance would be much larger than the second, which was described as "the greatest industry show ever staged."

At least 6,000 model homes are to be displayed during the Week by only 63 building centers reporting in the survey. Since this is about half the number of centers participating, not counting small isolated communities that cannot be included in the estimate, predictions are that well over 12,000 model homes might be on display.

Significance of National Home Week to the public can be measured somewhat by the interest of newspapers throughout the country. The survey indicated that at least 93 newspapers would issue special sections for the Week. Participants in NHW this year are planning to increase news-interest by more parades, mayor's proclamations, Home Week Queens, civic club luncheons, contests, and other events of local and national interest. Radios, newspaper advertising, street banners, billboards and sign posts will draw the attention of millions of people, many who are prospective home owners.

Scope of The Week is indicated somewhat by the number of states reporting participation in the preliminary survey. Of 33 reporting, 31 indicated definite plans for NHW.

Participation has grown in 1950 to include representatives from almost every phase of the industry, from manufacturers of building material products straight through to retail dealers, with a host of representative associations. National Home Week this year is sponsored by the National Association of Home Builders and co-sponsored by the National Retail Lumber Dealers Association, the National Association of Real Estate Boards, and *American Builder*, Na-

Conceived by American Builder three years ago, the third anniversary of this nation-wide industry show promises to be by far the largest yet. Plans and scope of The Week are indicated in this preliminary survey by Walter Onslow

tional level participating sponsors include the American Gas Association and other important affiliated organizations in the industry.

Complete report on the Walton Onslow Associates' survey of local NAHB associations participating in 1950 National Home Week follows:

Alabama

Birmingham Association of Home Builders: Committee appointed. Special section planned in the Birmingham News and Birmingham Post-Herald. Are contemplating a mayor's proclamation. Working closely with the Birmingham Real Estate Board and the Retail Lumber Dealers Association in Birmingham.

California

Home Builders Institute, Inc.: Leonard A. Hardie, Program Chairman. Will have special sections of the Los Angeles Times, Examiner, Herald Express, Mirror, Hollywood Citizen News and other papers in Los Angeles County. Will have mayor issue proclamation. Working with the Los Angeles Realty Board, Savings and Loan League, Chamber of Commerce and the BCA. Are planning to have about 100 model homes or projects on display during the Week. Will feature slogans. Planning to have radio and television programs.

Associated Home Builders of the Greater East Bay, Inc.: Are planning to have mayor issue a proclamation. Will have special editions of the Oakland Tribune and the Post-Enquirer. Working with the East Bay

Council of Real Estate Boards, Lumber Dealers, Retail Merchants, financial institutions and the Oakland Ad Club. Are planning to have about 50 model homes open during the Week.

General Contractors Association of Contra Costa County: Millard H. Meyers, Program Chairman. Will have a special section for the Week in the Richmond Independent. Are planning to have approximately 30 model homes and projects open for the Week. First year this local has participated.

Associated Home Builders of Sacramento, Inc.: John Flanagan, Program Chairman. Will have two special sections in the Sacramento Bee and the Sacramento Union. Are planning to have mayor issue a proclamation. Are working with the Sacramento Real Estate Board. Will have governor issue proclamation also. Will have model home at state fair. Planning store window displays.

Associated Home Builders of San Francisco, Inc.: Committee appointed—Peter MacArthur, Chairman. Program plans not available.

Colorado

Denver Association of Home Builders: Will have special edition of the Denver Post. Planning to have mayor's proclamation, also governor's. Working with the Denver Board of Realtors, Mountain States Lumber Dealers Assoc., Rocky Mountain Electric League and also the Denver Retail Merchants Assoc. Planning to have about 40 model homes and projects on display. Week being staged in conjunction with the Home Show.

Connecticut

Greater Bridgeport Builders Association: Planning to publicize model homes.

Home Builders Association of Hartford County: Special sections of the Hartford Courant and Hartford Times. Will not have proclamation. Will have about 15 model homes and projects open for the Week.

(Continued on page 148)

Insulation



SNOW which disappears quickly from the roof of an uninsulated house is dramatic evidence of tremendous heat loss

Why Insulation Should be Used

How Insulation Works

Where to Insulate

Types of Insulation . . . How to Install

Condensation and Moisture Vapor Control

DEFINITIONS OF ABBREVIATIONS AND TERMS Used in Discussing and Evaluating Insulations

B.T.U.—The abbreviation for British Thermal Unit. It is the amount of heat required to raise the temperature of one pound of water one degree Fahrenheit. B.T.U. represents a specific quantity of heat just as the pound is a unit of weight.

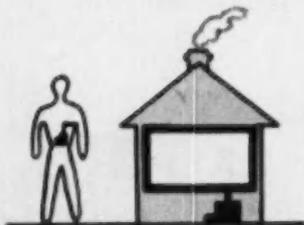
"k"—This represents conductivity. It is used to show the amount of heat (B.T.U.'s) which will pass through one square foot of a specified material one inch thick for a temperature differential of one degree F between the two surfaces per hour. For example: If the "k" factor of an insulating material is .28 it means that for a one inch thickness of the material, .28 B.T.U. are lost through one square foot of it per hour for each degree difference in temperature between the two surfaces.

"C"—Used to designate conductance of a material or combination of materials to show the amount of heat (B.T.U.'s) that will pass through for the thickness or type under consideration per hour, per square foot, per degree F temperature difference between the two surfaces. The "C" value of an 8-inch hollow concrete block is 1.00.

"U"—Designates the total or over-all transmission of heat (B.T.U.'s) from air on one side to air on the other side of a wall, roof, ceiling or floor per hour, per square foot, per degree temperature difference between the air on the two sides of the section or combination of materials. The "U" value of an uninsulated frame wall consisting of wood siding, wood sheathing, 2x4 studs, gypsum lath and plaster is .26. If insulated with two inches of typical mass insulation, the "U" factor becomes .081.

The three measurements, "k," "C" and "U," as defined above are basic and should be understood by anyone discussing insulations so that they may be interpreted in an intelligent manner when dealing with the public on insulation matters. When speaking of an individual material, reference is made to its "k" or "C" value, whereas "U" is used in making reference to the insulating value of a complete wall. In any evaluation of these factors it should always be remembered that the lower the figure used, the greater is the resistance to the flow of heat.

Why Insulation Should Be Used



THE HEATING system for the human body is finely balanced and cannot make the body comfortable over a wide range in air temperatures. Home heating systems can heat inside air to comfort levels. Insulation helps to keep heat loss low and inside surfaces of exterior walls at comfort levels, assuring comfort within the home.



THE MORE severe the climate, the more expensive the fuel, or the more inefficient the heating plant, the more will be saved by adequate insulation properly installed. No construction should be planned where the inside wall surface temperatures do not come within the comfort range of 63-66 degrees when inside air temperature is at comfort level.



IN SUMMER months in warm climates, heat gain is as important in comfort considerations as heat loss in winter. The speed of heat loss in winter is also the speed of heat gain in summer under most conditions. An uninsulated ceiling, with a "U" value of .53, would let more than 11 times as much heat penetrate into the living spaces below on the same ceiling adequately insulated.

INSULATION has been an integral factor in man's search for comfort for thousands of years, whether his habitat was in the polar regions or in equatorial deserts. The first insulation used by man was undoubtedly applied directly to the body in the form of some type of clothing either to conserve body heat or to protect the body from discomfort under direct heat rays from the sun. Next, man learned that certain types of materials used in his shelter served to make its interior more habitable in extreme climates, just as certain coverings for his body made him more comfortable. Thus the thatched-roof huts of northern Europe evolved as protection from the cold, while in the south sea islands a thatched-roof hut served as insulation from the heat.

The development of relatively thin modern frame and masonry walls in construction of buildings for human habitation eliminated from use the insulations which primitive man had found practical. Although scientists knew of the advantages of thermal insulation for many generations, it has been only during the last 30 to 35 years that commercial insulations have been marketed in volume for residential and other construction for human occupancy. Research inspired by manufacturers plus their advertising and promotion efforts have popularized commercial types of insulation and made the American public conscious of the advantages of insulation against heat as well as against cold.

As recently as 30 years ago insulation was applied in houses only in the coldest climates, and then only as a heat conservation measure. Today home designers and builders in all sections of the nation, in all climates, use insulation as an added item of livability and comfort in the new houses produced. The general public has been educated to inquire as to the type of insulation being used, where it is used in the structure and to check on its efficiency when building, buying or renting a home. It is used in cold climates to make home heating more comfortable and economical and in warm climates to make home cooling easier. An uninsulated house in any price range almost anywhere

in the country today is not considered up to prevailing standards by the general home buying public.

The increasing use of air conditioning equipment in public buildings of all types has brought insulation of these structures into the forefront as a means of saving initial costs as well as operating costs on air conditioning units.

Professor Frank B. Rowley, director of the Engineering Experiment Station at the University of Minnesota, in a recent report on insulation made at the Building Research Advisory Council conference on Weather and the Building Industry stated: "A large amount of research in the field of heat transfer has been accomplished during the past 50 years, but only within the last 30 years has major emphasis been placed on insulating materials for buildings and the various types of insulated building construction. . . . In the first stages of research on insulating materials, the emphasis seems to have been placed primarily on the saving of heat. In the second stage, the comfort of the occupants assumed importance, and now, the environment or climatic conditions in which the building is to be located may be the leading inspiration.

"Thirty years ago insulation, as such, was used for houses only in the coldest climates, and there were only two or three materials that were manufactured specifically for this purpose. As compared with our present standards, most of these were rather crude, and such materials as sawdust were commonly used to fill the space between studs. Today, large industries have grown up, and several types of insulation and reflective insulating materials are produced in large quantities by many different manufacturers. Insulation has become a "must" for houses in all cold climates, and is often required in the milder areas.

"In many instances, insulating materials have been designed to incorporate other desirable building properties, in addition to their insulating values. For instance, they may have structural value; they may serve as plaster base material, sheathing, interior or exterior finish for the wall, or provide resistance to the passage

of vapor or air through the wall. Much research and thought is being given to make these materials adaptable for more than insulation alone.

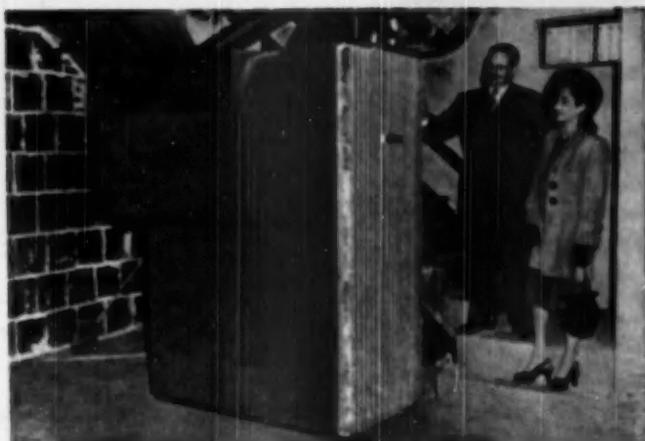
"The problem is to select materials which are adapted to a particular type of construction, to install them in a wall in such a manner that their full value will be realized, and so that their various properties will be preserved during the life of the material itself."

Commercial insulations today are produced in uniform quality and weights. Thicknesses and sizes are carefully controlled. Also, where necessary, the materials are treated to make them resistant to moisture, vermin and fire. Insulation is one of the few items that can be incorporated in modern structures, particularly in houses, that will actually pay dividends in the form of money saved in operational costs.

Any general statement of the amount or percentage of fuel that can be saved by insulation is likely to be inaccurate. The amount of fuel, however, that can be saved annually in any specified instance by the application of a certain type and thickness of insulation can be estimated in advance with considerable accuracy. To do this it is necessary to know the type of construction to be insulated, the area of the surface to be insulated, the location of the building, weather data and other factors.

Using the illustrations of insulating values on the accompanying pages, plus the table on fuel and furnace efficiency, a simple example of figuring fuel saving because of insulation can be worked as follows:

Assume that a residence is of frame construction with walls consisting of wood siding, building paper, wood sheathing, studding and lath and plaster. The "U" value of this construction is 0.26 B.T.U. per hour per square foot of wall surface



THE INCREASING use of automatic air conditioning equipment to maintain indoor temperature and humidity at comfort level during the winter year emphasizes the importance of insulating against heat as well as against cold. The size of the heating unit as well as the ceiling unit, along with their frequency of operation, can be reduced in proportion to the percentage that insulation reduces heat loss or heat gain in the structure.

for each degree temperature difference. If, however, a two-inch thickness of mass insulation is added to a wall of this construction, the rate of heat loss will be reduced to 0.09 B.T.U., or a saving of 0.17 B.T.U. per hour for each square foot insulated. These figures are in the tables on these pages.

Assume that the net wall area to be insulated is 1,000 square feet. This would make the saving 0.17 times 1,000, or 170 B.T.U. per hour per degree temperature difference. Next the average outside temperature during the heating season must be determined. Suppose that the building being figured here is located where the average outside temperature during the heating season is 35 degrees and where the heating season extends approximately from October 1 to May 1, or 5,088 hours. This is the

approximate average temperature of Baker, Ore., or Albany, N.Y. Based on an inside temperature of 70 degrees F, the temperature difference will be 35 degrees. The heat saving will therefore be 170 times 35 times 5,088 or 30,273,600 heat units (B.T.U.'s) per heating season.

This figure is, of course, meaningless in any discussion outside of engineering or technical circles, so to talk the language of the home purchaser or owner, the table on fuel and furnace efficiency is used to convert the B.T.U.'s saved into terms of tons of coal, gallons of oil or cubic feet of gas. The first step is to divide the heat content of the fuel by the assumed efficiency of the furnace unit. This figure is then divided into the B.T.U.'s calculated as saved by insulation to get the desired figure in terms of the average person can understand.

For example: In the above house the total B.T.U.'s to be saved by one inch of insulation is 30,273,600. Assume that coal is the fuel with a heat content of 13,000 B.T.U.'s per pound and an over-all heating efficiency of .50 per cent. 13,000 divided by .50 is 6,500. 30,273,600 divided by 6,500 equals 4,657 pounds of coal or 2.33 tons that reasonably can be estimated as the saving. Multiply this by the price per ton of coal and the dollars and cents figure is the result.

The size of the heating plant in a structure can, of course, be reduced in proportion to the percentage that the heat losses are reduced by the correct type of insulation properly installed. In the case of hot water or

(Continued on page 80)

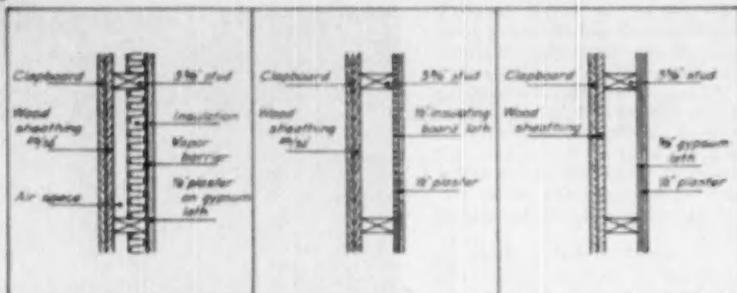
FUEL AND FURNACE EFFICIENCY

The figures shown in this table are reasonable averages. They are not to be considered as absolute under all conditions and with all units.

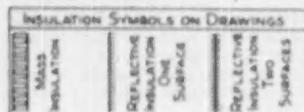
Fuel	Method of Firing or Type of Apparatus	Assumed Calorific Value of Fuel	Assumed Heating Efficiency
Coal	Hand-fired (residence)	13,000 B.T.U. per pound	0.50
Coal	Stoker-fired (residence)	13,000 B.T.U. per pound	0.60
Oil	Conversion Burner	141,000 B.T.U. per gallon	0.60
Oil	Oil-designed Unit	141,000 B.T.U. per gallon	0.80
Man'f'd Gas	Conversion Burner	535 B.T.U. per cu. ft.	0.65
Man'f'd Gas	Gas-designed Unit	535 B.T.U. per cu. ft.	0.80
Natural Gas	Conversion Burner	1,000 B.T.U. per cu. ft.	0.65
Natural Gas	Gas-designed Unit	1,000 B.T.U. per cu. ft.	0.80

Courtesy Insulation Board Institute

Thermal Properties of Residential Wood Frame Walls with Various Applications of Materials and Insulation

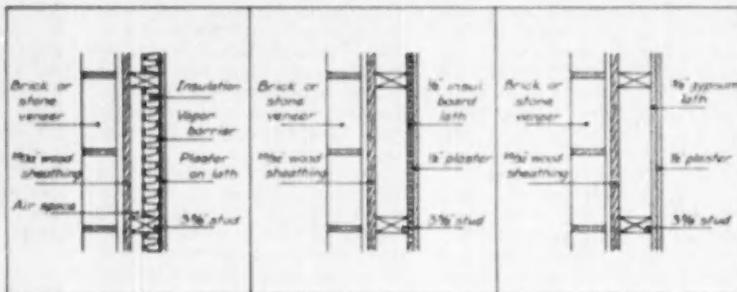


	No Insulation				Insulation			
	1"	2"	3"	3"				
Heat transmission (U)	.36	.13	.09	.07	.19	.11	.08	.06
Heat loss*	18	9	6	5	13	8	6	4
Inside surface temp	59.0°	64.5°	66.2°	67.0°	61.9°	65.3°	66.6°	67.5°



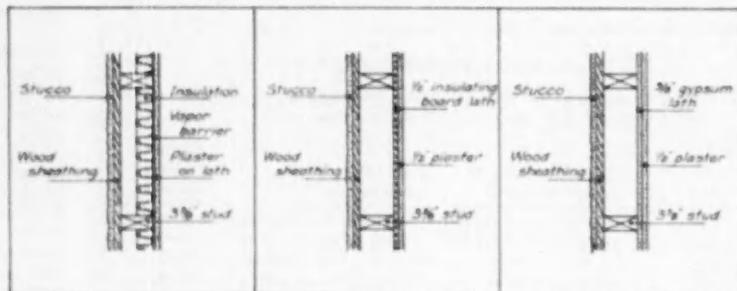
THE DRAWINGS and tables on these and the two following pages present a comparative study of the insulation value of various residential type walls, ceilings and floors with and without insulation. Under each of the drawings the figures give the heat transmission figure (U), the heat loss in B.T.U.'s per hour per square foot at a 70 degree differential between inside and outside air temperature, and the computed inside wall surface temperature which would prevail with an outside temperature of 0, and an inside temperature of 70 degrees. The figures under "Heat Loss" give the most useful comparison for laymen.

Thermal Properties of Brick or Stone Veneer Walls with Various Applications of Materials and Insulation



	No Insulation				Insulation			
	1"	2"	3"	3"				
Heat transmission (U)	.37	.14	.09	.07	.19	.11	.08	.06
Heat loss*	19	10	6	5	13	8	6	4
Inside surface temp	58.6°	64.1°	66.2°	67.1°	61.9°	65.3°	66.6°	67.5°

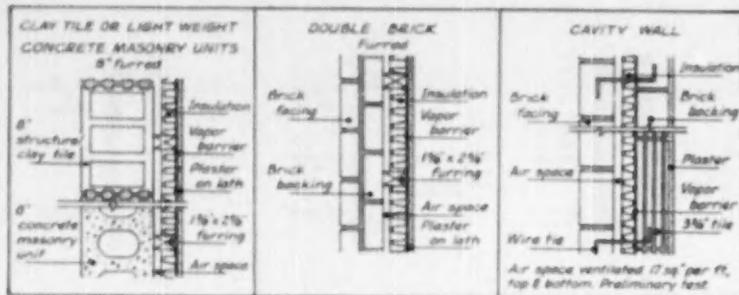
Thermal Properties of Stucco and Wood Frame Walls with Various Applications of Materials and Insulation



	No Insulation				Insulation			
	1"	2"	3"	3"				
Heat transmission (U)	.31	.13	.10	.07	.22	.12	.08	.06
Heat loss*	22	10	7	5	15	8	6	4
Inside surface temp	56.9°	63.6°	65.8°	67.0°	60.7°	64.9°	66.6°	67.5°

Thermal Properties of Masonry Walls with Various Applications of Materials and Insulation

* B.T.U. per hour per square foot at 70 degree temperature difference, to nearest round figure.
 † Inside air temperature of 70 degrees, outside air at 0.



	No Insulation			Insulation			No Insulation		All Brick Insulated	
	No Insulation	1"	2"	No Insulation	1"	2"	All Brick	Brick & Tile	1"	1 1/2"
Heat transmission (U)	.28	.14	.09	.31	.14	.09	.38	.35	.16	.12
Heat loss*	20	10	6	22	10	6	27	23	11	8
Inside surface temp†	58.1°	64.1°	64.2°	56.9°	64.1°	66.2°	53.9°	55.2°	63.2°	64.9°

steam systems, the saving will be greater because smaller radiators and convectors can be used, with the resultant saving applied against the cost of the insulation, plus the saving in fuel. In extreme cases, the saving in the cost of a heating plant, including radiators, is sufficient to offset the cost of insulation at the time of construction. In such a case the annual fuel saving is a plus feature, obtained without original cost. If the insulation does have a definite net cost, as is usually the case, the fuel saving pays an attractive annual return on the investment for the home or building owner as long as the structure is heated.

When summer air conditioning systems are installed, smaller units can be specified if insulation is properly applied. In addition to this initial saving, the operation time required to maintain comfortable indoor temperatures will be reduced appreciably. Operating electrically powered air conditioning equipment is costly.

It is generally estimated that the cost of reducing indoor temperatures in summer is considerably greater than the cost of increasing the temperature one degree in winter.

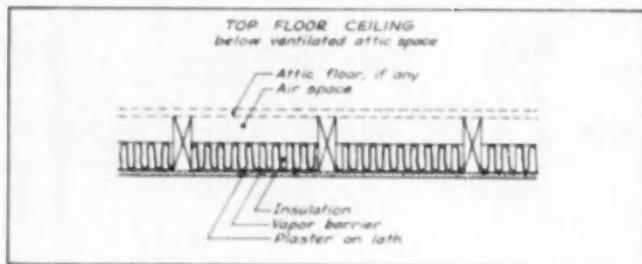
The efficiency of common mass and rigid insulations is approximately the same under similar circumstances. The question is constantly arising then as to the proper or economic thickness of the insulation to be used. If insulation is to be used, how much should be applied? The public has been bombarded with advertising and publicity, some of it unscrupulous, as to the percentage of fuel saving possible by installing insulation or buying a house with insulation in the ceilings and walls. The insulation man may claim, for example, a saving of 30 per cent. The weatherstripping fraternity may promise a saving of 20 to 30 per cent. Storm sash and storm door people may assure a saving of 30 per cent. Finally the heating contractor may promise a saving of 20 to 30 per cent on the

fuel bill if a certain type of modern efficient heating plant is installed. If all of these figures are added, and frequently consumers and home buyers do add them up, the total is conservatively a saving of 120 per cent. Obviously this is impossible. They cannot be added in terms of percentages. This should be stressed in discussions dealers and builders have with their customers and clients.

The correct approach is to figure each item in relation to the actual fuel cost under consideration. If a job is estimated as requiring about 10 tons of coal for comfort through the heating season and insulation will save 30 per cent, the coal then required would be about seven tons. If weatherstripping, double-glazing and other factors will further cut heat loss by 20 per cent, then 20 per cent of the seven tons, or 1.4 tons of coal is subtracted from the seven to leave a figure of 5.6. It is theoretically possible to show how a structure can be heated with 70 per cent less fuel un-

Thermal Properties of Residential Type Ceilings and Floors with Various Applications of Materials and Insulation

* B.T.U. per hour per square foot at 55 degree temperature difference, comparable to 70 degree outdoor to indoor temperature difference to nearest round figure.
 † Inside air temperature of 70 degrees, attic or foundation air space 15.



	No Insulation		Insulation, No Floor					3" Insulation With Floor
	No Floor	Floor	1"	2"	3"	4"		
Heat transmission (U)	.69	.30	.19	.11	.08	.06	.07	
Heat loss*	38	17	10	6	4	3	4	
Inside surface temperature†	47.0°	60.0°	63.7°	66.3°	67.3°	68.0°	67.7°	

der certain conditions, but under the best circumstances savings do not ordinarily exceed 50 per cent, although in some instances savings higher than that have been shown by using every fuel-saving device.

The variable factors which affect the saving expectancy on insulation and make its choice an individual problem emphasize why it is necessary to have different types and thicknesses for different climates, different fuel costs and different types of buildings. Obviously the owner of a home in Minneapolis can afford to invest more in insulation than the owner of a similar home in Baltimore, if both expect to realize returns on their investments in the same length of time.

Other factors which make it desirable to have a choice in types and thicknesses of insulation include possibilities for decorative effects, structural attributes combined with insulation values and similar considerations. There are also home owners and home purchasers who are not concerned with costs when comfort is under consideration. As long as such persons get a great deal of comfort, they do not consider costs of fuel, air conditioning or insulation. Usually, however, maximum comfort can be achieved in cold as well as warm weather only when adequate insulation is installed to meet climate conditions involved.

The more severe the climate, the more expensive the fuel, or the more inefficient the heating plant, the more will be saved by adequate use of insulation. No construction should be planned in which the inside surface temperatures of the walls do not come within the comfort range of 65 to 68 degrees F when the inside air temperature is at comfort level.

A cost-wise builder knows that the installation cost of adequate insula-

tion is about the same as for minimum. Since both over-all economy and comfort are increased by heavier insulations, an adequate amount is always a sound investment. Best results are always achieved by a complete insulation application.

The "ghost marks" or shadow lines on plastered ceilings and light-colored walls that commonly occur in uninsulated houses during the first few heating seasons are familiar to everyone. They are also found occasionally on the exteriors of houses painted light colors. These occur when the heat loss through the framing members is not substantially the same as the heat loss through the spaces between the framing members. To avoid these marks, design should call for reasonably balanced heat losses through the structural members and through the spaces between these members. This can be accomplished by the proper insulation and

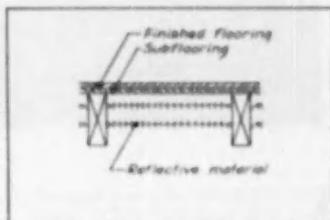
it also holds redecorating costs down.

Tests are under way to determine how much difference in temperature causes marking. Present indications are that in a dusty atmosphere a difference of three to five degrees F will show staining in one or two heating seasons on white surfaces. A normal atmosphere will not show such marks for three to five years.

There is no general answer to the question "How much insulation is enough?" There are, however, five important factors that must be considered in the selection and installation of insulation. They are: 1—Climate, including the necessity of protection from outside heat; 2—Local fuel costs and the efficiency of the heating plant; 3—Surface area in the building that can be insulated; 4—The natural heat insulating value of the construction itself, and, 5—The comfort of the occupants both winter and summer.

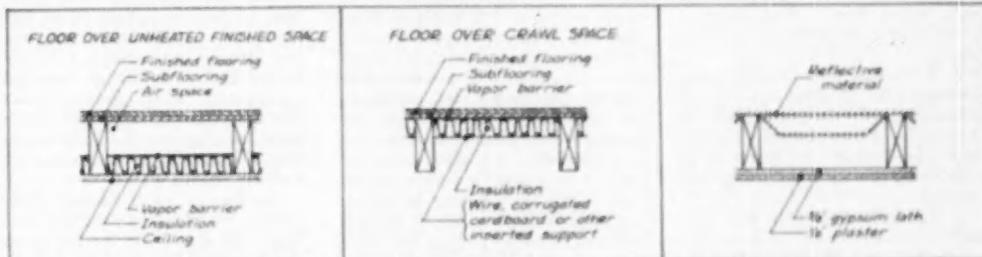
Floor over Ventilated Crawl Space; Heat Flow Down

THE emissivity of any reflective material should be known so that calculation of the over-all heat transmission coefficient will be accurate. Some reflective materials on the market have an emissivity higher (less reflective) than the emissivity of .05 given in the Heating, Ventilating, Air Conditioning Guide, ASHVE, for bright aluminum foil. The visible brightness of the surface of a reflective insulation, or of any material, is no indication of its effectiveness to retard radiated heat transfer



Heat transmission (U)	Insulation			
	No Insulation	1 Air Space	2 Air Spaces	3 Air Spaces
Heat loss*	.28	.10	.06	.05
Inside surface temperature†	60.8°	66.7°	68.0°	68.4°

* B.T.U. per hour per square foot at 25 degree temperature difference, comparable to 70 degree outdoor temperature difference. † Inside air temperature at 70 degrees; foundation space 15.



Floor Over Unheated, Finished Space
1/4-inch plywood ceiling
Heat flow down

No Insulation	Insulation			
	1"	2"	3"	3"
.20	.12	.08	.06	
11	7	4	3	
63.4°	66.0°	67.4°	67.7°	

Floor Over Crawl Space
Heat flow down

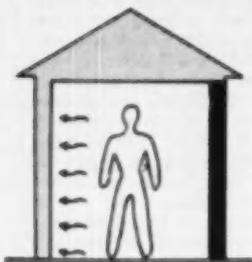
No Insulation	Insulation			
	1"	2"	3"	3"
.28	.14	.09	.07	
13	8	5	4	
60.8°	65.4°	67.0°	67.7°	

Ceiling Below Ventilated Attic
Heat flow up

No Insulation	Insulation			
	1 Air Space	2 Air Spaces	3 Air Spaces	3 Air Spaces
.69	.30	.19	.14	
28	17	10	8	
47.2°	59.9°	63.7°	65.4°	



HOW INSULATION WORKS



THE HUMAN body can lose heat in three ways: (1) by conduction or direct contact with a cold object; (2) by convection such as cold drafts; (3) by radiation or being in close proximity to low temperature surfaces or objects in a confined area. Modern methods of construction keep cold drafts out of well built houses, and modern heating installations will keep furnishings and air at 70 degrees F. But humans will not be comfortable in the rooms if cold walls, ceiling and floor draw too much of the body's radiated heat.

KNOWLEDGE of the fundamentals of how insulation works is essential to any intelligent discussion of the subject with the public. It is also essential to any understanding of the correct choice of the type of insulation to be used, how much to use and its proper installation. The primary purpose of insulation is to retard the passage of heat, either from the inside out or from the outside into a structure.

Heat is a form of energy. It always travels from a warm surface to a cooler one. Heat travels in three ways:

1. *By conduction.* Heat passing through solid materials, as through steel or dense concrete, travels by conduction. Dense materials conduct heat more rapidly than materials in which particles are separated by tiny air cells.

2. *By convection.* When heat travels via currents of air, it travels by convection. Air on contact with the cold side of a wall or a cold window tends to settle as it cools. Air in contact with a warm wall or unit rises. These reactions of air to cold and warm walls and objects set up a continuous circulation which moves heat across air spaces.

3. *By radiation.* Radiated heat

moves at high speed through air without heating the air and flows in direct lines from a warm surface to a cooler surface. Sun heat is radiated heat. Heat moving from a human body to a nearby colder surface, such as a wall or ceiling, is radiated heat. Radiated heat is absorbed by the object or wall which it reaches in proportion to that object's affinity to absorb heat.

In cold weather, heat inside a room travels to the surfaces of the walls, ceiling or roof by direct radiation and in air currents. Part of it is reflected and radiated back into the room. The remainder passes by conduction through the solid portion of the construction. If there are air spaces, as in frame construction and in hollow masonry units, heat will cross these spaces by convection and radiation. When it reaches the outside surface it is carried away by the outside air. In warm weather the process is reversed. Heat enters the building from the sun's radiation and warm outside air.

All building materials such as wood, masonry, and even wide air spaces permit the passage of heat from the interior to the exterior in winter or from the exterior to the interior in summer. This rule also ap-

plies to insulation. Insulation never completely stops the passage of heat, but it is manufactured for the express purpose of retarding the greatest possible amount in areas insulated.

To understand how insulation works, it is necessary to understand how the human body's heating system functions. It has its own heat creating facilities which normally and automatically maintain the body temperature at 98.6 degrees, summer and winter. The amount of heat generated by the human body is, in fact, more than humans can tolerate unless some of it is thrown off constantly. Unless this heat is discharged continuously, high fevers result. When it is discharged too fast, "goose flesh" develops as the body works hard to make up for the abnormally high heat losses.

The furnishings in a room can be warmed with furnace heat. The windows and doors can be closed to avoid drafts. But even though the room is heated to a livable 70 degrees F, humans will not be comfortable in the room when cold walls, ceiling and floor draw too much of the body's radiated heat. Entering an unheated house in cold weather illustrates this reaction. Practically everyone has at some time or other

felt the sudden chill of entering an unheated house or room where the actual air temperature is no lower than it is outside but the proximity of cold walls, ceiling and floor drawing body heat at a fast pace creates acute discomfort.

Insulation's function then is simple—to keep walls, ceilings and floors resistant to the escape of heat from indoors and to keep the indoor surfaces of rooms at a temperature close to the temperature of the air in the rooms. In summer outdoor heat is held within the walls, maintaining lower interior surface temperatures than would be possible without insulation.

The transfer of heat through building materials takes place almost entirely by conduction, although in rare cases convection may be a minor factor. On the other hand, the movement of heat through air spaces takes place by all three types of heat transfer. *Heat always moves from the warm to the cold side.*

The manner in which insulation retards the flow of heat is very simple. Just as an obstruction or series of obstructions in a garden hose or water pipe will retard the flow of water, so insulation acts to retard the flow of heat. Practically all mass insulations are made of porous, lightweight materials. These manufactured materials are formed with millions of air pockets or voids in them. The air pockets are created by the separation of the vegetable or mineral fibers that make up the insulation at time of manufacture. Each of these tiny air cells has its own sphere of influence. Each tends to retard heat flow. This type of insulation is efficient in controlling heat flow because it has such a low rate of heat transfer by conduction. These mass insulations permit practically no transfer of heat through them by convection or radiation.

Reflective insulations retard the flow of heat because they reduce the amount of heat transferred across the air space by radiation. Reflective materials must always be installed in conjunction with an air space. They have no insulating value if no air space is provided. Although reflective insulations function efficiently in stopping heat movement by radiation, their efficiency in retarding the flow of heat by conduction and con-



IN DEVELOPING a yardstick to measure the comfort rating of a home, it is generally recognized that 70 degrees is the accepted indoor temperature in winter. Because the outdoor temperatures fall to 0 or below in most areas of the United States, insulation is required to keep the inside surfaces of exterior walls within a few degrees of the room temperature. If these surfaces are more than 6 or 12 degrees colder than the air, rating is poor

convection depends on the care with which they are installed. Ability of reflective insulations to insulate depends on the direction of heat flow and the position of the insulation. For example, its insulating value against heat flow upward is about one-third of its value against heat flow downward, when it is in a horizontal position.

For years it was common to call an enclosed air space a "dead" air space, the implication being that there was no air movement in such a space. Research, however, on the basis of studies in how heat and air moves, has established that there is always a movement of air due to

convection whenever there is a difference of temperature between the surfaces enclosing the space. The air in such a space is not "dead." There is always considerable circulation of air in any enclosed space, such as the stud space in a frame structure.

An air space does have some insulation value, however. The normal vertical air stud space of 3 1/2 inches is as good as 1/4 inch of an average bulk insulation. If a reflection material is applied to one side of the air space it is equivalent to another 1/4-inch of an average insulation.

Actually, as far as function is concerned, there are only two classes of insulation: mass insulations and reflective insulations. As pointed out above, mass insulations depend on their low rate of heat conductivity for effectiveness. At the same time mass insulations permit practically no transfer of heat by convection or radiation. Reflective insulations effectively retard heat transfer by radiation and have value as insulating materials only when installed in conjunction with air spaces. To obtain maximum efficiency with reflective insulations the air space should be 1/4-inch in width. The visible brightness of the surface of a reflective insulation, or of any material, is no indication of its effectiveness to retard radiated heat transfer. Accurate tests on reflective insulations can be made only with a radiometer or emissivity testing instrument.

In his report to the Building Research Advisory Board's conference on weather and the building industry in January, 1950, Professor Frank B. Rowley, director of the Engineering Experiment Station, at the University of Minnesota, said: "It is only within recent years that the insulated wall has been considered in relation to the comfort of the occupant. It has long been known that a man's feeling of warmth depends not only upon the condition of the air around his body, but also upon the temperatures of the surrounding wall surfaces. Since a large percentage of heat is given off from the human body by direct radiation, the temperatures and emissivity of the surrounding wall surfaces become important factors in his feeling of comfort. With outside air temperatures appreciably lower than inside air temperature, the inner surface of the exterior walls are affected directly by the amount of insulation in the walls. With a well-insulated wall, having a warm inner surface, the oc-

HOW HEAT MOVES THROUGH BUILDING MATERIALS

Heat passes through building materials chiefly by conduction and always moves from the warm to the cold side. Factors which determine the rate and volume of this heat transfer are:

1. Temperature difference between the two surfaces. The greater the difference in temperature the more heat per unit of time will be transferred. If there is an inside temperature of 70 degrees and an outside temperature of 0 degrees, more heat units per hour per square foot will go through the wall than if the outside temperature were 30 degrees.
2. Thickness. Less heat is trans-

ferred through thicker materials, if the conductivities are equal.

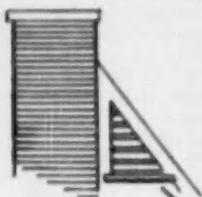
3. Area. The larger the wall or ceiling area, the greater the amount of heat that is transferred.

4. Time. The amount of heat transferred is proportional to the number of hours during which the heat flow takes place.

5. Rate. The rate of heat transfer always affects the amount of heat that passes through a wall. This depends on the physical characteristics of the material and how fast a material conducts heat together with the temperature difference between the high and low points.

(Continued on page 85)

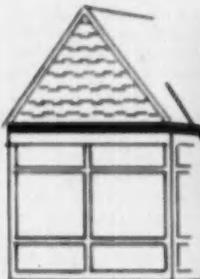
WHERE TO INSULATE



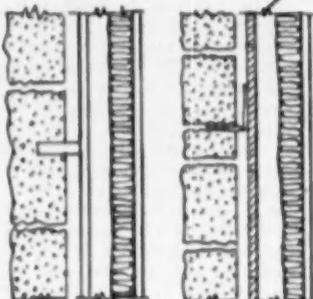
VENTILATION above attic insulation is essential to ensure comfort and to help control any moisture vapor and condensation conditions which might develop in winter. Two standard methods are louvers and ridge and cave ventilators



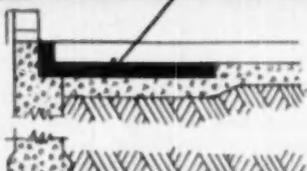
ALL dormers should be insulated with special care. The entire surface of the exposed walls as well as the ceiling sections must be encased with insulating material. All narrow spaces around windows should be carefully packed to assure maximum efficiency



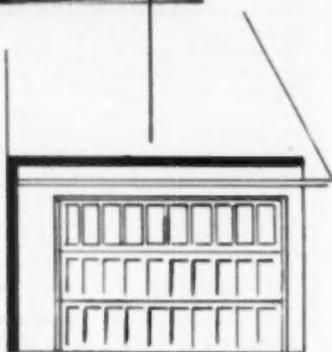
OPEN porches are frequently converted into year round living quarters so it is desirable to insulate the ceiling at time of construction. If space above an open porch is occupied, the floor of the occupied space should be insulated



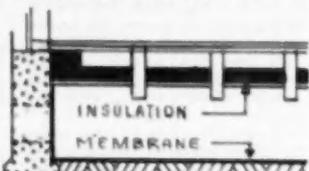
IN DETERMINING where to insulate in a structure the general rule to follow is to insulate the walls, ceilings and floors immediately surrounding the area to be heated in cold weather. For maximum comfort in warm as well as cold weather, exterior walls should always be insulated. The builder has a wide choice of insulating materials from which to choose in the two major groups or combinations of the two: mass insulations which depend on bulk or thickness for heat resistance, and reflective insulations which depend on the character of surfaces for efficiency



CONCRETE slab floors in cold climates should be insulated with one or two inches of slab insulation or with insulating concrete. The amount depends on climatic conditions. In extremely cold areas two inches of rigid water-proof insulation placed along the exposed edge of the floor and extending two feet under the floor on the perimeter, or an application of insulating concrete, is recommended



WHERE living quarters adjoin or are above unheated garage space, the walls and floors of the living area must be insulated to avoid heat loss and discomfort from the cold garage



FLOORS over all unheated areas such as crawl spaces, bay windows and porches should be well insulated. These spaces must also be well ventilated and prevented from giving an excessive amount of moisture to living quarters

THERE is no established formula specifying when insulation should be used, nor is there any established rule on how much insulation is required to keep a house at 70 degrees F, and none can be developed. Any house can be kept at 70 degrees somewhere in every room regardless of the outside temperature or the lack of insulation, weather stripping, tight walls and good floors if there is enough heating capacity and enough fuel is consumed.

The degree of comfort and economy to be achieved in a house in cold as well as warm weather depends, however, to a great extent on the amount



INSULATION should form an envelope to separate the heated rooms of a house from the unheated porches, garage, attic and crawl space. If the attic is not used, insulation should be placed in the attic floor. If a room is built in an attic or low upper-story area, insulation should be installed in the walls and ceiling by following the outline of the room. Flow of air from the eaves to gable or ridge louvers should not be blocked at the knee walls

of insulation that is installed, and where it is placed. Cold floors, cold walls, cold ceilings, singly, in combination or all together can defeat the most carefully engineered plans of the best heating system in its ability to keep occupants of a house comfortable in cold weather. In warm weather, indoor comfort depends on adequate insulation and control of the flow of outside air through the interior of the house. The general rule is that windows and doors should be opened at night but kept closed during the hot daylight hours.

There are three ways of retarding the passage of heat by the use of insulating materials: 1—By replacing

How Insulation Works

(Continued from page 83)

cupant can be warm with a lower ambient (moving) air temperature than would be the case with a poorly insulated wall. This is readily experienced when one is exposed to a large glass window on a cold day as compared with complete exposure to warm walls.

"Extensive research work has been done to measure the comfort of

Where Heat is Lost or Gained in a Building			
Studies of typical buildings as to relative heat loss and gain through various parts or sections are given below. These values are not for the same structure and are typical enough to be indicative of heat transmission:			
Heat Loss in Winter		Heat Gain in Summer	
Walls	33.9%	Walls	33.6%
Ceilings and roof	23.3%	Ceilings	34.3%
Floors3%	Floors	3.7%
Glass and doors	29.9%	Glass and doors	36.4%
Infiltration	14.7%	Infiltration	12.1%
	100.0%		100.0%

The above figures were assembled from studies of typical two-story houses. The percentages would vary somewhat on one-story houses because the ceiling area would be proportionately greater and the wall area less.

materials having a high rate of heat conduction with materials with a low rate of heat conduction. For example, insulating board sheathing might be used in place of a sheathing with little or no insulating value. 2—By adding insulating materials to the wall to partially or completely fill the air space. Batt, blanket or fill insulations function here. 3—By applying a reflective insulation to one or both surfaces of the air space or adding one or more reflective membranes to the stud space.

How much insulation to use and where to use it depends on several factors. If the fuel that were to be consumed in heating a structure had no economic value, then there would be no justification for applying insulation to conserve fuel. Also, if insulations on the market were so high in cost that the extra fuel consumed in an insulated structure would still not equal the cost of adequate insulation, then the advisability of insulating to conserve fuel obviously would be questionable. The two factors to consider are the monetary value of the heat that is lost through the walls or roof figured in comparison to the cost of the insulation installed during the lifetime of the structure. The most satisfactory amount of insulation from an economic standpoint is the amount which will bring about the minimum total annual cost of the heat lost and the insulation applied. These are economic considerations only and do not take into account the comfort to be achieved with adequate insulation. The comfort angle

was discussed earlier.

In determining where to insulate in a structure the general rule to follow is to insulate the walls, ceilings and floors immediately surrounding the area to be heated in cold weather. If the attic is not heated or used for occupancy, insulation should be placed in the attic floor. This is preferable to insulating the roof not only because less material is required but also because ventilation of the attic space is a simpler problem. Exterior walls should always be insulated.

Where attic rooms are to be occupied as living quarters, the walls and ceilings around them should be insulated, to follow the outline of the room. If there is other attic space not enclosed the attic floors of the unused portion should also be insulated.

Where houses are built over crawl spaces, insulation should be placed in the floor. Good practice also calls for ventilation of the crawl space to avoid damage from excessive dampness and moisture.

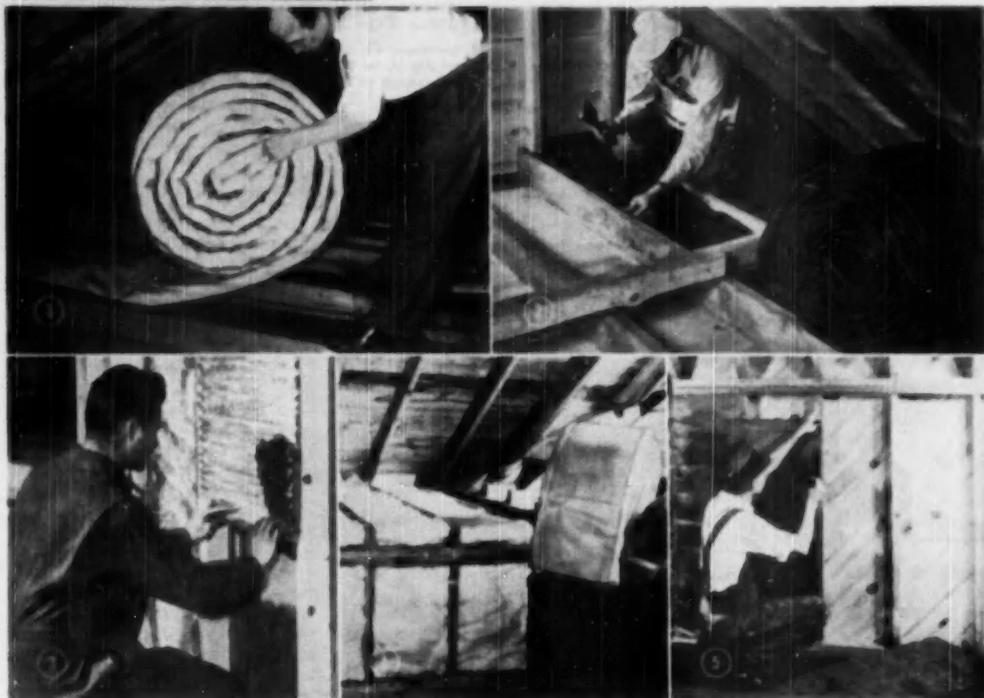
The floors of rooms above open or unheated porches and garages should be well insulated in addition to all wall and top floor ceiling areas. When rooms are added to a house or porches are enclosed the walls and ceilings should be insulated just the same as in new construction. If the area below the addition or enclosed porch is not heated, the floor should be insulated. When porches are made into year round rooms, adequate insulation will often eliminate the need for additional heating facilities.

occupants when exposed to different wall surface temperatures in combination with different air temperatures, but, so far as I am aware, no optimum wall surface temperatures have been established. In general, the more nearly the inner surface temperature of a wall is to the surrounding air temperatures, the more ideal the conditions will be. Usually a wall which has sufficient insulation to sat-

isfy economic requirements may be considered to be sufficiently insulated for comfort.

"Since the effect of a wall surface on one's comfort is largely due to the radiation of heat between the body and the wall surface, it is possible to counteract the radiant effect of a cold wall surface by the application of some highly reflective material to the inner surface of the wall."

Insulation....



(1) BLANKET insulation wrapped in paper with vapor barrier on one side; (2) Wood fiber blanket with nailing flanges which fasten to framing members; (3) Multiple layers of treated wood fibers attached to heavy creped paper with a reflective aluminum foil cover on one side; (4) Cotton blanket lined one side; (5) Wool batts with vapor barrier and nailing flange. Photos courtesy (1) Owens-Corning Fiberglas Corp.; (2) Wood Conversion Co.; (3) Emberly-Clark Corp.; (4) National Cotton Council; (5) Johns-Manville.

Types of Insulation and How to Install

THE MOST exhaustive efforts of research men and manufacturers to develop and produce the most efficient and economical commercial insulations can be largely nullified if the products are not properly applied on the job. If materials are used for insulating purposes in a place or under conditions for which they were never intended, the fault likewise lies with the designer and builder and not with the manufacturer. The importance of proper insulation application, strictly according to manufacturer's instruction, cannot be underestimated. Manufacturers always supply detailed instructions to builders and dealers who buy their products. If special problems or unusual conditions develop, manufacturers are always ready to lend their assistance in helping builders and dealers get maximum satisfaction for clients and customers.

The importance of care in correct application of insulation is pointed out by Professor Frank B. Rowley, director of the Engineering Experiment Station at the University

of Minnesota, who says: "Select materials (insulations) which are adapted to the particular type of construction, install them in such a manner that their full values will be realized and so that their various properties will be preserved during the life of the material itself. For instance, insulated walls must be so constructed that there will not be paths of high heat conductance through the insulation. Fill materials must be so installed that they will not settle and leave vacant uninsulated spaces in the insulated areas.

"When air spaces within the wall are to constitute a part of the insulating value, the material must be so installed that the air spaces are sealed to prevent the interchange of air between warm and cold air spaces. If reflective insulating materials are used, they must be so installed that the reflective surface will be protected from any foreign materials which would increase its emissivity coefficients (factor of heat absorption) and it must not be laid in contact with other materials. To be com-

pletely effective, the air spaces formed must be so constructed as to take full advantage of their insulating value.

"The insulating value of many materials is affected by moisture, either in the liquid or solid (ice) state. Where moisture-producing conditions exist, it is now common practice to protect these materials by applying some moisture-resistant membrane as near as possible to the warm surface of the wall. This must be installed with care to make certain that it is sealed to the framing and forms an effective barrier.

"The insulating value of a material may be greatly reduced by improper installation. For instance, a wood frame wall of standard type, with a ½-inch blanket insulation well installed in the central vertical plane of the stud section, gave a test coefficient of .12. This same wall, with ½-inch cut off from the top and bottom of the blanket, so as to allow air circulation between the two air spaces, gave a test coefficient of .18. Similar reduction in the insulating



(6) LOOSE fill insulation being blown in; (7) Granular fill insulation being poured; (8) Insulating board sheathing; (9) Decorative insulating board on an interior finish; (10) Reflective insulation. Photos courtesy (6) United States Gypsum Co.; (7) Vermiculite Research Institute; (8) and (9) Insulation Board Institute; (10) The Sianikraft Co.

value of a reflective material may be expected if it is not properly sealed to prevent air circulation between the hot and cold air spaces.

"A similar condition exists, perhaps to a lesser extent, in masonry walls with vertical air spaces, when the mortar between the joints is buttered only around the edges, as is common practice. The webs, or partitions, between the air spaces are not sealed in the central part of the block, and there is direct communication between the air spaces on the cold and warm side of the wall."

Permanent ventilation in attics above insulation is essential to good performance. In summer it permits the escape of sun heat and in winter it carries off vapor that passes from the house into the attic. Any arrangement that permits free circulation between the insulation and roof is suitable. Two standard methods are louvers, and ridge and eave ventilators. Louvers should be placed as high as possible at the peak of the gables. Ridge and eave ventilators must be constructed to allow circulation in at the eaves and out at the ridge. If knee walls are constructed, they must not block this circulation.

To insure adequate ventilation, there should be at least one-quarter square inch of free opening in each of two permanently open vents for each square foot of insulated attic area.

Loose Fill

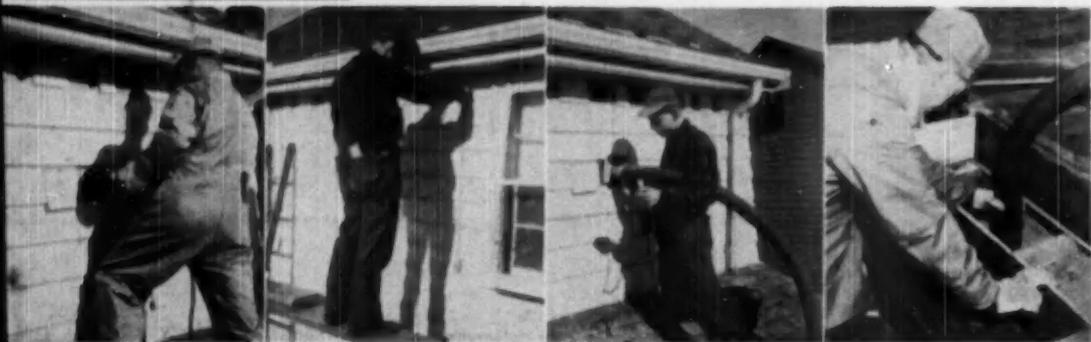
Fill insulations are bulk materials which are usually packed in bags. Various types may be packed, poured or blown into the spaces formed by framing members or masonry. Normally, they are used for insulating existing buildings.

Mineral Wool includes three types of incombustible insulation known as rock wool, slag wool or glass wool, depending on the nature of the material from which it is manufactured. Rock wool is made from rock; slag wool is made from slag; glass wool is made from molten glass. Generally, a molten stream of these materials passes through a blast of steam which blows them into long hair-like "wool" threads. From this first formation they may be fabricated into nodules, into batts or blankets. Mineral-wool filled partitions have been accorded a one-hour fire rating when faced with wood lath, or equivalent, and plaster. When

faced with metal lath and plaster the fire rating is 1½ hours. This method of construction is fast becoming a popular method of meeting some fire code requirements in many areas.

Wood fiber wool fill includes several insulations made from wood fiber to produce a lightweight fleecy material. These are generally treated to render them flame resistant, vermin repellent and moisture resistant. This type of insulating material is also fabricated into blanket insulations.

Vermiculite is an inert, lightweight, granular insulating material manufactured by exploding an aluminum magnesium silicate mineral, which is a form of mica. This mineral is made up of thousands of separate layers per inch. Between each layer is a minute amount of water. When flakes of the mineral are suddenly exposed to high temperatures in a specially designed furnace, water between the layers changes to steam, causing it to explode into cellular granules or vermiculite insulation about 15 times the original size of the flakes. The final product is graded into different sizes for various uses, including building insula-



IN INSTALLING blow-in fill insulation in existing structures, access to spaces between studs is made by removing small sections of the exterior finish and then drilling holes in the sheathing. In every stud section a plumb bob is dropped inside to locate any

obstructions which might stop the insulation from completely filling that space. When obstructions are found, other openings must be made in the wall to get at the spaces below.

Photo courtesy Owens-Corning Fiberglas Corp.

tion, lightweight insulating concrete aggregate and aggregate for insulating plaster.

Application

The application of granulated type fill insulations, such as expanded vermiculite, loose and granulated rock wool is comparatively simple. The material is poured from bags into which it is sold, hand packed, or blown between framing members by a blowing machine.

In insulating walls with fill insulation the pneumatic method is the most common. It develops an adjusted pressure which fills all the spaces which are accessible. This method can be used during construction or in existing buildings.

Loose fill insulation of the granular or fibrous types may be poured from bags into the spaces between the ceiling joists to the desired depth, usually four inches. It may be poured in place as soon as the plaster base or interior finish is applied, except where open lath are used. In these cases, it is necessary to wait until the plaster has been applied and has thoroughly dried. This is true whether the insulation is used in sidewalls or ceilings. If a vapor barrier is to be installed in the ceiling it should be put in place on the under side of the joists before the interior finish is applied. The fill insulation will then rest directly on the upper surface of the barrier.

When granular or fiber insulation is applied to existing structures in the side walls, a plumb bob should always be dropped into each stud space to check for fire stops or headers which might obstruct the insulation flow to all parts of the space. When vermiculite fill insulation is installed in sidewalls of existing structures it is well to vibrate the walls



Photo courtesy Vermiculite Institute

GRANULAR fill insulation is poured into wall spaces between studs and in attics between ceiling joists. In any job with fill insulation it is essential that wall spaces be filled completely and to top of stud

slightly with a rubber mallet or short 2 x 4 as the insulation is poured to insure a complete fill below plaster clinches and around other obstructions such as conduit or pipes. It is important that walls be completely filled to the top, along with all the openings below fire stops and windows.

Double (cavity) masonry walls can be satisfactorily insulated with fill insulations. Variation in materials used and in construction methods make it advisable to follow the manufacturer's recommendations closely when this is done. Concrete block walls are sometimes insulated during construction by filling cores of blocks with insulation. Because of the conductance through the solid portion of the block, such a wall does not provide as much insulation as the

Commercial Building Insulations

I. Loose Fill Insulations

A. Fibrous

1. Mineral wool
 - a. Rock wool
 - b. Glass wool
 - c. Slag wool
2. Vegetable Fiber (wool)

B. Granular

1. Mineral (vermiculite)
2. Vegetable (granulated cork)

II. Blanket Insulations

- A. Wood fiber or mineral fiber wrapped one or both sides with paper, one side usually a vapor barrier
- B. Multiple layers of treated wood fibers attached to creped paper with a re-foiled aluminum foil cover on one side, compressed for shipment
- C. Cotton fiber lined or wrapped one or both sides with paper

III. Bulk Insulations

- A. Plain (no vapor barrier)
- B. Vapor barrier on one side, plain on other
- C. Vapor barrier one side, retainer paper on the other

IV. Structural Insulating Board

- A. Building board
- B. Sheathing
- C. Lath

D. Tileboard

E. Plumb

F. Roof insulation board

V. Slab (or block) Insulations

- A. Cardboard
- B. Wood fiber and cement
- C. Mineral wool with binder
- D. Insulating board slabs
- E. Asphalt-vermiculite slabs
- F. Hard rubber
- G. Cellular glass

VI. Reflective Insulations

- A. Aluminum foil
 1. Plain (no paper backing)
 2. Paper backed foil
- B. One or more layers of foiled aluminum foil, with the foils and paper separators joining air spaces when installed
- C. Aluminum foil-surfaced plaster board
- D. Dull sheet steel

VII. Miscellaneous

- A. Concrete-like material sprayed on with adhesive
- B. Combinations of aluminum foil with other types of insulation such as blankets and structural insulation board
- C. Insulating board core surfaced on one or both sides with asbestos-cement board, metal or other material
- D. Multiple layers of corrugated paper
- E. Cellular mass made from liquid resin

insulated double or cavity wall but it does provide more insulation than the wall would with the cores left open. *Extreme care must be taken under these conditions to make sure insulation will always remain dry.*

In insulating existing structures with fill insulation, either poured or blown in, the use of a vapor barrier is not mandatory, but it is good insurance against condensation troubles as a result of housekeeping methods which produce high humidities. An efficient vapor barrier may be provided by applying two coats of lead and oil or aluminum paint to the interior plaster surface. Normally, however, good ventilation and control of humidity are sufficient. Ventilation should be provided over ceiling insulation in all cases.

Blankets

Blanket insulations are flexible units more than 48 inches in length and wide enough to fit between studs on conventional 16 or 24-inch centers. This material is manufactured to controlled thicknesses and either folded in cartons or packed in rolls. It is made of mineral wool, wood fibers, cotton and animal hair. The fibers are either naturally fire resistant or are treated to make them so.

Because of the variety of material used for blanket insulations, the manufacturing processes vary a great deal. The felted or wool-like matings, however, are of three general types: 1—Those having the fibers completely encased on all sides with kraft or other paper, one side of which is a vapor barrier; 2—Those which have a vapor barrier on one side only and are not completely encased; 3—Those which have no paper covering. These depend on the interlaced fibers for sufficient strength, with or without stitching, to hold the material into a compact matting or blanket.

Blankets in the first two classifications are usually provided with a nailing flange to conform to standard spacings in wood framing. Those in the second classification are usually made sufficiently wider than the standard framing spaces to permit edge fastening through the material.

Blanket insulations are generally produced in one, two, three and 3½-inch thicknesses. The thicknesses in inches are not always specified, but are assigned various names by competing manufacturers, such as full-thick, double-thick, standard, commercial and similar designations. Generally speaking, their efficiency depends on their thickness.



Photos courtesy Owens-Corning Fiberglas Corp.
BLANKET insulations are made in standard widths to fit between studs 16 or 24 inches on center. When blanket is cut for length or to fit a narrow space, enough extra is left so the insulation can be tucked back and paper stapled to surface or side of framing members

Application

The two popular and efficient methods of applying blanket insulation in frame construction are: 1—Between the framing members held in place by friction; 2—Between the framing members with nailing flanges or edges of the paper or vapor barrier backing nailed to the inside edges of the studs or other framing members. When blanket insulation which is thinner than the depth of the framing members is applied entirely between the framing members, it should be installed so that two air spaces are formed. To do this the insulation must be held in place, either by stapling it directly to the sides of the framing members or by fastening it with lath or other wooden strips. The latter is preferred. The blankets should always be cut slightly longer than the opening to be filled and the ends secured to the plates in the same manner that the edges are fastened.

Some blanket insulations are manufactured with stapling flanges which unfold to fit over the edges of framing members so that when they are properly secured the two air spaces

are formed. These flanges are held permanently in place by staples in the plaster base or other interior finish. If the interior is not to be finished, wood strips should be applied over the edges of the framing and the ends of the blankets should be stapled to the sill, plates or headers.

One type of blanket insulation is installed between studs by first securing the upper end with a lath strip, stretching the blanket to the desired length and attaching the other end to the sill in the same manner. After this is done the edges of the blanket are fastened along the sides of the studs by stapling at regular intervals of about 18 inches.

In applying all types of blanket insulation it is important to remember that there should be no openings through which air can move from the air space on one side to the air space on the other side. When this situation develops the efficiency of the insulation is lowered appreciably.

There are a number of thin flexible insulations that can be applied directly to the studs, either on the inside or outside edges, and the interior or exterior finish applied directly

Photos courtesy Kimberly-Clark Corp.



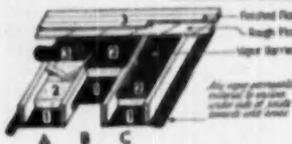
THIS TYPE of blanket insulation is compressed for shipment. When installed, it is cut to right length, stapled to the top plate and then stretched to floor plate and stapled there with fiber strips both top and bottom for firm attachment. It is then stapled to sides of studs to provide air space with the reflective foil on the interior, warm side

Insulation...



IN INSTALLING batts start at the bottom of the stud space and completely insulate by snugly butting successive batts together. Where there is a flange on the vapor barrier, it should be stapled to the studs. At sills, plates and in odd-shaped places, the vapor barrier is cut a little larger than the opening; the insulation tacked back and the barrier stapled to members. Same rule applies to blankets

BLANKETS are cut in continuous strips to required length for each stud space. In installing batts or blankets, large pipes in walls may require removal of part of the wall, but the vapor barrier is always retained. To protect water pipes from freezing, insulation should be on the cold side whenever possible and none on the warm side, but keep vapor barrier intact. Vapor barrier must fit snugly around outlets



IN FLOORS over crawl spaces batts can be installed in several ways. A suitable supporting material, vapor permeable, is first installed, shown as (1) in the drawing. Each joint space is completely insulated, with all batts butted snugly together.

worked around bridging and fitted snugly at ends of joist runs. Vapor barriers are always up, next to the floor. Flanges are stapled in positions shown in the three drawings, depending on which method is adopted. If flooring is already installed, the insulation can be applied from below with the vapor barrier up, and supported with a suitable vapor permeable material attached to the bottoms of the joists. When insulation is installed in a floor over a cold area or crawl space, good vapor barriers plus adequate ventilation will add to the efficiency of insulation and comfort

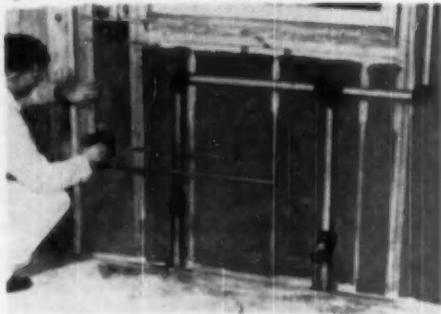


INSTALLATION of batts or blankets in top floor collings or attic floors over heated spaces with the room ceiling finish in place is a simple operation. Working from above the joists, the insulation is laid between them with the vapor barrier down, against the warm ceiling. Batts should be fitted closely together and worked carefully around all bridging, pipes, conduits, etc., which may be in the joist spaces. Blankets should be cut to the required length with allowance for attachment of vapor barrier at the ends. When working from below with an attic floor in place or under sloping roofs, the same basic principles apply, with the vapor barrier always on the warm side

Drawings courtesy National Mineral Wool Association



WHENEVER batts or blankets butt plates, headers or other framing members, they are cut slightly longer than the space they are to fill. The insulation is pushed back and paper stapled to framing members



BATTS or blankets should always be worked carefully around pipes and conduits. Water pipes should be protected from freezing with insulation on the cold side but the vapor barrier retained on the warm side

Photos courtesy Owens-Corning Fiberglas Corp.

Application

Application of batt insulation follows the same general rules as those which apply to blanket insulation. Work should always be started at the bottom with batts, however, and each stud space completely filled by snugly butting each batt against the other. Where there are pipes, conduits or other obstructions to work around, the wool should be split and part of the material placed behind the obstructions if there is room. To protect water pipes in outside walls from freezing in cold climates, it is advisable to place insulation on the cold side only.

Where batts do not have an integral vapor barrier, it is recommended that a vapor barrier be applied on the warm side of the wall as soon as the batts are in place. For complete details on sidewall, ceiling and floor installation of both blanket and batt insulations, please refer to the accompanying drawings and photographs.

Insulating Board

Structural insulating boards are manufactured from wood or vegetable fibers. Although the methods of manufacture vary, the first step usually reduces the raw material to a pulp. These fibers are washed and then waterproofed or otherwise treated with various preservatives to render the boards resistant to moisture, rodents, rot and drastic changes in dimension. They are then felted together and formed into large sheets which are dried, cut and trimmed to finished size. Interior finish boards can be obtained which are further treated for fire resistance.

The outstanding characteristic of insulating board is that it combines structural strength with insulating qualities. It is a versatile building board without any grain but with relatively high tensile and compressive strength plus stiffness.

Common insulating board products used in light construction are known as building board, sheathing, lath, tile board, plank and roof insulation.

Building board is a product for general usage produced in four-foot widths and in lengths from six to 12 feet. Popular thickness is $\frac{1}{2}$ -inch, although it is available in thicker grades. It can be used satisfactorily with the natural finish but a number of manufacturers apply various colors to the surface at the factory. When applied, insulating board is usually the finish wall. Various deco-



THE WALLS of this room are finished with insulating board plank and the ceiling with insulating board tile. Special nails are driven in the heads and grooves in applying this material. Where there is solid, plumb backing, tile can be applied with special adhesives recommended by the various manufacturers for use with their particular products.

rative effects can be achieved by cutting V-joints, grooves and designs with special cutting tools.

Applications

The board can be nailed directly to studs or any solid backing. Where nailing is exposed, $\frac{1}{4}$ -inch board should be fastened with $1\frac{1}{4}$ -inch galvanized finishing nails, cadmium plated needle point No. 17 gauge with $\frac{3}{8}$ -inch flat heads or No. 16 gauge brads. The finishing nails or brads should be driven at an angle and heads set flush with a nail set to avoid hammer marks. No type of nail should be set below the surface of the board. Concealed nailing can be done with $1\frac{1}{2}$ -inch galvanized shingle nails, galvanized roofing nails or box nails. The flat-headed nails, where covered, can be driven slightly below the surface.

Nails should be about $\frac{1}{4}$ -inch from the edge of the board and about three inches apart around the edge. On intermediate framing members the nails can be six inches apart. All board joints should be centered on framing members.

It is always well to unpack the board and set the pieces singly about the room or structure where they are to be used about 24 hours before application for adjustment to atmospheric conditions. Even after this is done, no boards should ever be forced tightly together. A moderate contact at the joints is recommended by manufacturers. Where the board is to be painted after it is installed,

the manufacturer's specifications on priming and paint to use should be followed.

Insulating board sheathing is a structural board usually heavier in weight than building board. All of the sheathings on the market today are waterproofed either with an asphalt coating or with an integral asphalt treatment. Some manufacturers also mark the board to show proper nail spacing and alignment. Insulating board sheathing is supplied in two main size groups— $\frac{1}{2}$ or $\frac{3}{8}$ -inch thick, four feet wide, in lengths from eight to 12 feet with square edges, two by eight-foot sheets, $\frac{3}{8}$ -inch thick, usually with some kind of tongue and groove or fitted edge joint on the long edges.

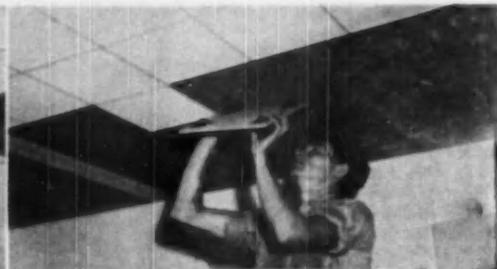
This type of insulating board can be used as regular sheathing in frame construction with the various types of exterior finishes such as wood siding, shingles, stucco or brick veneer. FHA minimum requirements do not specify building paper where insulating board sheathing is used except under stucco or masonry veneer. For the insulating value of this type of sheathing, please refer to the sectional drawings and tables on previous pages.

The four-foot wide sheathing is applied vertically and nailed at the intermediate studs first with large headed roofing nails spaced six inches apart. Around the edges nails are spaced three inches apart.

The two by eight-foot sheathing



INSULATING board tile being applied to furring strips with concealed nailing. It is especially important that framing or furring strips for tile conform to size of units used



SOME manufacturers have worked out special clip systems and interlocking joints for installing insulating tile. In this photo the tile is being applied with a special adhesive

Photos on this page courtesy Insulation Board Institute

with interlocking horizontal joints is applied horizontally, nailed to the intermediate studs first with the same nails and same spacing used on the large sheets. The method of application of this type of sheathing is about the same as with wood sheathing, except that the units handled are much larger. Where rigid shingles are used as an exterior finish, furring strips must be applied over the insulating board sheathing unless special patented self-clinching nails are used.

Insulating board lath is a plaster base normally manufactured 18x48 inches, 5/8-inch thick. All edges are specially grooved to provide extra strength. Some manufacturers supply patented metal reinforcements for use on long edges. One-half-inch of plaster is recommended with this product. It is designed to fit ordinary frame studs 12 or 16 inches on center with a minimum of cutting. When it is used with solid masonry walls, 1x2-inch furring strips should be applied vertically 12 or 16 inches on center, shimmed to a true level plane.

In applying the insulating board lath, blue plasterboard nails, with 5/8-inch heads, 1 1/4-inches long should be used for the 5/8-inch lath

and 1 3/4-inch nails for the 1-inch lath. It is nailed with long edges at right angles to framing. All joints must be centered on framing, vertical joints staggered, with five nails at each stud or joist—20 nails for each lath applied over framing 16 inches on center. All corners should be reinforced in the conventional manner with metal corner beads on outside corners and standard metal lath on re-entrant angles. Three-inch-wide strips of expanded metal lath should be applied diagonally at corners of door and windows.

Decorative insulating boards are plank and tile boards. The building board discussed above can also be included in this group. The plank and tile board are well standardized in the industry. Plank is manufactured in 8, 10, 12 and 16-inch widths and in 8, 10 and 12-foot lengths. The tile is generally produced in 12x12-inch, 12x24-inch, 16x16-inch and 16x32-inch sizes. All these decorative materials come to the job pre-finished, in a variety of plain and colored surfaces. These products are adaptable for remodeling and redecoration as well as new construction. In remodeling they can be applied directly over old surfaces, providing there is sound backing. Some manu-

facturers have developed special clip systems and interlocking joints for fastening tile board or panels to eliminate exposed nailing.

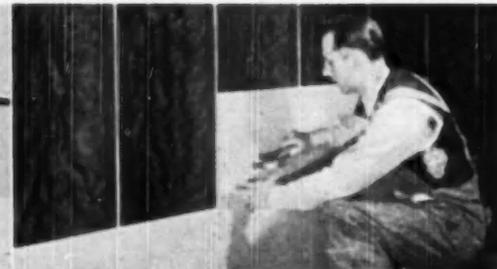
The framing members or furring to which tile board is to be attached must conform to the size of the units used if serious trouble, extra material and additional time is to be avoided, when nails or clips are used. If the board is fastened with adhesives to continuous, solid, sound backing this is no problem. If adhesives are used, however, those recommended by the manufacturer should be used, and his specifications and procedure recommendations followed.

Where nails are used and they are exposed, cleaned and polished 1 3/4-inch finishing nails or brads, or cadmium plated diamond pointed nails should be used. The nails should be driven at an angle, set below the surface and the loose fiber tapped over the surface. Where there are beads and grooves that permit it, the nails can be driven there to make them less noticeable. Where nails are to be covered by moldings or battens, 1 3/4-inch box, common or galvanized nails can be used, with the regular 3/2-inch boards.

When plank, which varies in width



INSULATING board sheathing is applied by nailing to intermediate studs first with the nails about six inches apart. Nails around edges are spaced three inches apart



INSULATING board lath is applied with the long edges at right angles to framing or furring. When small areas are to be filled out, insulating lath must be used; not wood

is applied furring strips must be at right angles to the length of the plank, and preferably on 9- or 12-inch centers.

Reflective

Reflective insulations, with their bright metallic reflective surfaces, differ from other types of insulation because they depend entirely on their surface characteristics for insulating value. Insulation value is achieved with reflective insulations only when they face a $\frac{1}{4}$ -inch or larger air space. This is the minimum and has been found by research to be the point where maximum efficiency starts with this type of insulation. The importance of having adequate air space with these insulations cannot be over-emphasized.

The principle types of reflective insulations are: Aluminum foil, which may be plain; attached to one or both sides of light paper; two or three sheets pleated and separated with flame, mold and vermin-proof paper so that when it is expanded a number of small air pockets are formed; foil attached to one side of gypsum board; paper faced one or both sides with aluminum powder; dull sheet steel protected against corrosion. Aluminum foil or other reflective sheets are being used by some manufacturers in combination with other types of insulations, particularly blanket types, where the principles of both mass and reflective insulations are utilized.

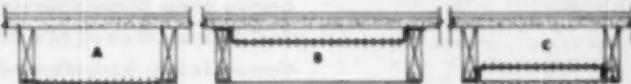
Application

Reflective insulations are manufactured to be installed either between framing members or with nailing surfaces brought over the inside edges of the framing members and the reflective surface set in between the members. This type of insulation can also be installed on furring strips on masonry walls, providing the air space created is at least $\frac{3}{4}$ -inch wide. Regardless of where it is used or how it is installed the minimum $\frac{3}{4}$ -inch air space must always be maintained to obtain maximum efficiency. Wherever possible it is well to divide the air space into two separate air spaces with the reflective insulation. This increases the value of the insulation provided there are no openings left for passage of the air between the air spaces. This material is usually applied with staples.

When foil-backed gypsum board is



THIS shows the recommended method of installing foil reflective insulation in a ceiling below an unheated attic space when the attic is soored. If the attic is not soored, foil may be placed on the upper edges of the joists. Note that it is indented beside the joists to provide at least a $\frac{1}{4}$ -inch air space. Both sides have reflective surfaces.



THREE different methods of installing typical foil reflective insulations in floors above unheated spaces. (A) shows it on the bottoms of the joists; in (B) it is on top of the joists, indented to form an air space at least $\frac{1}{4}$ -inch deep; (C) shows two layers of this foil, one of which has reflective surfaces on both sides, installed on the bottoms of the joists. Reflective insulation is unique because it depends on its surface characteristics for insulating quality and also forms an efficient vapor barrier. Drawings courtesy Reynolds Metals Co.

installed, the conventional application techniques for gypsum board are used, except that the side of the board with the foil on it must always be nailed to face the framing members or furring strips. This gives the foil the air space it needs to function as reflective insulation.

of from one inch to six inches. Corkboard is used principally for cold storage and low temperature insulation.

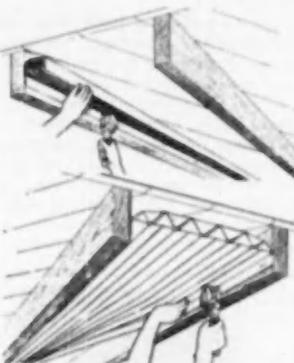
Wood fiber and cement slabs are made from wood fibers combined with portland cement or magnesite cement. A single mechanical operation shreds the wood into long fibers, passes them through a binding solution of cement and then forms the mass into slabs which are one, two or three inches thick. These slabs are used in floors and ceilings, roof decks and non-bearing partitions.

Mineral wool slabs are made by many of the manufacturers of blanket and batt insulation. When combined with a binder, which forms the slabs, mineral wool has been found highly efficient for industrial and low-temperature insulation work.

Cellular glass slabs are used primarily for industrial and low-temperature insulation jobs. The thousands of tiny air cells in each cubic inch of this material are closed and impervious to air or water.

Vegetable or wood fiber insulating board slabs are usually formed by taking the conventional boards, impregnating them with asphalt or some other binder and forming them in layers to create slabs in sizes and thicknesses suitable for low-temperature insulation.

In home building and light construction the slab insulations are being used at an increasing rate to retard heat loss from concrete slab floors laid directly in contact with the ground. In cold climates it is essential that the perimeter of concrete slab floors in structures designed for human occupancy, particularly houses, have adequate insulation from the foundation and from the ground, not only to avoid heat loss but to add to the comfort and health of the occupants.



Drawing courtesy Infra Insulation, Inc.

ONE type of reflective insulation is folded in manufacture and expands in two layers with supporting paper between to form two air spaces when stapled to the inside of framing members. It is used in ceilings, sidewalls and over unheated crawl spaces.

Slab

Slab insulations are made of a number of materials in small, rigid units usually one inch or thicker in a variety of sizes up to 24x48 or 36x36 inches square. The general kinds are: 1-corkboard; 2-wood fiber and cement; 3-mineral wool; 4-cellular glass; 5-vegetable or wood fiber board.

Corkboard is made from the bark of the cork trees. The bark is ground into granules $\frac{1}{4}$ to $\frac{1}{8}$ -inch in size, and compressed under heat to form slabs ranging in size from 12x36 inches to 36x36 inches, in thicknesses

Condensation and Moisture Vapor Control

THE USE of improved building materials, more and better insulation, good design and construction techniques plus living habits in today's modern houses have all combined to create problems in moisture vapor control which were foreign to the light construction industry as recently as 25 years ago. Up until a few years ago very little attention was given to moisture vapor control in dwellings. There was no necessity for doing so because condensation either did not occur or it developed in such a few isolated cases that it was not a serious problem.

Two reasons why excessive moisture vapor is more prevalent in present day houses than in those erected a few years ago are (1) a greater number of small, basementless-type houses are being built, and (2) improvements in materials along with caulking, weather stripping, storm windows and storm doors make houses more nearly air tight. The use of thermal insulation, more widespread than ever, increases the inside surface temperatures of exposed walls, floors and ceilings, providing added physical comfort with savings in fuel. This also effectively minimizes the possibility of condensation forming on the room surfaces of exposed walls, floors and ceilings. Because the insulated areas, however,

Excessive moisture vapor in modern houses usually comes from three sources: Soil or structural conditions; living habits and equipment; tightness of construction with no allowance for the escape of excessive moisture vapor

make the outside surfacing materials colder than those of uninsulated construction, it is especially important that the insulation be properly installed, along with whatever collateral materials or means which will prevent the passage of excessive moisture vapor to these cold exterior surfaces.

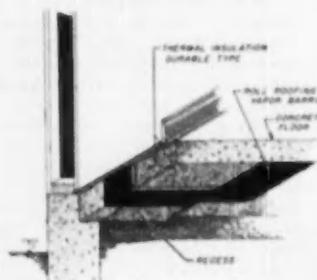
Most building materials offer little resistance to the passage of moisture vapor. Exceptions are window glass and areas protected on the inside surface by certain vapor barrier papers, paints, enamels, varnishes, or aluminum foil-surfaced coverings. These vapor barriers should not have an average vapor transmission rate greater than 1.25 grains of water vapor per square foot, per hour, per inch of mercury vapor pressure dif-

ferential as installed. To achieve this, the installer or builder must make certain that coverage is complete, uniform, with tight joints and fittings around outlets. Damaged vapor barriers should always be replaced or restored to tightness.

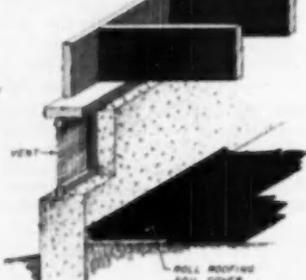
In contrast to the vapor-tight properties of the warm (inside) surfaces, those on the cold side should have at least five times the permeability of the warm side. Because of weather conditions it is necessary to keep the outside surface of a structure relatively tight. Paint that protects the outside surfaces against the elements also helps to retard the outward movement of moisture vapor. A satisfactory sheathing paper should be wind- and rain-proof, but it should be five times as vapor permeable as the inside vapor barrier.

Moisture vapor in a house is beneficial and necessary, but it must be controlled within recommended limits to help avoid condensation difficulties. When air contains all the moisture it can hold, it is rated at 100 per cent relative humidity. The amount of moisture vapor air can hold grows less as the air temperature drops. Moisture-laden air always moves from warm to cold areas. In winter it moves from indoors to outdoors. If indoor air containing excessive moisture vapor

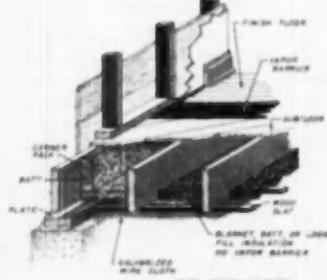
Detail drawings on these and the following pages are from the Housing and Home Finance Agency.



CONDENSATION may occur winter or summer on concrete slab floors laid on the ground without adequate insulation. The perimeter insulation under and on the edge of the slab as shown above should be waterproof or thoroughly covered with asphalt and should have a resistance value (R) of at least 2.0. A recess is provided along the wall and in the floor in which to lay the insulation. The use of low density concrete with vermiculite as part of the aggregate or the use of thermal insulation below the floor would reduce the possibility of summer condensation



IN CRAWL spaces under basementless houses condensation control can be assisted by laying roll roofing weighing at least 55 pounds per 108 square feet on the surface of the soil with edges lapped at least two inches. Covers of this kind greatly restrict the evaporation of water and somewhat less ventilation is required than when no covers are used. Crawl space ventilation should be placed in the corners and as high as possible in the walls or foundation. The minimum number of ventilators recommended is four with one near each of the corners



IN THIS method of construction a vapor barrier is recommended between the subflooring and the finish floor, with cold or lower side of the floor left permeable. Blanket batt or loose fill insulation is shown supported on wire cloth and wood slats nailed to the joists. Note the corner pack. This must be installed so it will remain permanently in place. Where these corner packs are used it is especially important that the crawl space be well ventilated and that soil covers as shown at the left be used in damp locations to prevent condensation on the sill

comes in contact with a cold surface, the vapor may liquefy and beads of moisture or frost will form on the cold surface, just as it does on a pitcher of ice water.

Excessive moisture vapor should be permitted to escape outdoors in winter as harmless vapor through openings, such as windows, doors, chimneys and ventilator fans instead of being permitted to enter cold wall, floor and ceiling spaces where condensation may take place. When unchecked, condensation may endanger health, ruin decorations and threaten the soundness of buildings. It can create excessive and troublesome re-decoration and maintenance costs.

Obviously the first and most important step is to seek out and eliminate sources of moisture. The second is protection of areas containing cold surfaces by using recognized vapor barriers on the warm side and permeable construction and ventilation on the cold side. The third is control of indoor relative humidity within recommended limits by the occupant through regular ventilation habits, or the installation of reliable automatic ventilation control of indoor relative humidity.

Moisture sources may be many and will vary with types of construction, climate, weather changes and living habits of occupants of the house. Usually moisture sources come under these three classifications: (1)

INDIVIDUAL SOURCES OF MOISTURE IN HOUSES

(Family of Four)

Operation	Pounds of Vapor Produced per Operation		
	From food	From gas	
Floor mopping (per sq. ft.)		0.03	
Clothes drying (per week, when drying is done indoors)		26.40	
Clothes washing (per week)		4.33	
Cooking			
Breakfast	0.34	0.50	0.90
Lunch	0.31	0.46	1.17
Dinner	1.17	1.53	3.09
Bathing—shower tub			0.30
Dish washing			0.12
Breakfast			0.30
Lunch			0.15
Dinner			0.65
Human contribution (per hour)			0.46
Gas refrigeration (per hour)			0.12
House plants (per hour, average)			0.04

Courtesy Heating and Ventilating's Reference Data.

Moisture due to soil or structural conditions; (2) Moisture-creating equipment and living habits in the home; (3) Tightness of construction, without allowance for the escape of excess moisture vapor.

The builder, through proper construction and care, can overcome and eliminate soil or structural sources of moisture. This is his responsibility.

Basement moisture sources can be minimized by the following corrective measures:

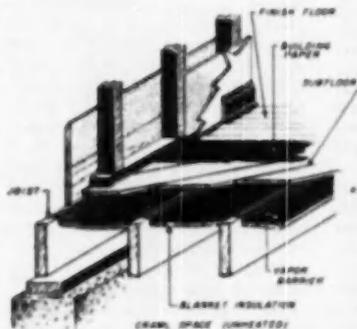
1. Install adequate drainage tile at the foundation footings, with drain into dry well.

2. Waterproof foundation walls and concrete floor according to recommendations of the Portland Cement Association.

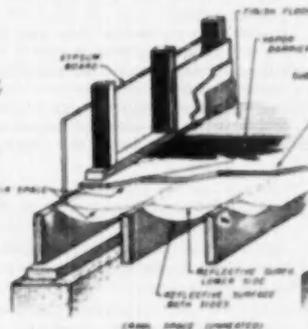
3. Install bituminous joints between the concrete floor and the foundation with a waterproof membrane under the concrete floor.

4. Install a drain in the concrete floor, sloping the floor to the drain.

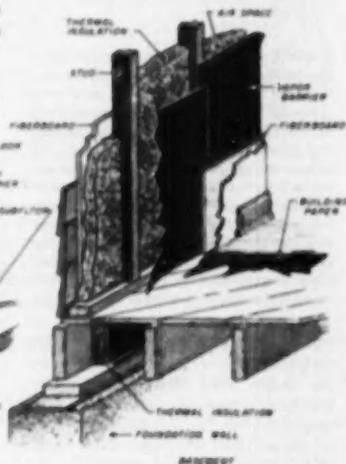
5. Install adequate gutters and down spouts that drain to storm sewer.



CONDENSATION control in this detail requires that the blanket insulation have a good quality vapor barrier, not only to prevent moisture from entering the floor but also from entering the blanket from the warm side. The paper between the subfloor and the finish floor may be a vapor barrier or any suitable building paper. This blanket insulation has flanges stapled to the tops of the joists. Unless the supporting paper is strong, and capable of holding the blanket under damp conditions, it should be supported on good quality cord, wire, wire mesh or wood slats



CONDENSATION control in this detail depends on a vapor barrier between the finish floor and the subfloor. Since the temperature of reflective insulation may be low enough at times to condense water vapor, this arrangement is desirable. Reflective insulation of the type shown may be applied in single or multiple sheets but it is important that an air space of at least 1/4 inch be left between it and adjoining surfaces. Cellular reflective insulation could also be used. A reflective surface on upper side of insulation is not necessary



A VAPOR barrier here is placed over the inside face of the studs to full-story height and lapping over the studs. A vapor barrier is also shown in the floor section over the foundation wall. The type of bulk insulation shown can be installed either against the sheathing or against the inside wall without making any difference in its thermal qualities. Installation against the warm inside wall is recommended, however, because the wall breathes better under these conditions. A vapor barrier is considered even more essential when insulation is against sheathing

ers or well away from the foundation.

6. Make certain the chimney is of adequate size.

7. Ventilate the basement in dry weather.

Moisture from crawl spaces under first floors usually amounts to more than that from any other source. Measurements and observations taken by the Housing and Home Finance Agency indicate that moisture contribution to a dwelling from a

rough opening. Good practice in condensation control in crawl spaces includes the following:

1. At least four ventilating openings, with one near each corner of the building.

2. The openings should be placed as high as possible in the walls of the crawl spaces.

3. When the ventilation thus provided is the only means of condensation control, such ventilation should not be closed at any time dur-

to be effective. A roll roofing, either mineral surfaced or plain, weighing at least 55 pounds per 100 square feet, laid with 2-inch lapped joints over a rough-graded surface, may be expected to serve satisfactorily for many years. Generally the lap joints need no cementing material.

Where a good cover is applied over the entire surface of the ground in the crawl space, very little ventilation of the crawl space is needed. However, to be safe, it is recommended that at least 10 per cent of the ventilation mentioned above be provided.

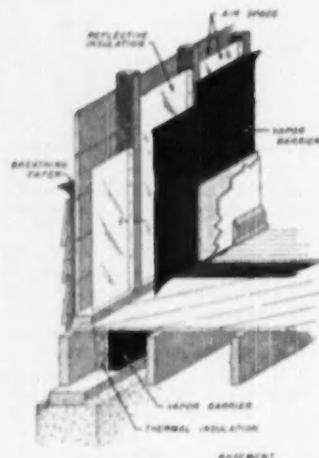
Moisture from small leaks in side walls or roofs often enters a structure and causes trouble without being visibly present in the finished building. The builder should check his general design and construction practices, particularly all flashings and drip caps. Siding and wood posts should be above grade and protected from ground dampness with membrane water-proofing. Gutters should be cleaned and the home buyer advised to keep them clean. The ends of all siding and trim should be painted for protection from moisture seepage. It is well to install flashing under all mitered joints.

Moisture from drying plaster should be allowed to leave the structure through windows and doors instead of entering the wall cavities where it will permeate the building materials, including whatever insulation is installed. A vapor barrier just outside of the lath will give added protection, whether the walls are insulated or not. The moisture in plaster should never be sealed into the plaster by painting it too soon with an oil base paint. The plaster should be given ample time to dry thoroughly, and humidifiers should never be turned on until the plaster is thoroughly dry. The walls in bathrooms and kitchens should be painted with several coats of a good grade of oil paint, or tiled, to prevent entrance of moisture into wall cavities from bathing and cooking.

In all cases where the walls of a house contain materials adversely affected by moisture or by freezing, particularly in small, modern basementless houses, an effective vapor barrier should be provided on the warm side of the wall under the following conditions:

1. When the wall is insulated to a degree that the over-all "U" value is numerically lower than 0.25 B.t.u. per hour, per square foot, per degree F. This applies to dwelling construction in any of the three condensation zones. (See accompanying map.)

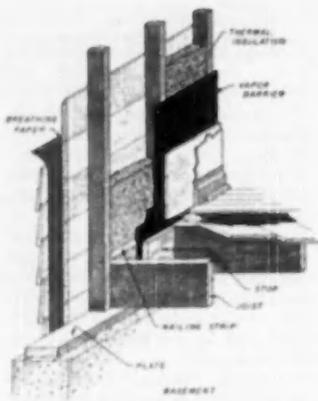
2. When the wall has a siding, or a sheathing, or a sheathing paper or



DESPITE the fact that some types of reflective insulation are effective vapor barriers. It is considered necessary to provide a separate barrier because the temperature of the reflective insulation may become low enough to condense water vapor and reduce the effectiveness of the insulation. These vapor barriers should be continuous, extending full-story height and overlapping the studs. A single reflective sheet faced on two sides with metallic foil, and two air spaces, is shown here, but additional sheets could be used to form additional air spaces and greater effectiveness

crawl space may be far greater than that resulting from living habits of the people. This moisture, with improperly vented or untreated crawl spaces may be as high as 100 pounds of water per 24 hours per 1,000 square feet of enclosed space.

Where there is no other means of effective condensation control, and in the absence of a definite determination that the soil is not a large supplier of moisture to the crawl space, the total net amount of ventilation should be two square feet per 100 lineal feet of building perimeter plus one-third of one per cent of the crawl space ground area. Net ventilating area means the actual area through which air can move—not the over-all size of a ventilator or of a



CONDENSATION control in this detail is obtained by the use of a vapor barrier placed over the studs and extending down between the joists. It is stapled to a wood strip just at the line of the joist tops. A stop is necessary between the joists to support the vapor barrier. Even when the vapor barrier is an integral part of the batt or blanket insulation being installed, the same rules on tightness apply. The thermal insulation shown here may be fill, blanket or batt type and should extend below floor line to plate for top efficiency

ing the year.

4. When this ventilation serves as condensation control, low temperatures under the first floor may be expected and insulation will be required in the floor and around exposed mechanical lines for comfort and to prevent deterioration.

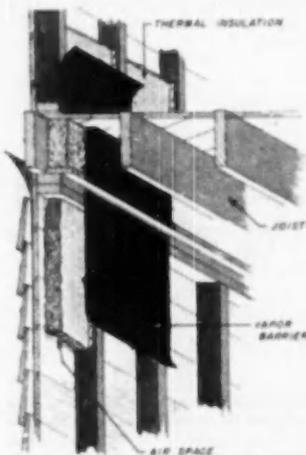
Because in many northern areas, it is not practical to allow a free sweep of cold air below a dwelling floor, an alternate method of condensation control in crawl spaces has been developed. This consists of stopping the moisture from the ground from entering the air in the confined space by covering the ground with a vapor-resistant durable material. A good water-proofed concrete slab or heavy roll roofing has been shown

any other material on the cold side of the wall which material, as applied has a water vapor permeability of less than five grains per hour per square foot, per one inch of mercury pressure differential, and the dwelling is located in condensation zones I and II. (See map.)

In the case of a small, tight house the vapor barrier in the walls is considered a definite necessity to prevent moisture condensation in insulated walls. In larger houses, the necessity for a vapor barrier is not as urgent. Pending further research, however, the vapor barrier is highly recommended because of its value in preventing condensation within the walls and its adverse effect on exterior sidings and other materials.

Moisture condensation in lofts or attics above living quarters can be held to a minimum by adequate ventilation. This has been found to be good practice and it is correct to assume that ventilation will perform satisfactorily under certain conditions. It must, however, be effective as installed and this requires (1) an adequate amount; (2) proper location; (3) continuous operation, and, (4) circulation of air through all the spaces to be ventilated.

As a guide in setting forth recommended good practice for the usual conditions encountered in dwelling



THE FLOOR and ceiling areas enclosing the space between joists provide large surfaces through which water vapor can penetrate. These large surfaces are capable of contributing much more water vapor to the outside wall at the end of the space between the joists than an equal area of outside wall room surfaces. This makes it especially important that good vapor barriers be carefully installed in these spots. Special attention should be given to the danger of moisture vapor leaking around barriers at these points in any structure



FIGURE 6.—Condensation zones.—Zone I roughly includes the areas with design temperatures -30° F. and colder; zone II 0° to -10° F.; and zone III areas warmer than 0° F.

Type of roof and occupancy	Condensation zone		
	I	II	III
(a) Flat roof. Slope less than 1 inch in 12 inches. No occupancy contemplated.	Total net area of ventilation should be less ¹ distributed uniformly at the eave plus a vapor barrier in the top story ceiling. Free circulation, must be provided through all spaces.	Same as for zone I.	Same as for zone I.
(b) Gable roof. Slope over 1 inch in 12 inches. No occupancy contemplated.	Total net area of at least 2 barrels on opposite sides located near the ridge to be less ¹ plus a vapor barrier in the top story ceiling.	Same ventilation as for zone I. A vapor barrier is not considered necessary.	Same as for zone II.
(c) Hip roof. No occupancy contemplated.	Total net area of ventilation should be less ¹ with less ¹ distributed uniformly at the eave and less ¹ located at the ridge with all spaces interconnected. A vapor barrier should also be used in the top story ceiling.	Same ventilation as for zone I. A vapor barrier is not considered necessary.	Same as for zone II.
(d) Gable or hip roof. With occupancy contemplated.	Total net area of ventilation should be less ¹ with less ¹ distributed uniformly at the eave and less ¹ located at the ridge with all spaces interconnected. A vapor barrier should also be used on the warm side of the top full story ceiling, the dwarf walls, the sloping part of the roof, and the attic story ceiling.	Same as for zone I.	Same as for zone I except that a vapor barrier is not considered necessary if insulation is omitted.

¹ It is recognized that in many areas increased ventilation may be desirable for summer comfort.
² Values to area enclosed within the building lines of the eave level.

THE CONDENSATION zone map above can be used with the table below it as a guide in determining the potential moisture vapor condensation situations which should be considered in normally tight, well-insulated structures in various parts of the United States. Zone I roughly includes the areas with design temperatures -30 degrees F. and colder; zone II— 0 to 10 degrees F.; and zone III areas warmer than zero degrees F. The table is keyed to the map and contains recommended good practice for loft and attic ventilation

construction the table on recommended good practice for loft and attic ventilation has been prepared and is presented on these pages.

In the case of perfectly flat roofs, ventilation at the eave lines only is not considered sufficiently effective. Vapor barriers are therefore definitely recommended in addition to ventilation in all zones. Adverse experience with this type of roof substantiates these recommendations.

In the case of gable roof construction where the ventilation is advantageously placed high in the gable ends, vapor barriers are not required to avert trouble except in the severe condensation zone I.

The buyer of a house, the occupant, has the responsibility for controlling moisture created by humidi-

fiers and living habits. He should be instructed by the architect, builder or salesman concerning moisture-creating equipment and habits so that adequate measures may be taken to avoid excessive humidity in the house. This will enable the home owner to avoid conditions dangerous to the efficiency of his house and to its permanency.

Unvented water or space heaters, either oil or gas-fired, give off hydrogen which unites with oxygen in the air to form moisture vapor. These burners must be vented to the chimney or outdoors. The chimney should be lined and all joints cemented.

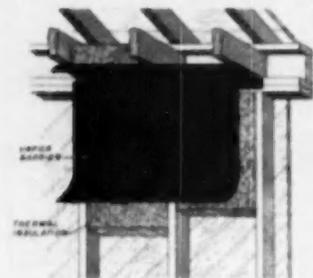
Humidifying devices, if used, should be set to keep indoor relative humidity within the following recom-

mended limits, which are based on research conducted especially for this purpose, by the Engineering Experiment Station of the University of Minnesota: (Table at right)

Instruments which indicate the per cent of relative humidity are commercially available at a nominal cost.

When laundry is done in the home, windows should be opened where and when clothes are washed and dried. Clothes should be dried outdoors whenever possible. The difference between the weight of wet and dry laundry is the amount of moisture released.

Moisture from cooking and dish washing can add to excess. The installation of ventilating fans is recommended to remove this source. If this is not done, a window should be opened from the top to permit mois-



WHEN vapor barriers are installed, whether they are an integral part of the insulation or separate units, another danger spot is the junction of attic floor, roof and side wall. This detail shows how condensation control is obtained by placing a vapor barrier over the face of the studs and lower side of the attic floor joists. The lap is on side wall plate, securely stapled

ture to escape while the work is being done.

Bathing, particularly shower baths, adds considerably to the relative humidity of the average house. The bathroom window should be opened enough from the top to let the vapor escape outdoors while the tub or shower is being used.

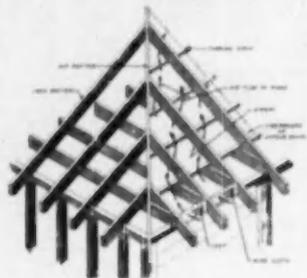
If moisture forms on the inside of window glass, without storm sash, the relative humidity is too high or there is inadequate ventilation. If storm sash is used, raising the inside window will give a quick check on the relative humidity. If moisture condenses on the outside window, it is too high. Usually a few minutes of good ventilation by opening doors and several windows will replace the warm humid air in the house with dry outside air. If excessive moisture conditions show up regularly in a house, despite good ventilation, the source of the moisture should be lo-

Outside Air Temperature

Outside Air Temperature	Inside Relative Humidity for 70 degrees F Indoor Air Temperature
-- 20 degrees F or below	not over 15 per cent
-- 20 degrees F to 10	not over 20 per cent
-- 10 degrees F to 0	not over 25 per cent
0 degrees F to 10	not over 30 per cent
10 degrees F to 20	not over 35 per cent
20 degrees F to 40	not over 40 per cent

cated and eliminated before it can build up as condensation.

As an example of how ventilation can reduce excessive moisture vapor, consider the following: A house of 24,000 cubic feet contains about 1800 pounds of air which, at saturation (100 per cent relative humidity) can hold about 28 pounds of moisture. If this air were at 60 per cent of relative humidity, which is excessive in winter, it would contain about 17



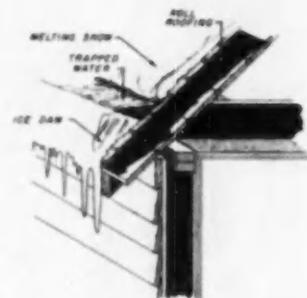
HIP-ROOF construction presents a special problem when the attic is finished and insulated because the spaces between the jack rafters are completely enclosed by the hip rafter when insulation is applied between or on the under side of the rafters. To avoid possible vapor trouble the finish ceiling should be furred out to permit free flow of air from the eaves throughout roof

pounds. This is about two gallons of water. An equal quantity of outside air at 10 degrees F and 40 per cent relative humidity would contain only about one pound of moisture vapor. A quick interchange of this volume of indoor air with outdoor air will reduce the indoor relative humidity within recommended limits. It takes only a few minutes for any housewife to make this change.

The tendency to blame insulation, paint, weather stripping and storm sash for troubles arising from condensation is unfair. Basically the materials and equipment are sound. The fault lies in lack of control of moisture vapor, lack of good ventilating practices, and failure to eliminate stubborn sources of moisture. Any house can be dried and kept dry by heat and ventilation in proper combination. Ventilation, either natural or forced, is necessary to control excessive indoor moisture vapor to pre-

vent condensation in an occupied modern, well-built house.

Indications are that many houses, particularly the small, new ones, are inadequately ventilated by natural means and that the time has arrived when ventilators of some kind should be incorporated in all house designs. Kitchen ventilating fans are an excellent means for removing excessive moisture vapor as a result of cooking. The same type of ventilating fan can perform in the removal of excessive moisture from other parts of the house where living habits, such as bathing and laundering create vapor. In fact, the development of a ventilating system, with or without exhaust fans, which would begin operation automatically as soon as the relative humidity in a house reached the maximum for ideal conditions, would help materially to avoid excessive moisture vapor conditions in homes. Such a system would relieve the home owner of the responsibility for constantly watching relative humidity to avoid excesses.



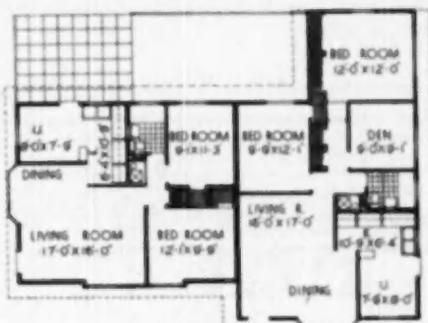
LEAKAGE of water into buildings, often mistaken for condensation, in the northern states, is sometimes caused by ice dams. Snow and ice dams occur after heavy snowfalls which are followed by temperatures a little below freezing when there is sufficient heat from the living quarters to cause melting along the roof surface. Water seeps along the roof surface and when it reaches the roof overhang, freezes, building up a ledge of ice. As water reaches this ledge it backs up under and between shingles and into the building. A course of heavy roll roofing or metal over the eaves and extended upwards well above the inside line of the wall will remove this danger

ABOUT 10,000 people a day visited these houses on the "Avenue of American Homes" at the 1930 Chicago Fair. Builder, materials manufacturers and magazine sponsors reported the display a success.



Demonstration of Home Ideas

Eight display homes at 1930 Chicago Fair draw a record crowd of 10,000 visitors a day



- FLOOR PLAN -

FLOOR plan of J. E. Morrison's duplex home at the Fair which drew favorable attention from housing authorities



WHETHER they own a home or not, American people are interested in new ideas in design, construction methods, and products. A striking example of this is shown in attendance records at the 1930 Chicago Fair, where one-third of all who attended—nearly 10,000 a day—paid 25 cents each, and walked through eight exposition houses along the "Avenue of American Homes." People came from every corner of the world. And whether they entered the homes with Fair-weary feet, or came fresh from the main entrance, they had one thing in common—interest. And observant Fair-goers could get an idea a minute.

Behind the planning of the homes exposition was Joseph T. Sheehan who, with 20 years' experience in the business, predicted more than a million people would walk through the houses

FEW builders doubt the construction economies possible with duplexes, but all are aware that one of the prime problems in the objection of home owners is lack of privacy. The J. E. Morrison and Company duplex, left, obtains privacy through excellent design. Note that front entrances are widely separated, and as floor plan above left shows, there is an 8-inch solid masonry wall between units for sound-proofing. Morrison has had much success with this duplex in Chicago where lots are at a premium. He was able to offer these units to veterans for as low as \$130 down, or to sell at about \$10 per square foot



before the Fair closed on Labor Day. Said Sheehan, "This is one of the greatest exhibits in the country—for the industry in general, the participants, and potential home owners. People can see new ideas, see how they are used, and find out where to buy them. It works out well for all concerned."

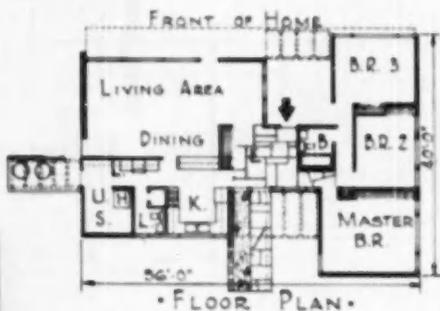
The homes, sponsored by materials producers and home magazines, represented four architectural categories: Cape Cod, colonial, ranch and the so-called modern style. Three were of frame construction, and one each of brick, concrete, plaster-steel, frame-stone and gypsum products. Each

house contained between 800 and 2,000 square feet of space, and was completely decorated, furnished and landscaped. Estimated costs to reproduce these homes in Chicago range from

\$8,800 to \$22,000, without lots or street improvements, in most cases.

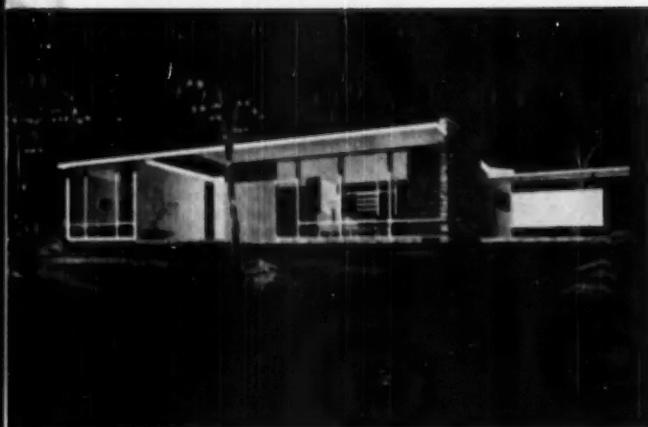
Builders could get a host of ideas for National Home Week demonstration homes from this exhibit. One idea,

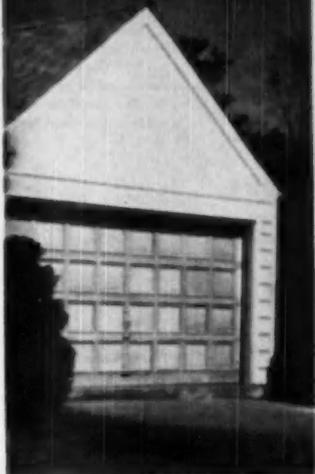
FLOOR plan of home sponsored by Living For Young Homemakers magazine shows effective open planning, and abundant storage space. Non-load bearing closet walls can be moved as desired. See photo above



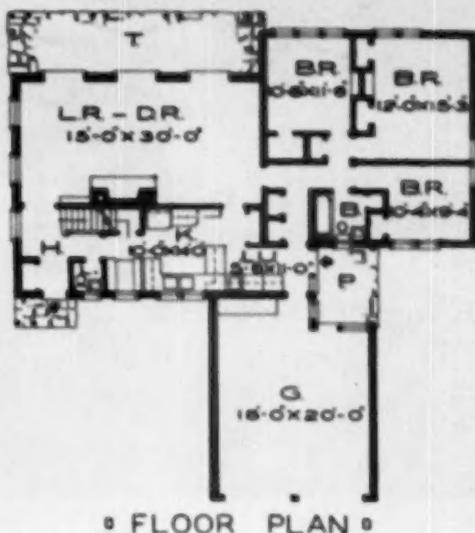
Electrical Living Home

Estimated to sell in Chicago for \$20,000, this 1,800 square foot home sponsored by Living For Young Homemakers magazine is designed for complete "electrical living," with all Westinghouse appliances. Design features include roof that slopes upward from center of house, wide glass areas to give occupants the feeling of being outside, privacy between sleeping and living areas, and a combined kitchen and laundry. Sheltered area for outdoor patio may be screened in if desired. Two built-in storage units which serve as partitions, see floor plan, may be moved out to form a separate room for children. Built of brick, stone and wood, over a reinforced concrete slab floor, this was one of the most modern homes on display at the 1950 Chicago Fair





for example, was a cutaway portion of one wall in a house, designed simply to permit Fair-goers to see construction between wallpaper and siding. Plate glass covered the opening on



◦ FLOOR PLAN ◦

PARENTS' magazine's "Eighth Expandable home" on display at the Chicago Fair is conventionally built throughout, and has room for two bedrooms, storage closet and bathroom in upstairs which may be left unfinished. Double garage shown here may be moved to left side. Plans call for full basement, which, with finished upstairs, gives 26,300 cu. ft.

both sides, permitting an easy, and in most cases, eager view.

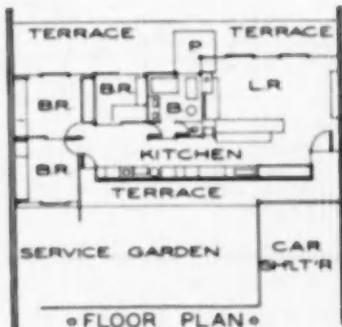
A duplex built by J. E. Merrion & Company of Chicago, was the only builder-sponsored house at the Fair.

This company is now duplicating many of these houses in Chicago for two reasons: One, because Joseph E. Merrion, company president, believes communities of low-cost homes can be more attractive with duplex design rather than single units; and two, he believes better land utilization can be achieved. An 8-inch masonry wall between the units of the duplex insures privacy for occupants.

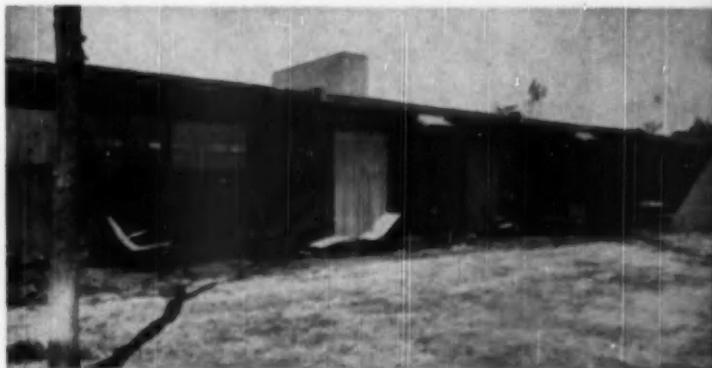
Parents' Magazine sponsored their "Eighth Expandable Home" at the Fair designed by Architect Marvin Fitch, which has a floor plan well suited to the living patterns of families with children. With a basement and finished second floor, there are about 26,300 cubic feet in the house; or, with

Structural Clay Products Home

Columns, angles and I-beams support roof of this home, where no ceiling joists are needed. Sponsored at Chicago Fair by the Structural Clay Products Institute, it has about 1,400 square feet of floor space, and features open planning throughout. Wood roof is exposed in every room. Plans call for reinforced concrete slab floor, and cavity wall construction. Brick fireplace provides heat to both living room and bedroom, and ventilation for bathroom, hot water boiler and kitchen. Highlight is a utility-kitchen-laundry corridor, compactly arranged, for the most part along one wall. Estimated sales price of this home in Chicago is \$18,000



◦ FLOOR PLAN ◦



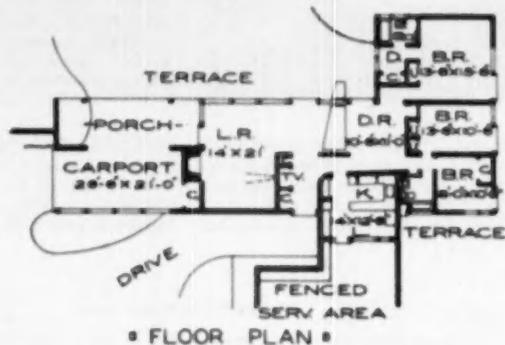
Five Star Home

Good combination of indoor and outdoor living is offered in this "Five Star Home No. 2004" sponsored by Better Homes and Gardens magazine at the 1950 Chicago Fair. Entire rear portion of house is designed to open out onto a deep, private lawn, while plans call for no windows on entrance side, while fenced service area screens the front door.

an unfinished upstairs, there are about 23,300 cubic feet. With approximately 2,235 square feet of floor space, the house is estimated to sell in Chicago for \$22,000.

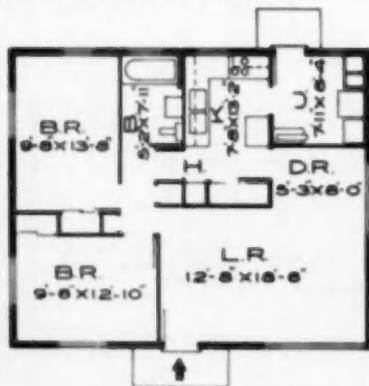
Living For Young Homemakers magazine sponsored the modern "Living" house, designed by Tsurouoka, Osborne, Martini and Malun. Prime idea of these Chicago architects was to keep the home simple and organized, and provide a maximum of living and storage space with no over-crowd-

(Continued on page 174)



Low Cost Home at the Fair

Low cost, simplicity of design, and high fire resistant features made this a popular home at the Chicago Fair. Basementless, with 822 square feet of floor space, it could be built in Chicago for less than \$9,000. Plans call for a 4-inch reinforced concrete slab floor with asphalt tile covering. Stran Steel framing plastered inside and out, and asbestos shingles on roof. Windows have steel sash, and hollow core wood doors have steel bucks. Heating system is forced warm air.

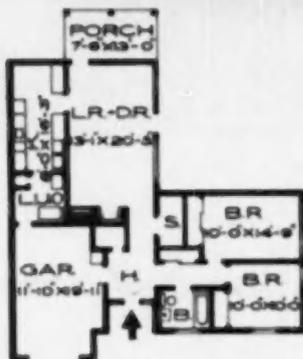


AMERICAN BUILDER



Home of Gypsum Products

Though conventionally framed throughout, this Popular Homes magazine house sponsored at the Chicago Fair by United States Gypsum Company was made almost entirely of USG products. Over 2x4 studs, 18 inches O.C., 1/2-inch sheathing is placed, then asbestos cement siding. On inside of studs, Rocklath plaster base, a Parite base coat plaster and a finish coat of plaster is applied to form exterior walls. Insulation between studs is blanket type, medium thick Red Top insulating wool, made by USG. Roof covering is 350-pound thick built asphalt shingles. Feature display in this home at the Fair told prospective home owners how insulation was used. The home has 1,400 square feet of floor space, and the estimated cost to build it in Chicago is \$18,000.



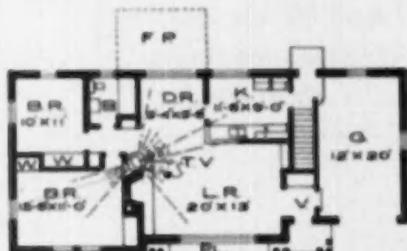
• FLOOR PLAN •

Television House

Designed so that a television set mounted on a turntable can be seen from almost every room, this home was sponsored at the Chicago Fair by local members of the National Concrete Masonry Association and Portland Cement Association. Exterior walls are of concrete masonry units with horizontal joints tooled and vertical joints left flush to give a siding effect. Two thicknesses of 4-inch concrete blocks with a 3-inch air space between are used to form cavity exterior walls. Exterior surface of the walls is painted with a water repellent cement paint. Interior walls are 4-inch thick concrete block, left unpainted in some rooms. Ceilings throughout are plastered. Walls in dining room and part of living room are exposed concrete masonry with stacked pattern where vertical and horizontal joints are continuous. Bathroom and kitchen are of tile. Plans call for a basement



ALTERNATE PLAN
(WITHOUT BASEMENT)



• FLOOR PLAN •





THE RECTANGULAR lines of perimeter of house and the simple gable roof express economy of construction

AMERICAN BUILDER
Blueprint House
Number 45

Expressing Economy
in Line and Plan

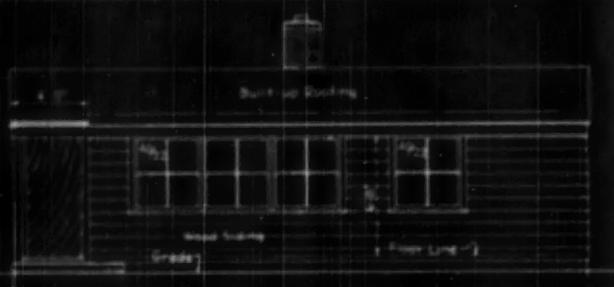
APPARENT everywhere in the U.S.A. is a move toward a simpler pattern of living for the family with an income under \$5,000 per year. Born of the present inflationary trend it is a compromise with circumstances. The 836 square foot house, shown in detail on the opposite page, meets the needs of a small family with such an income.

The designer of this *American Builder* Blueprint House had these facts in mind as he prepared the layout. A simple rectangular perimeter plan was maintained primarily to reduce construction costs. The exterior treatment is a direct vertical projection of the plan, topped with a gable roof with a wide overhang front and rear. An inexpensive and effective entrance treatment is achieved by extending alternate lengths of wall siding to form an angular bracket that extends from platform to roof. The front exposed wall of the living room is composed almost entirely of windows. The windows in other rooms

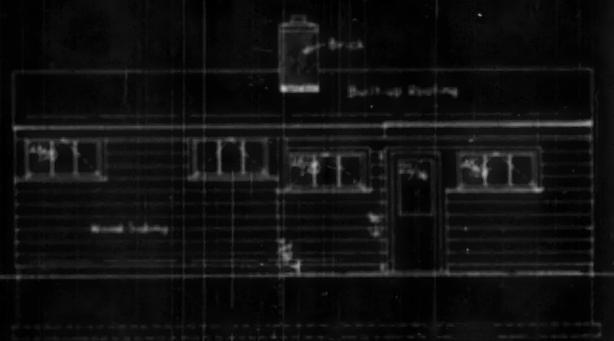
meet the minimum requirements.

This house contains five rooms which include two bedrooms, bath, utility room, kitchen and combination living and dining room and four closets. The rooms are not large but they are conveniently arranged for maximum living. An alternate plan indicates a stairway to the partial basement where some of the utilities are located; the utility room that adjoins the kitchen provides space for other utilities.

A novel arrangement of warm air heating is provided. A concrete slab over the entire area of the house is placed 6 $\frac{3}{4}$ inches below the finished floor. Individual cinder blocks are placed approximately two feet apart over the slab; 2x4 inch joists are then placed two feet apart over cinder blocks with two thicknesses of flooring over joists. The area between the cinder blocks is used for heat supply ducts and a cold air plenum chamber. In this manner warm air is quickly supplied to all areas of the house.



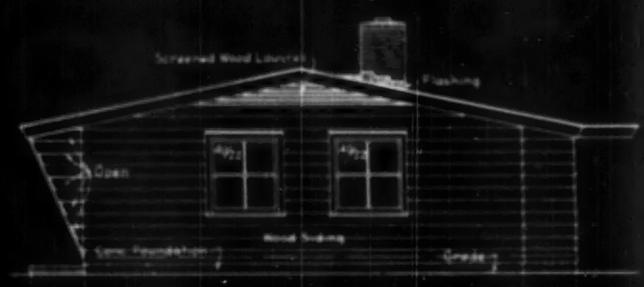
FRONT ELEVATION



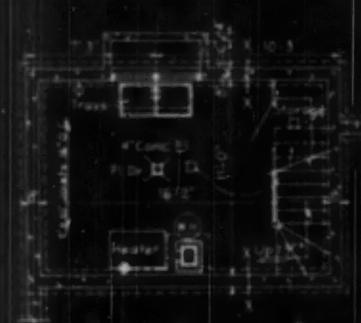
REAR ELEVATION



LEFT SIDE ELEVATION



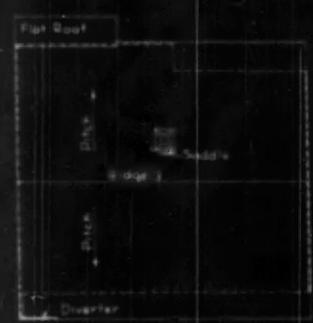
RIGHT SIDE ELEVATION



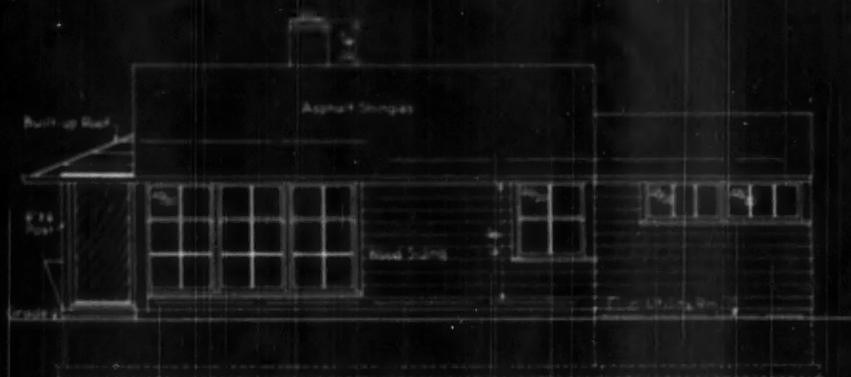
ALTERNATE BASEMENT



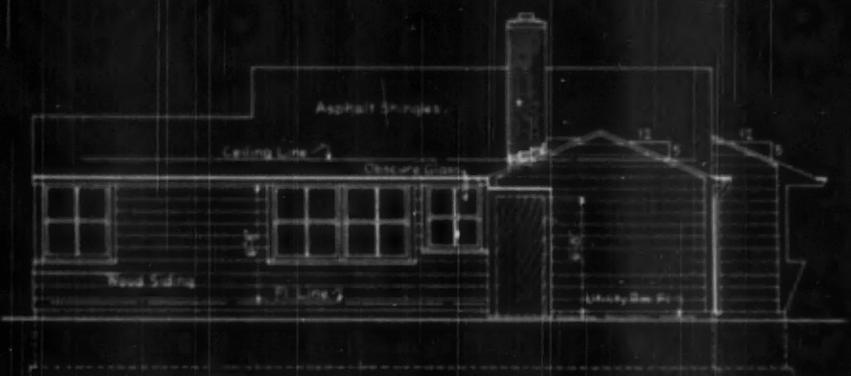
BASEMENT PLAN



ROOF PLAN



FRONT ELEVATION



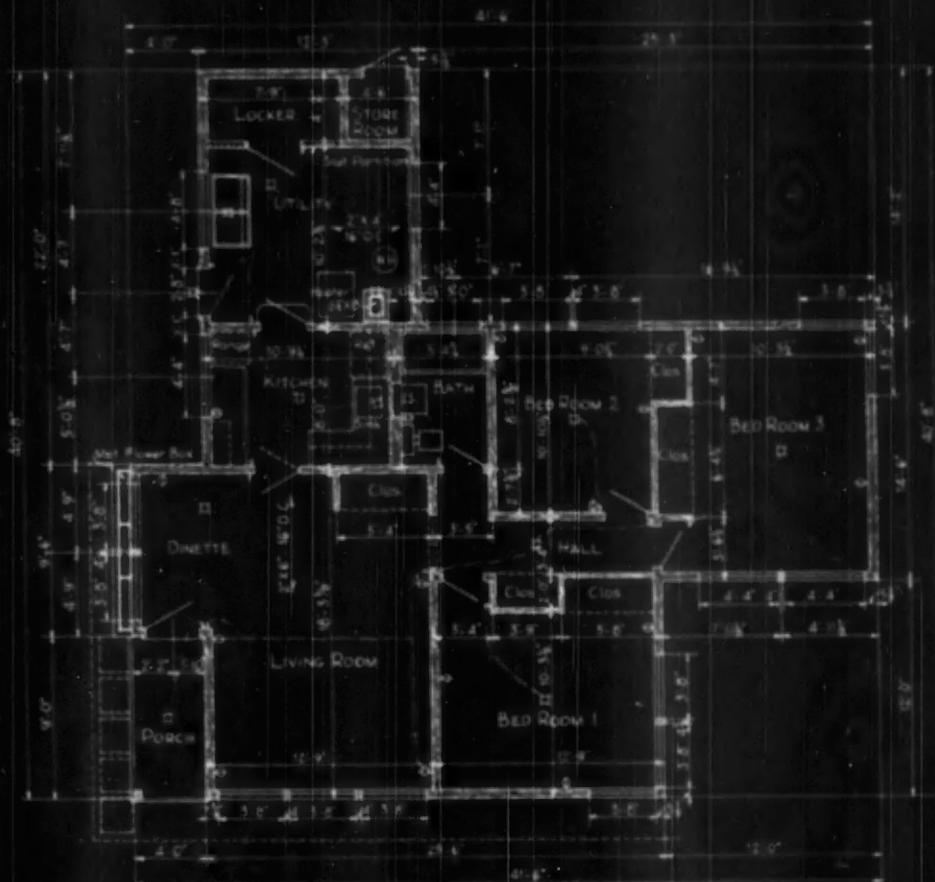
REAR ELEVATION



LEFT SIDE ELEVATION



DESIGN NO. A.B.-159
 AMERICAN BUILDER BLUE PRINT SERIES
 Publishers: The American Building Co., 100 W. Madison St., Chicago, Ill.



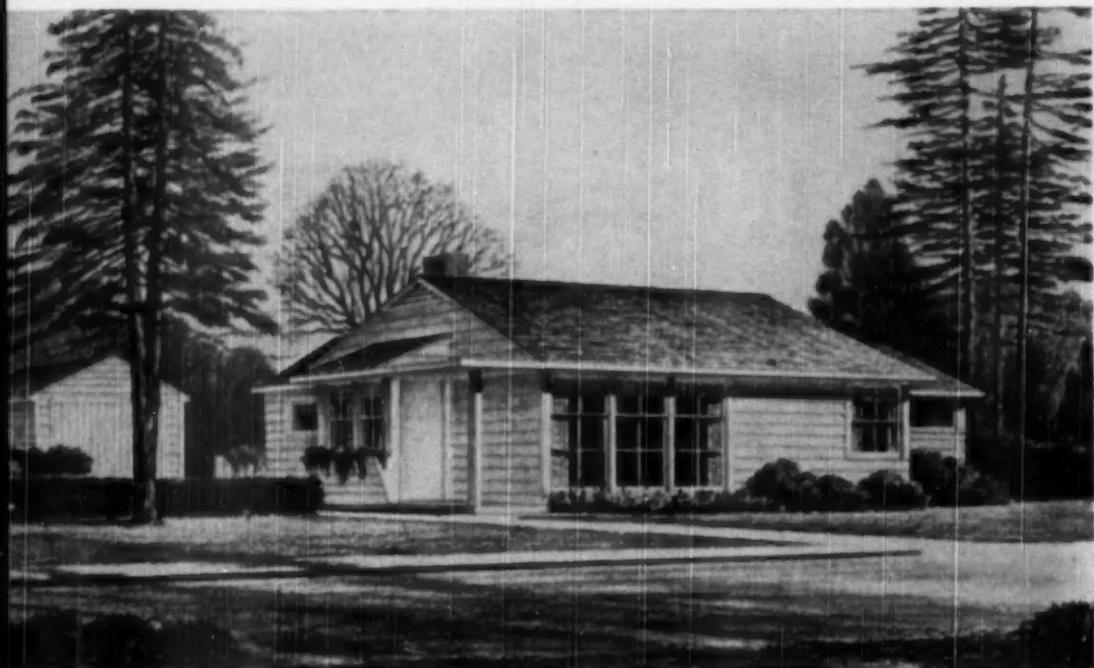
FLOOR PLAN



RIGHT SIDE ELEVATION



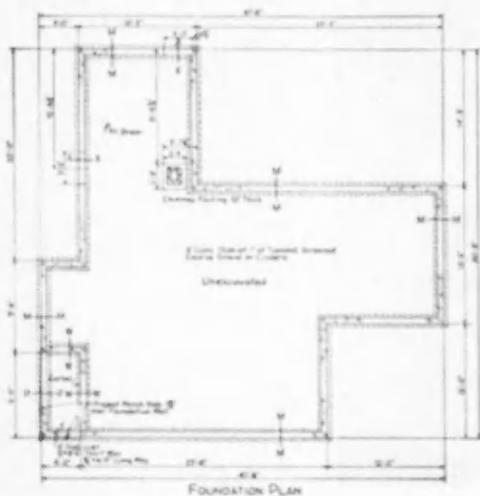
P-P X-X
WALL SECTIONS



FRONT wall of limited dimension gives an illusion of smallness to this three bedroom house with all facilities on one floor

Third Bedroom Makes the Difference

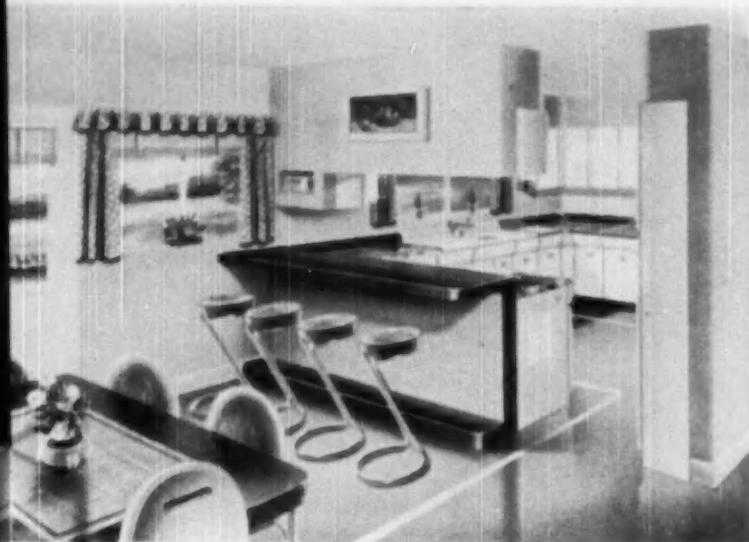
**AMERICAN BUILDER
Blueprint House
Number 46**



THE DESIGNER of this and our other blueprint house has followed much the same pattern for both. Each depends on the excellence of the proportions of one unit of design to the other for the exterior effect. Simplicity of line and detail has been the keynote. While this house is larger in all respects than the other, the same dominant thought of economy of structure underlies both designs.

The open trellis effect at the cornice line of the front entrance porch with its series of boxed outriggers, and the built-in flower box on exterior dinette wall, are the only variations from the simple design principle that prevails in the rest of the house. A combination of normal height and high windows is used in the bedrooms that have cross ventilation. This is done in rooms of limited area to provide a greater amount of wall space for furniture.

The plan is arranged into six basic rooms including three bedrooms, bath, four closets, hall, locker, outside storage and a dinette that is part of the living room. Rooms are of average size, well related to each other for convenient circulation. An additional locker and outside storage room adjoin the utility room. This provides space for bulk storage and is necessary in a basementless house. Heating is forced warm air with supply ducts and cold air plenum chamber placed between finished floor, using the slab construction described in Blueprint House No. 45.



VIEW from dining room toward kitchen with snack bar in foreground and open area above

Kitchen Redesigned to Harmonize with House

THE PLANNING experts of the American Central Division-Avco Mig. Corp. (American Kitchens) have redesigned the kitchen of the prize-winning entry of Elizabeth Graham Bell of Carnegie Institute of Technology in the recent *American Builder* home competition. Their layout was

made to conform to the latest ideas in kitchen planning and the use of standard units and equipment.

Taking their cue from the exterior design which considers the use of large glass areas in all rooms and the multiple use of living areas, the designers have eliminated some of the

American Kitchens re-plan kitchen of Elizabeth Graham Bell's prize-winning entry in recent "American Builder" home competition to conform with practical suggestions offered by their research experts, and the contemporary pattern of the prize house

usual walls and left the area between the kitchen and dining room in a semi-open condition.

A few slight physical changes have been made to the service end of the house. The kitchen closet nearest the dining room has been eliminated. The addition of three utility cabinets provides the necessary storage space for brooms, mops, linens, and other articles which would have been stored in the closet. The designers accomplished two other things by this change:

(a) Moved the opening to the dining room farther to the left—thus providing more counter space in the kitchen, also opening the entire area in keeping with the general design of the house.

(b) Moved the refrigerator to a location where adjoining counter space is available for the housewife to load and unload food items that eventually will find their place in the refrigerator.

The snack-bar, which protrudes into the dining room and adjoins the extended counter area, is handy for serving breakfast and lunch, and is convenient for serving snacks during the late evening hours.

In a revision of the kitchen arrangement, the door leading to the outside was moved to the laundry room. By this method a considerable amount of valuable counter space was



VIEW in laundry showing the partial grouping of equipment and cupboards on one wall



VIEW in kitchen looking toward dining room. Open area between snack bar and cupboards make these rooms appear as one

gained. It is also an advantage to have the door to the outside in the laundry where it is a simple matter to step into the yard to hang clothes.

In the re-planning of this kitchen, a considerable amount of counter space was gained by grouping the various doors, such as the ones leading to laundry and lounge. The American Kitchen designers point out that home builders and architects should consult a kitchen planning expert before making final plans for the kitchen. This applies particularly to new construction for control of window and door locations. In this way the kitchen can be made a time, step, and labor-saving unit of the home.

A general view of the kitchen from the dining room is revealed through the large open area between snack bar and the cupboards above. A recessed alcove for the radio is on the dining room side. The wall and utility cabinets are flush with the drop ceiling above.

The basic equipment, such as refrigerator, range, and sink, are located on three walls of the kitchen with ample counter space for preparation and serving alongside of each. This forms the typical U-arrangement, which is one of the preferred types. Cupboards adjoining the equipment are arranged for storage



ORIGINAL plan of Elisabeth Graham Bell's prize-winning entry in home contest

of utensils, dishes and foods in relation to their use as it applies to each fixture. Corner areas accommodate miscellaneous trays.

The utility room features a 48-inch-wide sink with a shallow bowl on right and deep laundry bowl on left. The tray on top slides back and forth to provide access to either bowl. Concealed undercabinet lights are placed in the recessed bottoms of wall cabinets to provide plenty of light in room. On the opposite wall space is allowed for the Serv-Cart, used throughout house in connection with the preparation and serving of meals and the transporting of laundry.



REVISED plan of kitchen, dining room and laundry. Numbers shown on cupboards and counters indicate stock units used



READING from left to right: R. F. Fritz, president, and A. A. Fritz, secretary of Fritz Bros., Inc., well-known builders of Minneapolis



DIFFERENT plans and elevations form a street of interesting homes

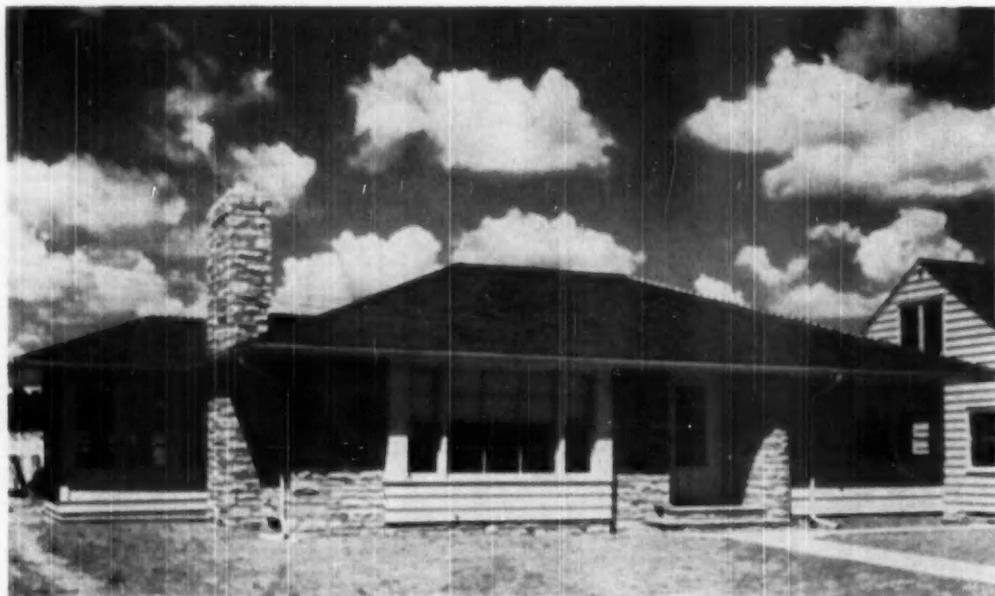
QUALITY PLUS — A Byword

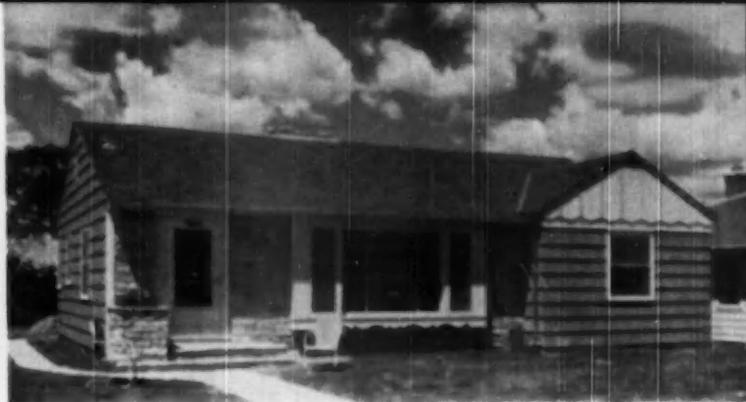
Building to a fixed standard is the policy of two brothers, who, without fanfare or publicity, are producing and selling good housing on the basis of satisfied customers, at a price within reach of the buying public



PLAN and exterior view of one of the houses that was increased in size to meet the special requirements of the owner who purchased house during planning stage. Again stone and shingles have been used effectively for the exterior facing

THE IMPORTANCE of maintaining friendly, down-to-earth relations and excellent credit standings with suppliers, subcontractors and financial houses is one of the secrets of the steady year-in and year-out building operations of Fritz Bros., Inc., builders, Minneapolis, Minn. This company is currently building 30 two- and three-bedroom houses with detached garages in a development called Wedgewood, a high pro-





DOUBLE coursed shingles, local stone and large window produces interesting facade

mentory in the northwest section of the city. Five of these houses are now completed with 12 others in the process of construction.

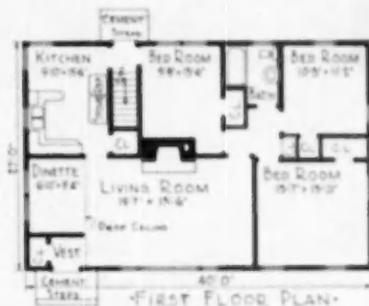
These houses vary in cost from \$13,400 to \$20,000 each. While the Fritz Bros. seek to confine their operations to a conventional standard room arrangement, based upon overall fixed dimensions, they nevertheless are geared to shift quickly into custom-type building to handle clients of this type, of which they have many. It is indeed complimentary to the efforts of these builders that owners of custom-built jobs are willing to have their homes placed among the standardized houses of this development. Reference to standardized units in this case does not mean a similar pattern for all houses. It does mean that over-all dimensions are maintained and variations are made within the perimeter of the house. This condition has permitted F. G. Theis, designer of Minneapolis, a reasonable latitude in the design of the houses.

A combination of local Minnesota stone and double coursed wood shingles have been used effectively on many of the houses. Roof lines vary with the character of the house, depending on whether an expansible attic is provided or if rooms are confined entirely to the first floor. Basements are provided in all houses. The Fritz Bros. are firm believers in the practicability and economy of a basement area, especially in the dry, sandy soil that prevails in Wedgewood. In both the two- and three-bedroom houses either a dining room or a dinette is provided.

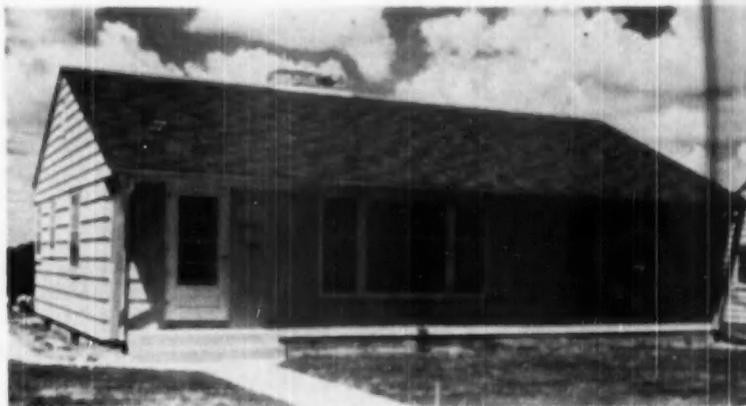
The living rooms are of generous size often containing a fireplace or some other feature. In every case the living room forms the hub of the house and all rooms center around it.

Building operations, for the most part, are carried on in a semi-conventional manner with skilled men that have been in the employ of this

(Continued on page 129)



PLAN at left applies to house shown above. Ample living area, in addition to three bedrooms, one of good size, is provided in this house which contains 1,114 sq. ft.

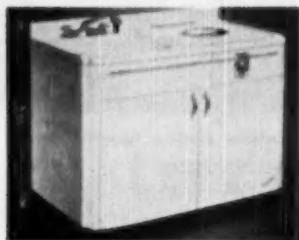


PLAN arrangement and exterior appearance of houses shown above differ from the adjoining structures, yet conform in size to balance of houses in the block. Many of the houses in this group were sold during planning or early construction stage and changes were made by builders to make houses conform to new owners needs

TECHNICAL GUIDE for Builders and Craftsmen

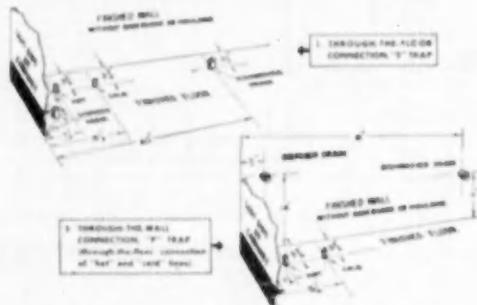
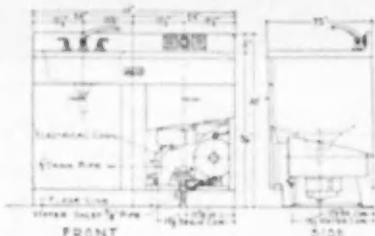
Kitchen Equipment Specifications

(Continued from page 52)



THE Mullins Manufacturing Corporation automatic dishwasher and sink, with over-all indicated height for installation under a kitchen window

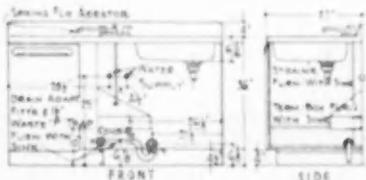
THE Apex Electrical Manufacturing Company Dishomatic dishwasher and sink. Drawings below show front and side view of unit with total height of 49 inches indicated from floor to top of back splash for installation under a kitchen window



PARTIAL drawings showing dimensions of through-the-floor or wall roughing in connections for dishwasher, sink, and disposer. All dimensions are taken to the center line. Pipe sizes: trap and drain, 1 1/2 inch I.D.; "hot" line 3/4 inch I.D. Plumbing and electrical connections must conform to local codes. Run a separate circuit with separate fuse box and 20-ampere fuses to junction box provided in cabinet. Use only on 60-cycle 115-volt alternating current



THOR Corporation automatic dishwasher and sink for installation under kitchen window. Outline drawings below showing front and side view of unit



HOW TO DO IT * HOW TO DO IT

G-11—Clothing Racks

TO MEET the problem of proper presentation of stock that a merchant may want to display, whether his place of business is in a large or small community, requires the latest methods and the best equipment and fixtures consistent with the expenditure of money involved.

The problem involved in the remodeling of the Crawford Clothes store, Newark, N.J., was to provide an attractive exposed stock arrangement for the women's suit department, yet stress economy of case construction. The photograph and detail drawing of the case on opposite page indicates the successful manner in which the designer met the conditions.

The solid oak posts, spaced approximately four feet apart, which form the design motif for this department extend from floor to ceiling, a distance of approximately

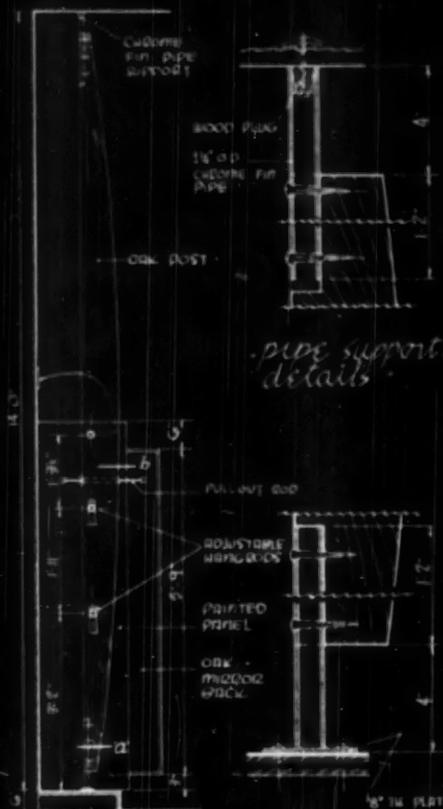
14 feet. These posts are secured top and bottom with chrome finished pipe supports and steel plates. The posts have a maximum width of 8 inches at center and 3-inch minimum at supports. The extreme verticality of the posts together with their size and mass tend to offset the bare effect obtained from the double row of exposed hang rods. A triple faced fixed mirror frame is placed in the center of each group section. The mirror frame extends to the height of the top row of hang rods and provides support for rods.

The curved plaster wall in back of racks and ceiling is painted chartreuse. The mirror frames and upright posts are finished in limed oak. The surface in back of the triplicate mirrors is turquoise. The floor in the foreground is combination of green and white asphalt tile.

AMERICAN BUILDER'S STORE FRONT DETAILS

Designed by Louis J. Glavin for American Builder

G-11 · CLOTHING · RACKS ·



pipe support details



Crawford Clothes - Newark N.J.

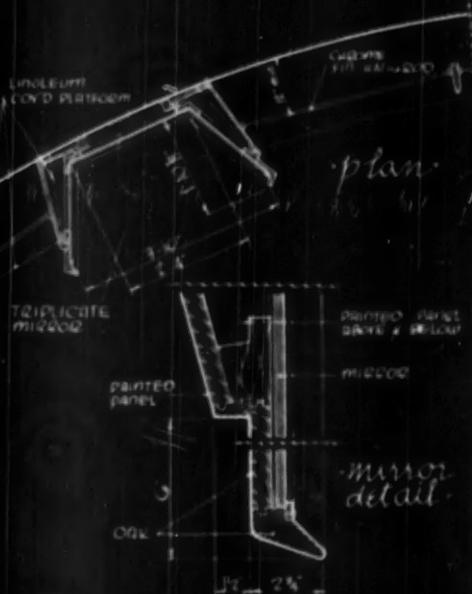
Section AA



plan sections thru post



at b

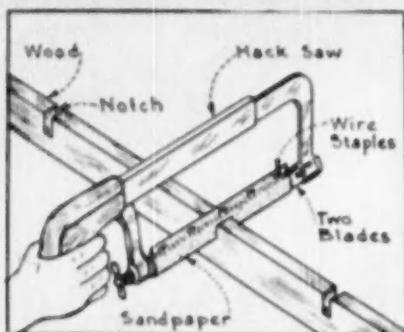


plan

minor detail

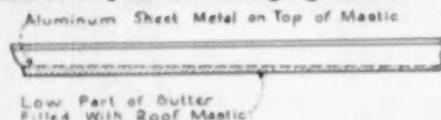
TECHNICAL GUIDE for Builders and Craftsmen

How to Sand Narrow Slots in Wood



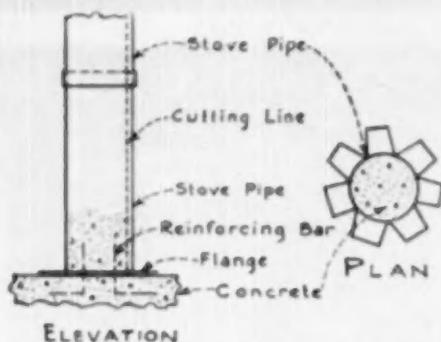
Place two blades in position in hacksaw with teeth of blades facing upwards instead of down. Wrap a strip of sandpaper tightly around blades and staple upper ends of paper together. If wider slots are to be sanded then double the thickness of sandpaper.—Submitted by Herbert E. Fey, New Braunfels, Texas.

How to Repair Low Hanging Gutter



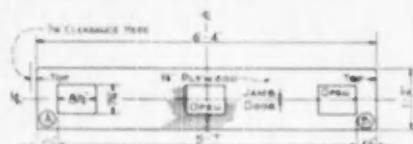
When house settles, the angle of pitch on gutter is destroyed. This causes water to remain in gutter. Condition can be quickly corrected by building up low part of gutter with mastic to proper level. Sections of aluminum sheet metal are placed on mastic to provide a smooth surface.—Submitted by Arthur N. Nelson, Kansas City, Mo.

How to Make Forms for Concrete Posts



Stovepipe or air shut pipe (either new or used) makes a good form for concrete posts. The bottom four inches of pipe are split at intervals to form flanges for base. Form is held in place by laying heavy weights on flanges. Concrete is now poured in and tamped lightly until form is filled. When higher post is needed another section of pipe is fitted over the first. After concrete has set form is split with a chisel and then discarded.—Submitted by Warren W. Howe, Longview, Wash.

How to Make Template for Doors



A plywood template used in conjunction with a 5½-inch base hinge butt router, 1½-inch diameter cutter, can rout hinges for doors of either hand. Tack template to door jamb ½-inch down from top. Time of operation, two minutes for two hinges. Slide "A" or "B" to right or left on jamb as required.—J. G. Caldwell, San Mateo, Calif.

HOW TO DO IT * HOW TO DO IT

No. D-70... Unusual Windows in Textured Walls

THE FEATURES involved in this month's detail plate are examples of straightforward design combined with functional use of materials. The textured masonry walls are admirably suited to the broad, low lines and overhanging corners of the house.

Of special interest is the use of masonry grille-work that forms one wall of the covered entry. This masonry grille is repeated across the lower portion of the entire front brick wall adjoining the entry shown in the lefthand corner of lower plan on detail plate. The grille shields the windows in the maid's bedroom and bath. The thickness of this wall is increased to 13 inches to allow ample clearance between the back face of brick grille and front of wood frame. Double-hung window frames are of the manufactured type with top

and bottom sash removable for cleaning. The brick grille terminates at head and sill of window opening and becomes an integral part of the wall structure above and below this area.

The use of brick for interior wall facing necessitates an exterior cavity wall of 10½-inch total thickness including 2½-inch air space for insulation. The plank wood frame for large fixed window openings is securely bolted to brick jambs, sill and head. Hermetically sealed double glazing is secured in place with wood stops. Framing members over living room perform the double function of ceiling joist and rafters, and also extend beyond the wall line to form framing for overhang. Batt insulation is placed between framing members.

How-To-Do-It Painters Continued on Page 124

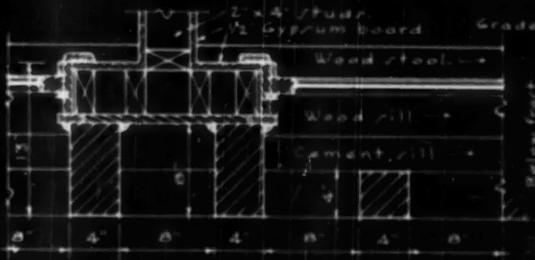
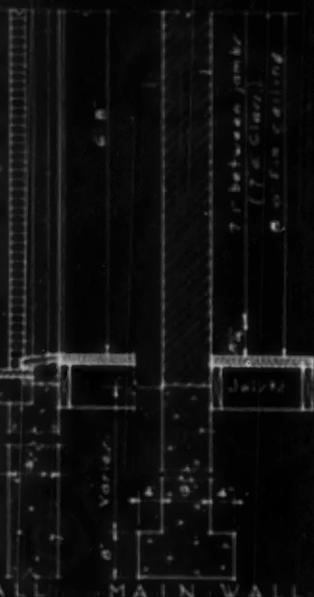
AMERICAN BUILDER'S BETTER DETAIL PLATE

Designed by R. J. Alexander for American Builder

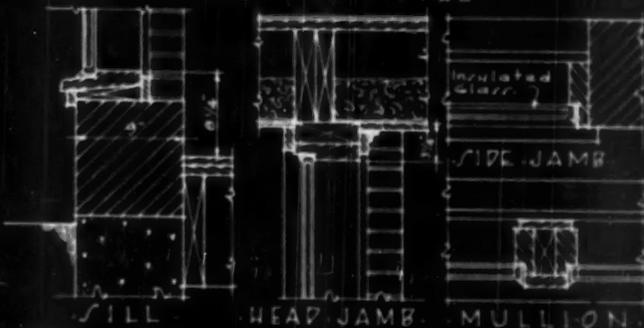
NO. D-70 - UNUSUAL WINDOWS IN TEXTURED WALLS



Exterior walls of "Nubricrete", split tile and brick. Masonry exposed in living room.

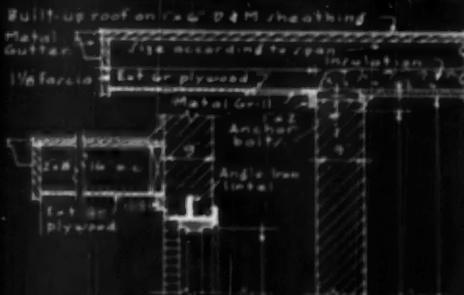
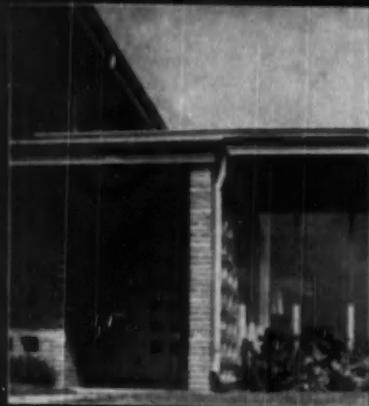


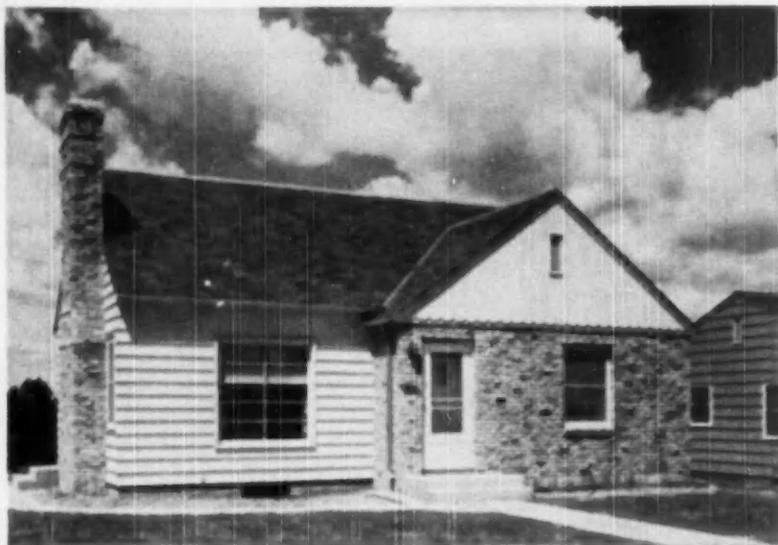
DETAIL OF WINDOWS BEHIND BRICK GRILL



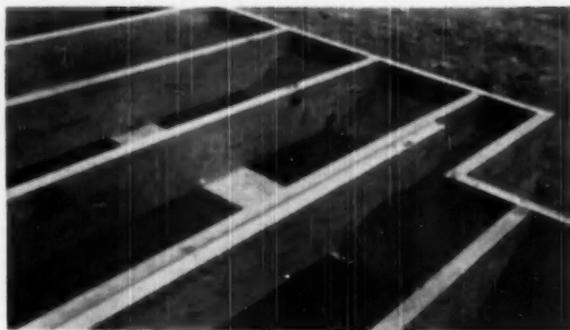
DETAIL OF

LIVING ROOM WINDOW





FACE brick with projecting headers, siding and vertical boards in gable ends, dress up the front of this house. Plan provides for five rooms including two bedrooms and complete basement



TYPICAL of the construction work in the northwest section of the country is the method of cement beam-kill placed between joists after framing members are placed in position as indicated above. Roof and wall framing on all houses is done in the conventional manner by workmen on the job as shown in photo below



120



•FIRST FLOOR PLAN•

(Continued from page 115) company for many years. Power tools in limited numbers are used for the cutting of framing members. The Bostitch Stapler has been put to effective use in the application of wood shingles on side walls.

Houses are placed on 12-inch-thick concrete block foundation walls with 8x20-inch concrete footings. Walls above are a combination of frame and stone veneer faced with wood shingles, siding or stucco.

Center partition of the house is wall bearing with roof rafters above trussed to the bearing. The firm arranges to have a sufficient number of foundations poured during the summer so that work on the superstructures may continue throughout the winter. In the same manner dry-wall construction is used on the walls during the winter to keep the men busy. During the summer they go back to the use of plaster. All houses are on 60 by 108 foot lots.

CONSTRUCTION OUTLINE—PRODUCTS USED: Anderson D. H. windows; Pittsburgh Plate Glass Co. Twinwindow; Bostitch staplers; Rockwool bat insulation in walls and ceiling, 2 and 4 inch thickness; Rubberoid asphalt shingles, 210 lb.; Schlage finished hardware; Eljer Co. plumbing fixtures; Janitrol and Lonnax gas-fired forced warm-air furnaces; Bess 1-3/4-inch-thick doors; Gerity Co. medicine cabinet and bath accessories; Armstrong linoleum; Mearns Co. paints; U. S. Gypsum sheetrock for partitions; Fibre glass insulation; Crane Co. gas water heater.

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A Ray of Hope

By R. E. Saberson

THERE are certain aspects of the great housing shortage that will not, or should not, be forgotten as we turn our attention to a more vigorous pursuit of the role that we again have been forced to play in international affairs.

The postwar shortage of homes, which quite logically did not apply to homes alone, accrued while we were engaged in other highly essential activities. However, as severe as it was immediately following the war, it wasn't prolonged unduly or catastrophic as predicted by lugubrious planners who quickly detected an opportunity to come to the aid of the party . . . politically speaking.

It would be illuminating indeed—and perhaps highly disconcerting—if it were possible to review briefly the many screwy "solutions" that were trotted out in all seriousness by that ever-present, fingernail-chewing group of do-gooders who are never too busy to take time out and throw their shoulders to the wheel in behalf of various causes.

The housing shortage provided a golden opportunity to churn up a frenzied hoop-to-doo that appeared to know no bounds. "Whereas the people of the United States MUST be housed" became the all-out order of the day and for months the front pages of the daily papers made the most of the chance to depict the seriousness of the shortage and to play up the many "remedies" that were being thought up by self-appointed experts who had never built a home or had even been remotely connected with an industry which had given America the best homes in the world and had made home ownership more prevalent than in any other spot on the globe.

Perhaps it will seem a bit needless to call attention once again to the failure of our bureaucratic planners to aid constructively in the solution of the housing shortage, but there is a case in point which will have much to do with the future welfare of America and to the maintenance of its priceless heritages.

While Washington was wailing much of the pressing need for such things as public housing (and adding

unnecessarily to the astounding national deficit); it was neglecting to concern itself with equal zeal to those affairs which constitute the major reasons for its very existence . . . setting up and maintaining adequate protection for its citizens and their far-flung interests.

Fortunately for the nation at large, it took so long for the public housers

already ended the housing shortage in city after city throughout the nation. It had established a record year after year that had never been approached in the long list of superhuman industrial achievements. It had built homes on practically every worthwhile vacant lot in nearly every city and town in the country and had extended its efficient activities miles into the country

in practically every metropolitan area. As materials and equipment became more readily available, new homes became increasingly efficient, economical, attractive.

How was it done? Not by the mumbo-jumbo of the so-called expeditors who paid little heed to the way it had been done in the past. Not by the Luxtrons, aided and abetted by millions of dollars of the taxpayers' hard-earned dollars. Not by revolutionary departures from tested, proved construction methods.

And so the expeditors have come and gone. Factory after factory, where homes were going to drop off the end of the production lines at a faster unit rate than the automobile industry ever achieved,

have long since folded. The rath-in-the-hat construction magicians no longer occupy the center of the stage.

Nevertheless, we are facing the threat or the actualities of another war with several million more homes than we had when we thought the dove of peace had again returned to our shores. The catching up of this Herculean pent-up demand truly was an achievement for which the home building industry has a right to be proud and it was accomplished even while the ever-busy bureaucrats were shouting to the house-tops that it was far too big a job for private industry and that it could only be done by the Government.

Assuredly it is this theory that seems to constitute a serious threat to our beloved way of life . . . a threat that may be as dangerous as the demand that we accept strange ideologies whether we believe in them or like them.

While city after city was witnessing
(Continued on page 116)

Government Cuts Public Housing Goals



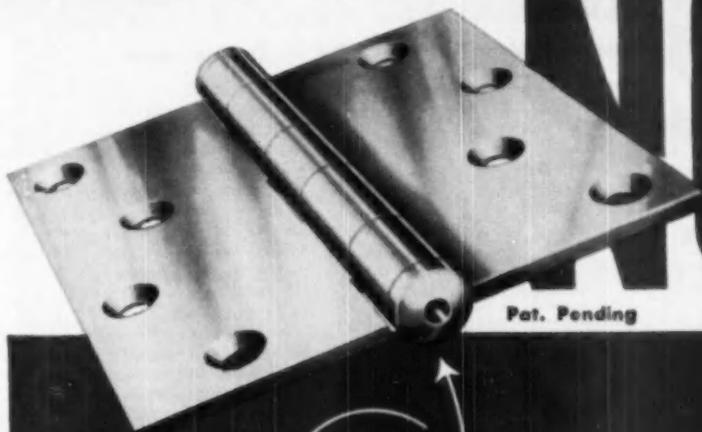
to get ready to begin that the housing shortage was practically over before it was necessary for Uncle Sam to turn his attention again to military activities.

The case in point, mentioned in a preceding paragraph, is simply this. If the public housers had devoted their time and attention to the development of ways and means for reducing the Government's deficit and had concerned themselves with such unspectacular activities as operating within a safe and sane budget, their efforts would have been heralded far and wide as an inspiring exhibition of spunk-tugging patriotism.

Instead of this what did we find them doing at the very time it was necessary to rush battleships, planes, men and supplies half-way around the globe to protect our country from the enemy which was battering down our gates?

The home building industry which had been weighed in the balance and had been found wanting by them had

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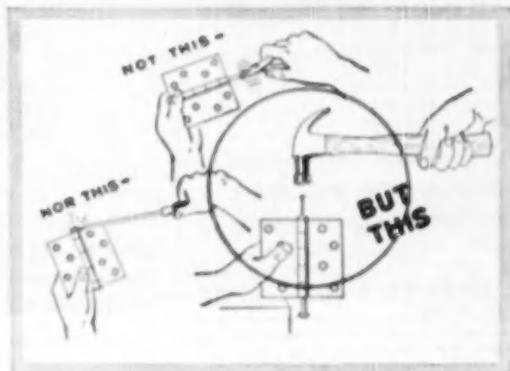
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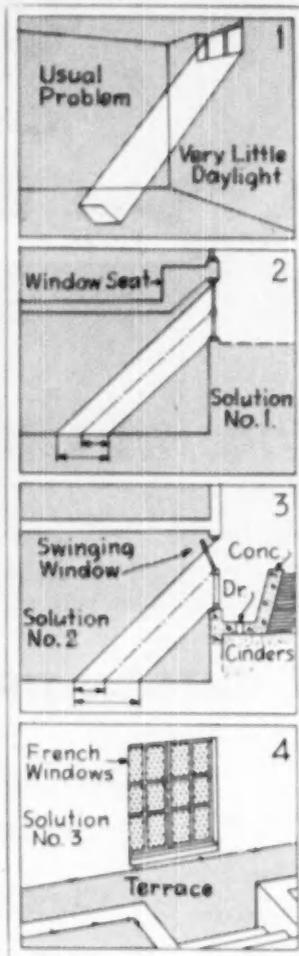
Write for your "Rail-O-Graph" today! P. O. Box 1113, Green River, Colorado. Give interesting details of the "It" of rails.

The R. J. Coffman Co. Inc.
ORLANDO, FLORIDA



TECHNICAL GUIDE for Builders and Craftsmen

How to Plan a Home Workshop in Basement



THE PROBLEM of light and ventilation in a workshop is very important. A few simple rules make the solutions reasonable enough to fit any size shop.

When the shop is on the main floor or above, the matter of light presents no problem and as many windows as desired may be installed. The shop may be flooded with daylight from all sides making a bright, cheerful place in which to work.

In the case of a basement shop, the problem is too few windows and too small. Many operators of small workshops have actually taken out old casement windows and replaced them with larger ones. There are several methods of doing this, as shown in figures one through four.

The problems of light and ventilation are related and of course if plenty of large windows are available no trouble will be encountered in obtaining good ventilation.

When sanding, ripping and lathe work are done there is a great amount of sawdust developed. If shop is well ventilated, the dust is blown outside. If such ventilation is not available, or practical, some method of dust control or a dust collector should be provided.

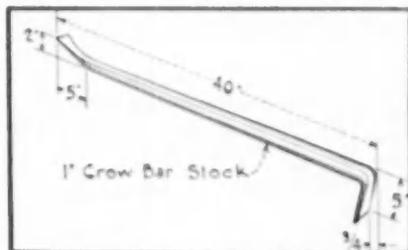
Many of the modern power machines are provided with individual dust collectors. A good rule to start with is to clean up any sawdust or shavings whenever the work is completed in the shop.

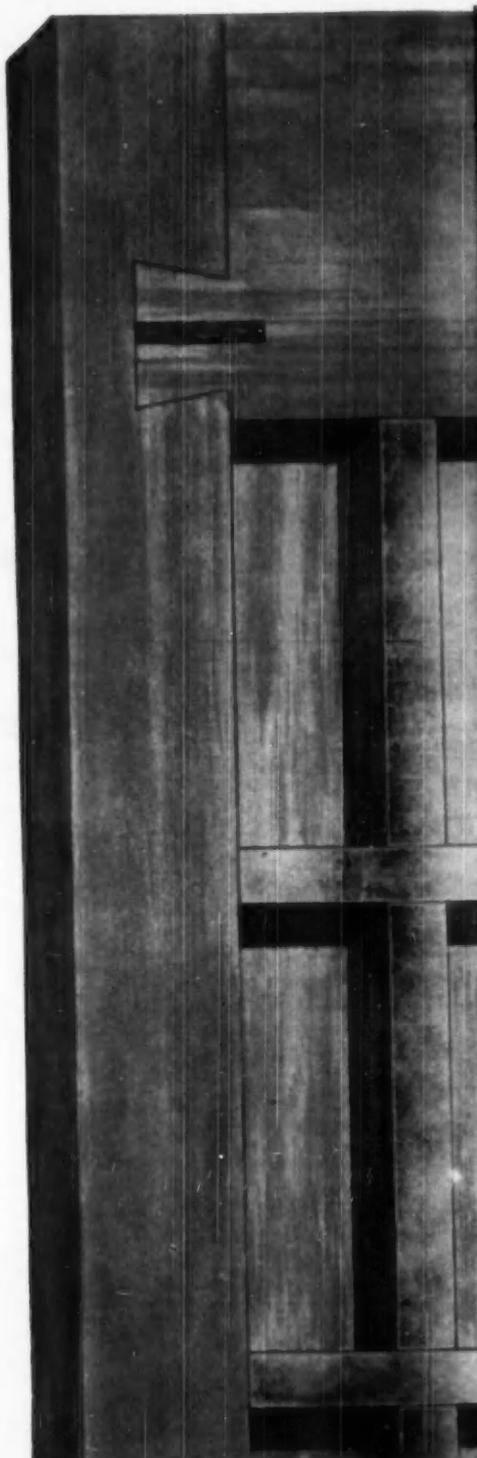
Keep a Nailset Handy

To avoid misplacing the nailset while working, proceed as follows: Drill a hole of the required diameter and depth in the end of the hammer handle to accommodate the nailset. Cover hole at end of handle with a piece of thin, stiff metal held in position with screw.—Submitted by Gen. A. Hefelinger, Lehighton, Pa.

How to Make a Home-made Stripping Bar

A stripping bar that can not be bought in any hardware store, but can be made in any blacksmith shop. This bar will help strip out the tough inside corners.—Submitted by J. G. Caldwell, San Mateo, Calif.





MORE

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MENGEL

Hollow-Core Flush

DOORS!

Installation and finishing expense leads most builders to demand the extra beauty, durability, economy and sales appeal of Mengel Hollow-Core Flush Doors.

- 1 *Balanced* seven-ply construction to provide controlled reaction in changing weather conditions.
- 2 Hardwood construction throughout — stronger, more durable, free from grain-raising, more easily and economically finished.
- 3 Exclusive Insulok grid core material has inherent resiliency, cannot cause warping, nor transfer grid pattern to faces.
- 4 Greater strength. Adequate core stock surface area provides maximum gluing surface and resistance to warpage.
- 5 Precision key-locked dove-tailed joinings of stiles and rails add strength and stability.
- 6 Ready to finish. Door faces are smoothly belt-sanded. Stiles are machine-planed at factory — prefit to standard book sizes.
- 7 Fully guaranteed. Each door must meet rigid quality control standards and constant inspection throughout manufacture.
- 8 Mengel Hardwood Flush Doors are economical — no mouldings to paint — no corners to collect dirt. Smooth hardwood surfaces are less absorbent and less costly to finish — easier to clean and longer-lived.

Write for complete specifications. Use the convenient coupon.

Also see
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the finest products of their type on the market.



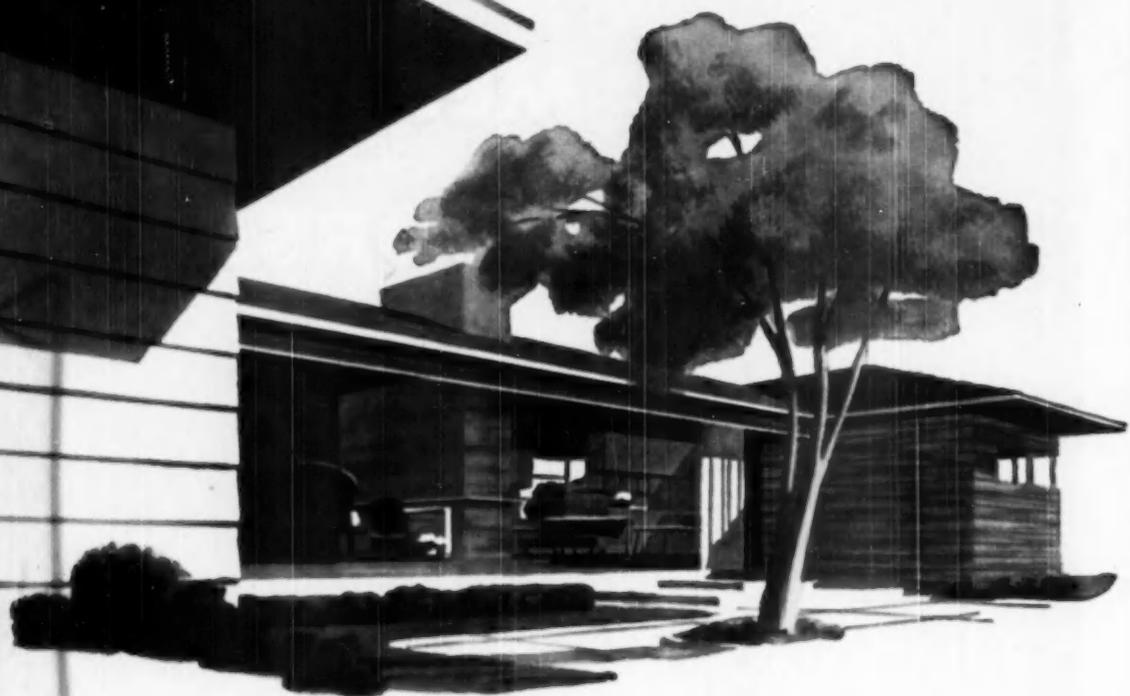
The Mengel Co., Plywood Division
2508 South Fourth Street, Louisville, Ky.

Gentlemen: Please send me, without obligation, full specifications on _____ Mengel Hollow-Core Flush Doors; _____ Mengel Stabilized Solid-Core Doors.

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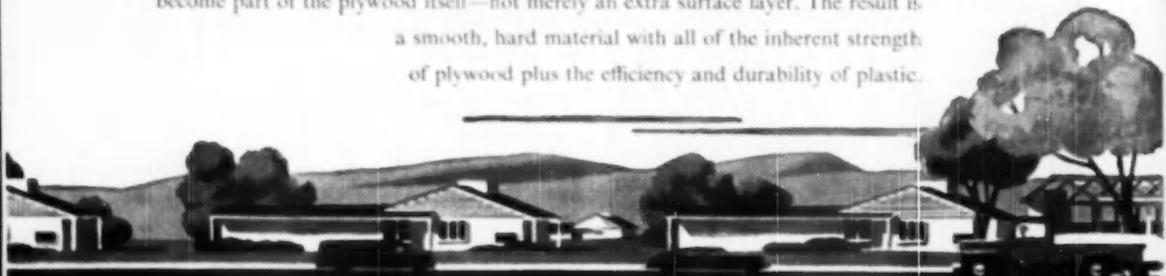
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it costs less to build better
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You may have heard about the savings being made by contractors who use Georgia-Pacific's miracle plywood, GPX, for Concrete Forms, but did you know that GPX is also made in two painting grades plus a beautiful wood grain surface? GPX's plastic coating is applied under heat and pressure at the time the plywood is being bonded. The plastic flows, condenses and sets to become part of the plywood itself—not merely an extra surface layer. The result is a smooth, hard material with all of the inherent strength of plywood plus the efficiency and durability of plastic.



USE GPX FOR SMART INTERIORS

Painted Surfaces—for interior surfaces that are to be painted, specify the white paint-grade of GPX. It won't check or crack and, if enamel is used, one coat is enough to provide a perfect cover. Smooth, hard and long lasting, the white paint-grade is ideal for shelves, table tops, counters, closets, kitchen, laundry and work room cabinets.

Natural Wood Surfaces—for the natural wood surfaces that are so much in demand for today's interiors, specify the natural grade of GPX. Use it for sliding doors, panels, all interior surfaces. Economical and efficient, long lasting GPX saves the expense of painting, keeps refinishing and upkeep costs to a minimum.

USE GPX FOR ATTRACTIVE EXTERIORS

Painted Siding—for exterior siding that is to get a painted finish, specify the brown paint-grade of GPX. This grade is engineered especially for use where the surface will be painted and it covers smoothly and evenly with less paint. And the paint lasts longer.

Natural Wood Siding—if you want attractive wood-grained siding, specify the natural-grade of GPX. With an armor-hard surface that never needs painting, natural GPX is economical, amazingly durable and attractive.

All grades of GPX combine the moistureproof, waterproof and weatherproof surface properties of plastic with the strength and stability of plywood.



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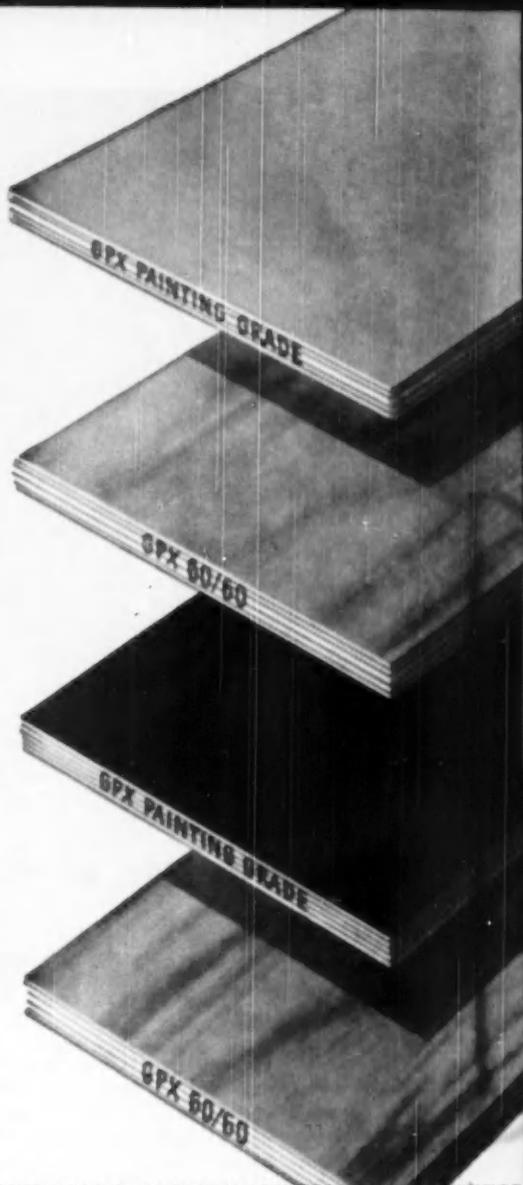
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Catalogs and HOW-TO-DO-IT INFORMATION

792—MATERIAL HANDLING TRUCK—The three models of the "Truck-man" are described in a brochure of the Truckman Division of the Knickerbocker Co., Jackson, Mich. Included are illustrations of uses, performance features, and list of materials handled.

793—DETAILS FOR ARCHITECTS AND CONTRACTORS—A portfolio published by Jay G. McKenna, Inc., Elkhart, Ind., offers 31 detail drawings which include closet, storage wall, and shower stall installations with Kenmatrack sliding door hardware. Contains well-engineered details of up-to-date applications of products.

794—DOUGLAS FIR FACTS—The final two in a series of 10 folders on Western pine and associated woods have been published by the Western Pine Association, 510 Yeon Building, Portland 4, Ore. They give the botanical history and classification, growth, range, properties and uses of Larch and Douglas Fir of the Western Pine region.

795—MULTI-PURPOSE POWER SAW—A 20-page booklet in color, "Unlimited Applications," has been issued by the Power Tool Division, Rockwell Manufacturing Co., Milwaukee 1, Wis., describing the Delta Multiplex which the company calls a "portable woodworking job shop."

796—ESTIMATING GUIDE—A guide for figuring sheet and accessory requirements for corrugated aluminum roofing and siding has been published by the Kaiser Aluminum and Chemical Sales, Inc., 1924 Broadway, Oakland 12, Calif. Diagrams show measurements required in estimating for all roof types; and a table is provided for calculation of rafter lengths.

797—GARBAGE DISPOSER—A folder published by Given Manufacturing Co., 3855 Santa Fe Ave., Los Angeles 58, Calif., gives complete information on disposer requirements and specifications. It also includes several installation detail sheets.

798—INDUSTRIAL WHEEL TRACTORS—A 23-page booklet published by the Oliver Corp., Industrial Division, 1930 Euclid Ave., Cleveland 17, Ohio, covers their complete line of industrial wheel tractors, including specifications, cross-sections, and detailed data on engines and transmissions, with a section on matched allied equipment available.

799—BUILDERS HARDWARE—A brochure published by the Accurate Manufacturing Co., 7934 S. Hoyne Ave., Chicago 20, Ill., illustrates and gives data on door guards, push and pull bars and plates, kick plates and thresholds.

800—FILE OF FLOOR FINISH SPECIFICATIONS—has been prepared by the American Floor Surfacing Machine Company, Toledo, Ohio, and is available to architects, builders, floormen and maintenance men. Information presented in five sections (preparation of floors, maintenance, selection of finish, data chart and specification sheets) discusses complete range of floor types including wood, cork, concrete, terrazzo, asphalt tile, rubber tile, plastic tile and linoleum.

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Title _____

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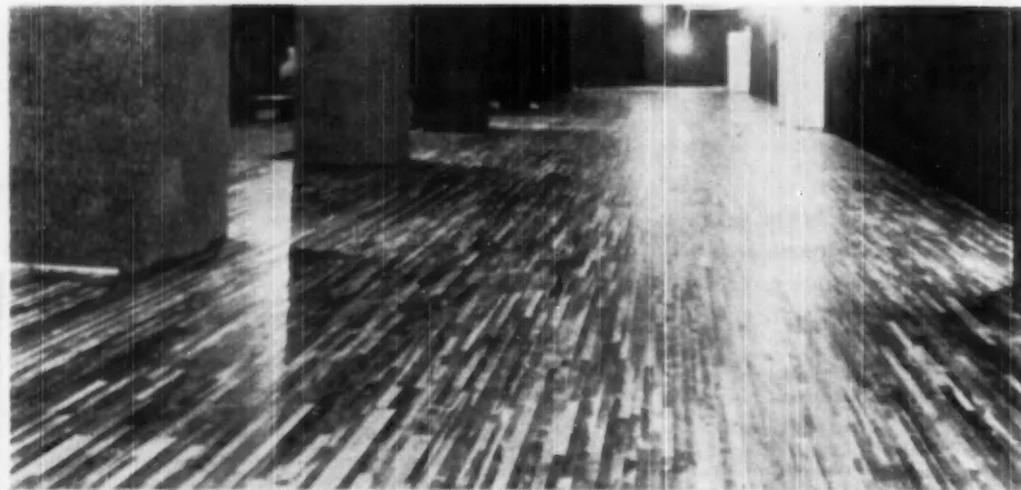
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CONNOR LAYTITE MAPLE FIRST AGAIN

The Minnesota Mining Company recently chose Connor "Laytite" Maple, third grade, $\frac{3}{4}$ " thick to floor the warehouse pictured below. "Laytite" is made under Maple Flooring Manufacturers Association specifications and is famous for uniform quality. Write for prices.



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CONNOR FOREST PRODUCTS SINCE 1872

Catalogs

(Continued from page 128)

801—SCREWLOCK METAL FURRING CHANNEL—is title of four-page booklet describing metal furring channels for all suspended ceiling construction issued by Nailtek Steel Division, The Sarnymetal Products Co., Inc., 1698 Urbans Road, Cleveland, Ohio. Contains diagrams showing installation of suspended ceilings with wire, wood joists, steel channels, masonry units, etc.

802—COLOR BOOK OF TILE—not only simplifies tile selection, but also gives builders full design data and specifications for typical installations using American-Olean Tile. Thirty full-page displays illustrate kitchen, bath, powder room and game room installations. Available to architects, builders and designers from American-Olean Tile Company, Lansdale, Pa.

803—WATER CONDITIONING EQUIPMENT—for water softening, iron removal, filtration, taste and odor removal is discussed in 16-page booklet published by The F. E. Myers & Bro. Co., Ashland, Ohio. Two pages are devoted to general information on how to select proper type and size water softener, water filter or water purifier. Other pages list equipment specifications.

804—IRONWORK—"Catalog of Ornamental Ironwork" by Master Craftsmen of Old New Orleans" has been published by Lorio Iron Works, 744 South Gayoso Street, New Orleans 19, La., to illustrate a few of the unusual architectural treatments afforded by many Lorio Ironwork

patterns. Contains specifications and photos of actual installations within its 44 pages.

805—BATHROOM ACCESSORIES—"Blue Jay Bathroom Accessories of Distinction" are described in folders available from Bluejay Chrome Products, Inc., 2121 Murray Ave., Pittsburgh 17, Pa. Folders contain illustrations and specifications of products and also describe Bluejay display boards to build dealer sales.

SERVICE COUPON—CLIP and MAIL to CHICAGO

Readers Service Department (September, 1950)
American Builder
79 W. Monroe St., Chicago 3, Ill.

Please send me additional information on the following product items, or catalogs, listed in this department:

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*Please note that occupation must be stated if full service is to be given.

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ANOTHER "FIRST"
FOR INSULITE

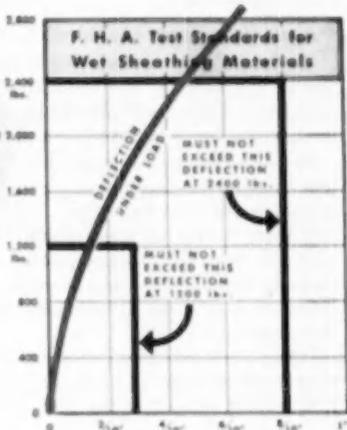
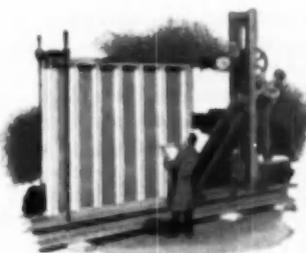


4 ft. *BILDRITE** is the first insulating sheathing to meet requirements of F.H.A. without use of corner bracing

NOT only is BILDRITE the original asphalt impregnated insulating sheathing, but it is now the first to satisfy the rigid requirements of F. H. A. without using additional corner bracing.

F. H. A. standards require bracing strength equal to horizontal wood sheathing with corner bracing. Recent approved laboratory tests prove that 4 ft. BILDRITE without corner bracing is actually much stronger than that. Consequently corner bracing is no longer required when using 4 ft. BILDRITE on jobs under F. H. A. supervision.

In other words, you can now use BILDRITE without corner bracing and save from \$25 to \$50 per average house, plus the assurance of better wall construction because BILDRITE also insulates as it builds. Now, more than ever, BILDRITE is the best buy for quality construction at reasonable cost.



Test Chart tells the story.
BILDRITE far surpasses
F. H. A. requirements.

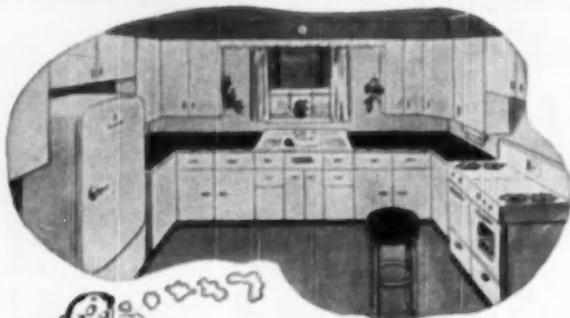
Racking tests in accordance with F. H. A. specifications were recently conducted by an independent laboratory using 4 ft. BILDRITE in 8'x8' panels of standard wall framing without corner bracing. F. H. A. required that the deflection of wet sheathing must not exceed 0.28 inch at 1,200 lbs. pressure and 0.80 inch at 2,400 lbs. pressure.

The red line on the chart shows results of test. Note that BILDRITE stayed well within these limits . . . without corner bracing! There was a 100% margin of safety at 1,200 lbs. pressure and a 77% safety margin at 2,400 lbs.

And remember, this was wet BILDRITE—sprayed with water intermittently for a total of 18 hours on both sides before the test! The dry tests (not charted here) were equally impressive—as you well know from the record of BILDRITE in practical use. For better wall construction at lower cost . . . Double Duty INSULITE BILDRITE SHEATHING!



A *Pyrofax* Gas Kitchen . . .



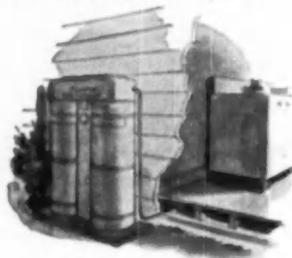
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Superior BOTTLED GAS Service

For full information see SWEET'S CATALOG, or address Dept. AB.

PYROFAX GAS DIVISION
Union Carbide and Carbon Corporation
30 East 42nd St. **NYC** New York 17, N. Y.

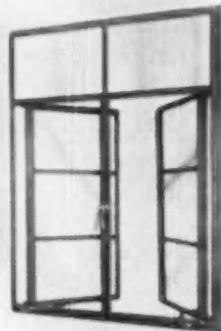
"Pyrofax" is a registered trade-mark of Union Carbide and Carbon Corporation.

NEW PRODUCTS

(Continued from page 68)

STEEL WINDOW CASING AB95007

Galva steel casing for installation with steel windows, permits joint between plastered surface of wall and the window casing to be



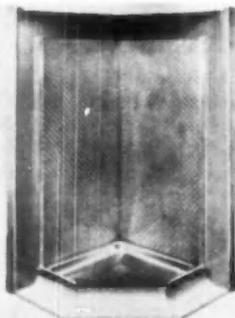
concealed by a molding which is an integral part of the casing. Solves problem of plaster cracks around the window. Available for all standard residential size casements and multiple units. Capco Steel & Engineering Co., Dept. AB, 14035 Grand River, Detroit, Mich.

LOW-PRICED FAUCET AB95005

New ledge faucet, the "Mid-Century," is designed for quick installation. One-piece, top-mounted faucet comes completely assembled with the spout in position. All that is needed is to make two connections and faucet is in. Body is one-piece, bronze casting. Assembly above sink level is heavily chrome-plated and polished to high luster. Barnes Manufacturing Co., Dept. AB, Mansfield, Ohio.

CORNER ANGLE SHOWER UNIT AB95019

Permalite shower unit is made up of three components, the Permalite one-piece stainless steel shower receptor, two interlocking QMC stainless steel shower walls, and Ripplite showerproof translucent fiberglass laminate



shower door and enclosure panels, enclosed in highly polished aluminum alloy frames. Towel bar and door handle are integral features. Installation is fast and easy. Stacking, transporting and handling on the job is simple. All three units are packed in comparatively lightweight cartons. The Q-Morrow Corp., Dept. AB, 4509 Firestone Blvd., South Gate, Calif.

(Continued on page 134)

WARMER FLOORS

IN BASEMENTLESS HOUSES... AT LOW COST

OWENS-CORNING
FIBERGLAS

PERIMETER INSULATIONS FOR CONCRETE SLAB FLOORS

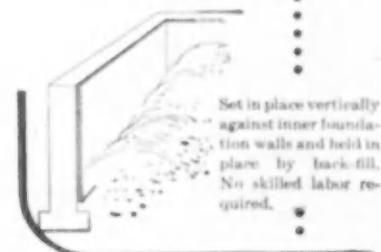
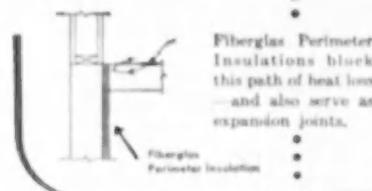
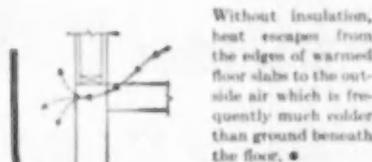
add value—Use easy to install Fiberglas® Perimeter Insulations to cut heating plant costs and fuel bills, offer greater comfort and sell more houses. When the slab edges are left uninsulated, experience demonstrates that heat loss is considerable and fuel costs are excessive. The concrete floor feels cold and damp.

required by FHA —FHA's Minimum Property Requirements call for perimeter insulations for concrete floors laid on the ground. Heating in the slab increases the need for insulation. Most Regional FHA Offices have already approved Fiberglas Perimeter Insulations, and prominent builders install them regularly.

permanent insulations—Made of ageless glass fibers, they are designed for durability in contact with the earth, have high insulating value and are equal in resiliency to Fiberglas Expansion Joints used in concrete highways. Resistant to soil acids. No wick action to pick up moisture. Won't rot, decay, swell or shrink. Won't provide sustenance for termites or vermin.

Fiberglas Perimeter Insulations are available in several different forms to meet your particular construction needs. See your dealer for complete information, or phone the Fiberglas Branch Office nearest you.

OWENS-CORNING FIBERGLAS CORPORATION
Dept. 62-1, Toledo 1, Ohio



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Construction News Division

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NEW PRODUCTS

(Continued from page 132)

DRILL SELECTOR SLIDE RULES AB95015

Available at no cost, this slide rule provides rapid sizing of ventilating and air conditioning grilles. Grille size is based on noise level,



air volume, throw, and ceiling height. Table of maximum allowable noise levels for different installations is printed on rule face. Range of variables is great enough for the selection of a grille for any common application. Uni-Fits Sales Div., Dept. AB, Barber-Coleman Co., Rockford, Ill.

BACK LEDGE SINK AB95014

New back ledge sink has an easy-to-clean stainless steel bowl. Colorful Formica tops are soil-resistant and durable. Lending themselves to a variety of designs and colors for harmonizing with color schemes. Stainless steel strip around the bowl adds to finished appearance and forms a watertight seal. Legion Stainless Sink Corp., Dept. AB, 40th Ave. & 21st St., Long Island City 1, N.Y.

MAINTENANCE UNIT AB95020

Occupying 18x40 inches of floor space, the Shopsmith maintenance unit can be converted into an 8-inch circular saw with extension table, 15-inch vertical drill press, 33-inch



lath, 17-inch disc sander, or horizontal drill press. The horizontal drill press, shown here, is a new power tool for jobs such as doweling, drilling in the ends of long workpieces, and other jobs that are difficult or impossible on a vertical drill press. Accessories can be added to convert into a jointer, shaper, drum sander, moulder, jig saw, and other power tools. Magna Engineering Corp., Dept. AB, 417 Montgomery St., San Francisco, Calif.

STEEL WINDOW WELL AB95023

USF standard window well, made of corrugated galvanized steel, is intended to meet needs of lowest budget building projects. Flat, safety-top edge. Produced in one opening width and in three standard depths. Dimensions are 37-1/8 inches in a choice of 12, 18 and 24-inch depths. United Steel Fabricators, Inc., Dept. AB, Wauater, Ohio.

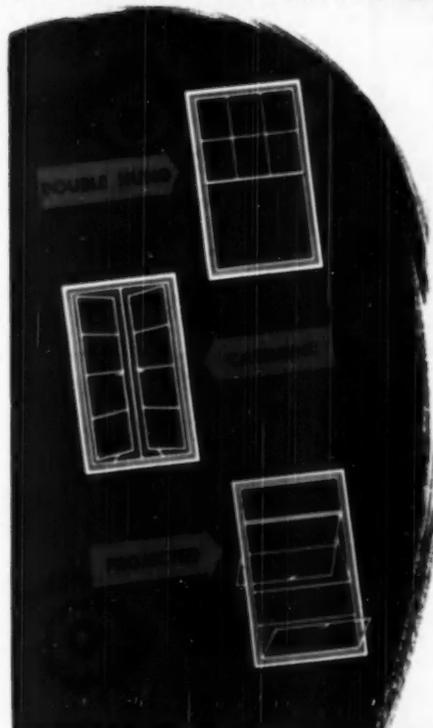
(Continued on page 136)

This seal
TELLS YOU
WHICH



ALUMINUM WINDOWS

OFFER YOUR CUSTOMERS THE MOST



There are so many makes of aluminum windows! It's difficult to know *which* will give you all the advantages you are looking for. That's why the leading aluminum window manufacturers, working with architects, contractors, and builders, established a rigid set of standards—and a seal of approval for any windows that meet them.

This "Quality-Approved" Seal marks the windows you can depend on. Windows that have passed tests by an independent laboratory for quality of materials, strength of sections, soundness of construction and minimum air infiltration.

When you buy windows bearing this bright red seal, you can offer your customers windows that are strong and sturdy, that give a lifetime of trouble-free service, that never need painting or costly maintenance, that *stay* good looking!

You can get these windows in all types—double-hung, casement and projected. They're *ready to install*, quickly and easily. No extras to buy! No finish to apply!

Consult any of the manufacturers listed below for all the facts. Information is also available in Sweet's Builders File (Section 3c/1a) or write Dept. AB-9.

*Aluminum Window
 Manufacturers Association*

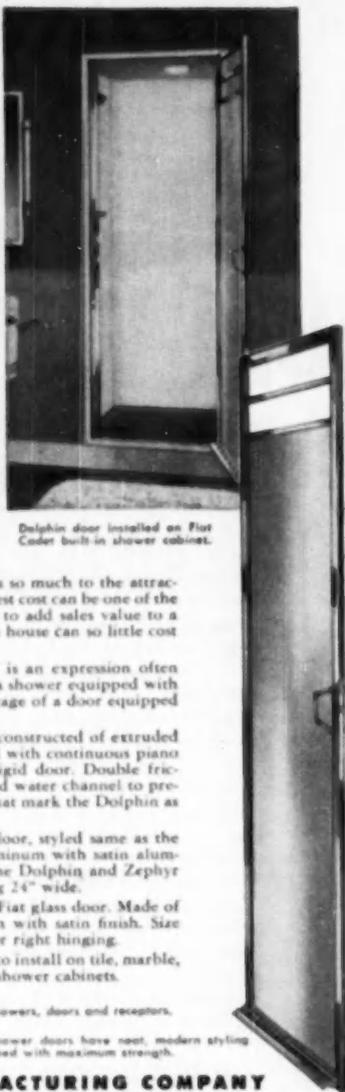
74 Trinity Place, New York 6, N. Y.

MEMBERS:

A. B. C. Steel Equipment Co., Inc., Tampa, Florida • The Adams & Westlake Co., Elkhart, Indiana
 Alliance Products Co., Marietta, Georgia, Mich. • Aluminum Home Products Co., Knoxville, Tenn.
 AB-110 Metal Window Co., Bristol, Pa. • The Win. Boyler Co., Springfield, Ohio • Cupples Products Corp., St. Louis, Mo.
 Michael Flynn Mfg. Co., Philadelphia, Pa. • General Bronze Corp., Garden City, N. Y. • Ludman Corporation, Miami, Fla.
 Metal Arts Manufacturing Company, Inc., Atlanta, Georgia • Reynolds Metals Company (Product Division), Louisville, Ky.
 Sterling Windows, Inc., New York, N. Y. • J. S. Thom Co., Philadelphia, Pa. • Titan Industries, Inc., Los Angeles, Calif.
 Union Aluminum Co., Inc., Sheffield, Ala. • Waco Laboratories, Inc., Miami, Fla. • Windowform Corporation, West New York, N. J.

Dress up the
bathroom
...with a Fiat

GLASS SHOWER DOOR



Dolphin door installed on Fiat Cablet built-in shower cabinet.

A Fiat glass door on the shower adds so much to the attractiveness of the bathroom that its modest cost can be one of the best investments a builder can make to add sales value to a house. Perhaps at no other place in a house can so little cost mean so much in desirability.

"What a beautiful glass shower!" is an expression often made by women when they first see a shower equipped with a Fiat door. And the practical advantage of a door equipped shower will please the man.

The Fiat Dolphin shower door is constructed of extruded solid brass, heavily chromium plated with continuous piano hinge forming a smooth-working, rigid door. Double friction bullet catches, offset handles, and water channel to prevent dripping on floor are features that mark the Dolphin as the finest in shower bath doors.

The Zephyr is a medium priced door, styled same as the Dolphin but made of extruded aluminum with satin aluminum finish. Standard size of both the Dolphin and Zephyr shower doors is 72" high for opening 24" wide.

The Neptune is the lowest priced Fiat glass door. Made of one piece heavy extruded aluminum with satin finish. Size 24" x 64" and is reversible for left or right hinging.

All Fiat doors are simple and easy to install on tile, marble, or structural glass showers and Fiat shower cabinets.

Use coupon for complete catalog of Fiat showers, doors and receptors.

Fiat shower doors have neat, modern styling combined with maximum strength.

FIAT METAL MANUFACTURING COMPANY

THREE COMPLETE MANUFACTURING PLANTS

(Chicago area plant) Franklin Park, Ill.

Long Island City 1, New York

Los Angeles 33, California

In Canada: Fiat showers are made by Porcelain and Metals Products, Ltd., Orillia, Ontario

FIAT

Please send catalog of Fiat Showers, Receptors and Doors.
Also builders bathroom floor sheet.

Name _____
Company _____
Street _____
City _____
Zone _____ State _____

Mail to FIAT METAL MFG. COMPANY, 9301 W. Belmont Ave., Franklin Park, Ill.

NEW PRODUCTS

(Continued from page 134)

REMOTE CONTROL GATE OPERATOR

AB95009

Robot gate operator will open and close a gate by the driver touching a button on the



dashboard while the car or truck is in motion, avoiding necessity of driver leaving truck or car to open gate. Gate width can be up to 6, 8, or 12 feet. Motors are either 1/2, 1/3, or 1/4 H.P. Robot Appliances, Inc., Dept. AB, 13165 Prosper Ave., Dearborn, Mich.

SHOWER HEADS

AB95026

Varistream shower head is completely adjustable to right or left for needle spray, normal spray, flood spray, or any spray in between. No other adjustments or setting of any kind have to be made to any parts at any time for the life of the shower heads. Three different models: Acme Brass Manufacturing Co., Dept. AB, 736 N. Fuller Ave., Los Angeles 46, Calif.

ALUMINUM WINDOW

AB95003

Fleetlite is a complete aluminum window with frame, sash, storm sash and screen. Has a double-hung storm sash to give protection



against wind, rain and dust. Convenient screen and sash are designed to stay in the window, yet they may be removed quickly for cleaning or reglazing without use of tools. Easy to install, and available in wide range of sizes. Fleet of America, Inc., 110 Pearl St., Dept. AB, Buffalo 2, N. Y.

(Continued on page 138)



Many new home owners in your area have unfinished second floors like this. They all intend to finish them sometime and usually want the extra space sooner than they originally planned. They're good prospects for interior finish jobs during the slack winter months ahead.



With Armstrong's Temlok, comfortable, attractive attic rooms can be built quickly and economically. Temlok Tile and Plank, with the special Lok-Bevel joint, are nailed or stapled over furring strips. The big, square-edged boards are nailed up directly over the studding.

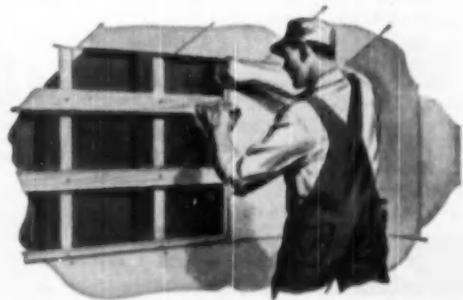
Now is the time to think about the winter slump

Even though building is at a high level now, you can reasonably expect the usual winter slump. Here's something you can do now that may bring in added revenue when you need it most.

No doubt there are many homes in your area with expansion attics or unfinished second floors. Make a list of the people who have bought homes like this recently. Mail them a short friendly letter. Point out that it's not so difficult or expensive to finish these upper floors as they might think. If you start now, you should be getting the business by winter.

The only thing that keeps most families from going ahead with this work is cost. With a dry-wall construction material like Armstrong's Temlok® Interior Finish, you can show them how to get the extra living space they need at very low cost. Temlok gives them real value for their money, too. It provides valuable, fuel-saving insulation. It has a smooth, attractive, two-coat paint finish and is quickly and easily installed.

Armstrong's Temlok is a practical, profitable material to build with. Get full information and samples from your nearest Armstrong lumber dealer or write direct to Armstrong Cork Company, 1609 Ross Street, Lancaster, Penna.



Armstrong's Temlok



**"Estimating is a cinch...
the PRINTING CALCULATOR
way!"**

That's what builders say who use the *Printing Calculator* estimating method—as described in Remington Rand's free booklet. This publication—designed exclusively for builders and contractors—tells you how to slash figuring time way down. It helps you streamline all your computations: figuring payrolls, compiling workmen's compensation data, checking invoices—you'll find it a veritable gold mine of figure facts!

You'll see how *proof printed on the tape* eliminates all doubt of the accuracy of your figures... how automatic division and direct multiplication speed up your office work. You'll discover the economy in a *Printing Calculator* that is also a high speed machine for addition and subtraction—double value for the builder!

Send for your copy today.



Remington Rand

Business Machines and Supplies Division, Room 1680A, 315 Fourth Ave., N. Y. 10.

Please send me free copy of the savings-for-builders booklet "A Blueprint for Figure-Fact Efficiency."

Name _____ Title _____

Firm _____

Address _____

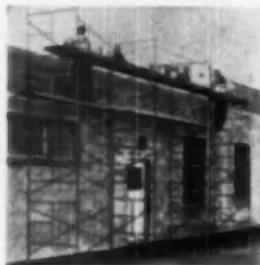
City _____ Zone _____ State _____

NEW PRODUCTS

(Continued from page 136)

STEEL SCAFFOLDING AB95010

Low-priced "Safway 4x4-inch" steel scaffolding for light duty construction is certified by 4,000 pounds uniform load and 16,000 pounds total leg load. Approved by Underwriters Laboratories, Inc. Frame members measure 4



feet wide by 4 feet high. These parts may be assembled in scaffolds or towers as high as 40 feet, and for loads not exceeding 50 pounds per square foot. Made from high carbon steel tubing, solidly welded in a sturdy rigid design. May be rapidly assembled or dismantled by unskilled help, without special tools. Easily erected to fit any job. Safway Steel Products, Inc., Dept. AB, 6234 W. State St., Milwaukee 13, Wis.

EMERGENCY EXIT LOCK AB95031

New type emergency exit lock has approval of Underwriters Laboratories and the City of Los Angeles Insurance Underwriters Committee. Lowers risk on all types of insurance. Hotels and restaurants claim the lock stops pilferage. May be opened at the convenience of authorized persons who possess keys. Or in case of rare emergency may be opened by any person who strikes clapper, which action opens door and rings alarm. Hunter Lock Co., Dept. AB, 1105 S. Robertson Blvd., Los Angeles 25, Calif.

AUTOMATIC HOME INCINERATOR AB95022

Tripartite home incinerator features automatic lighting, burner shut-off and automatic flame failure protection. Housewife can load it, leave it, and forget it. Installation is in the

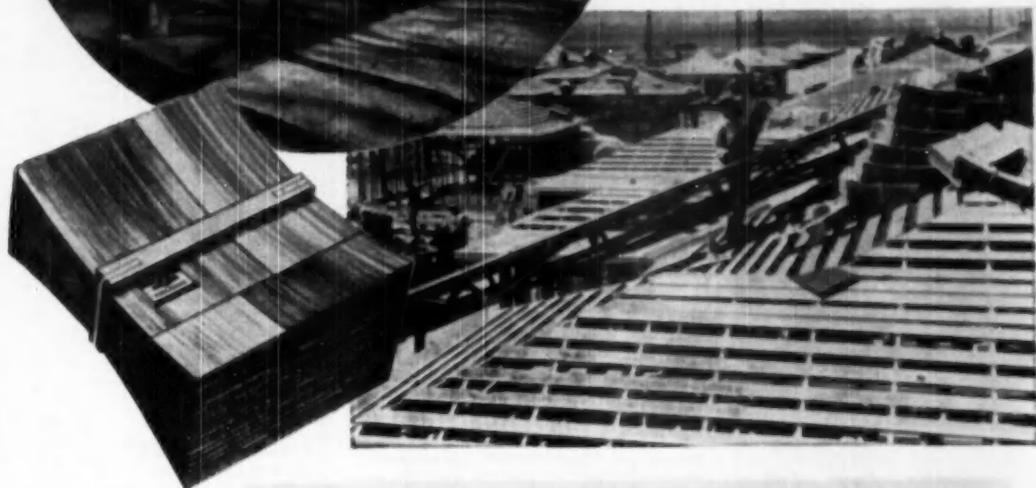


wall, off the floor at convenient height for loading and cleaning without leaning over. All controls are out of reach of small children. Ashes drop into removable tray at bottom. Does a thorough job of consuming garbage, sweepings, and papers, using only newspaper as fuel. Automatic gas burner provides flame necessary for burning exceptionally wet loads. Incinerator Products Co., Dept. AB, 667 Ford Ave., South Detroit 17, Mich.

(Continued on page 140)



MANSIONS REQUIRE THEM



PROJECTS DEMAND THEM

* **THE LAKEWOOD DEVELOPMENT**
Will house 60,000 to 70,000 people. Covers 3,800 acres of land. Roofed with 323,000 squares of shingles. The largest housing job in history.

Where are all of the red cedar shingles going? They are going on the roofs and walls of every class of residence. They are being used by every class of builder, from the single home contractor to the men responsible for the world's largest multiple housing project. And they are being specified by more and more of America's foremost residential architects.

In famous Lakewood[®], Los Angeles, Contractor Bob Griffin will put red cedar

shingle roofs over the heads of 17,150 families. In Glencoe, Illinois, Architect William Alderman designs homes of distinction with roofs and walls of cedar shingles and shakes.

During today's unprecedented building boom, red cedar shingles are being produced at the greatest rate achieved in over a decade . . . direct result of the increasing preference for CERTIGRADE quality.

Certigrade Red Cedar Shingles
ARE IN TERRIFIC DEMAND EVERYWHERE

RED CEDAR SHINGLE BUREAU

5510 WHITE BUILDING, SEATTLE, WASHINGTON

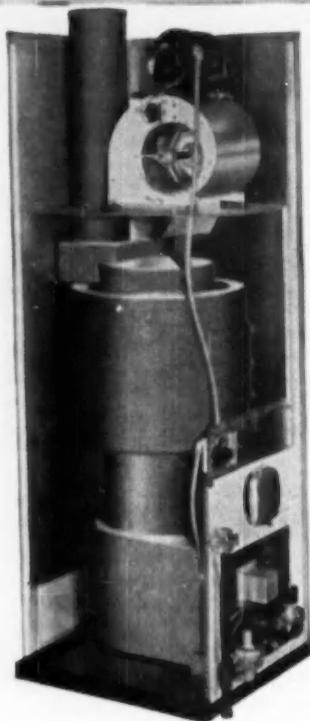


CONCO
heat

FOR UNDER-FLOOR-DUCT HEATING
IN YOUR BASEMENTLESS HOMES

New "CONVERTIBUILT" COUNTER-FLOW HI-BOY

- DESIGNED FOR OIL OR GAS
- APPROVED FOR ZERO CLEARANCE
- MORE COMPACT - ONLY 22" x 22"



Gleaming white
brush blends with
other utility room
appliances.

Cut-away view
shows extreme
compactness, full-
size components.



It's All New... A FULL QUALITY AIR CONDITIONER

It's the new "RANCHEP", the builder's own conditioner — built to your specifications to combine extreme compactness with full-scale performance. Measures only 22" x 22", is approved for zero clearance to combustible material. Top flue outlet, under-floor ducts, all controls are factory mounted. May be installed in utility room or closets, 23" x 30". Fully packaged, factory wired. Rated at 64,000 BTU at bonnet, either oil or gas-fired, fully approved for either fuel. Already the choice of leading builders. Write Dept. 9 for full details.

"CONVERTIBUILT"

FOR OIL OR GAS, OR OIL NOW, GAS LATER



OIL FIRED

(MODEL VC-1 OIL) Employs highly efficient vaporizing type stainless steel burner, with fuel-saving Blue Flame pilot.

(MODEL GC-1 GAS) Employs efficient, single port type Monoflame Gas Burner, manufactured under license from Roberts-Gordon.

GAS FIRED



CONCO ENGINEERING WORKS

DIVISION OF H. D. CONKEY & CO. • MENDOTA, ILLINOIS

AFFILIATES

CONCO BUILDING PRODUCTS, INC.
BRICK - TILE - STONE

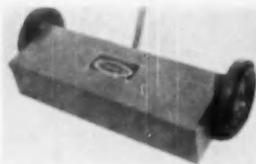
CONCO MATERIALS HANDLING DIV.
CRANES - HOISTS

NEW PRODUCTS

(Continued from page 138)

MAGNET CLEAN-UP UNIT AB93032

Permanent magnet clean-up unit made of highest grade magnet material is designed for use in lumber yards, garages, upholstery shops, machine shops and any hard surfaced



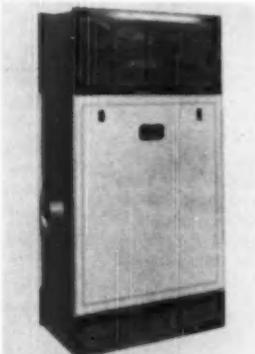
areas where nails, bolts and scattered ferrous materials must be removed from floors or stony ways. In two models to fit varying needs, one 24 inch wide and the other 36 inches wide. Easily maneuvered in areas where material must be picked up. P. W. Shrader Co., Dept. AB, 5788 Washington Blvd., Culver City, Calif.

FAST HEATING ELEMENT AB95008

Bacon and eggs can be cooked in three minutes on a new Super Corax heating element now available in a range offered by this firm. Element is designed to receive a surge of current in its initial operation, that brings unit to red heat in 30 seconds. The 1950 Commander range, besides the Corax heating unit, has controls that indicate heat positions on a color band. Double-oven model accommodates a 25-pound turkey. Westinghouse Electric Corp., Dept. AB, 246 E. Fourth St., Mansfield, Ohio.

IN-A-WALL FURNACE AB95027

Even-Temp self-contained furnace is installed in a wall partition or mantel. Designed for average size, budget-priced homes, the unit has rated output of 52,000 B.T.U.'s. Approved for placement directly on a wood or con-



crete slab floor, with zero clearance between wall enclosure and furnace casing. May be connected to abutting chimney or patent flue. No duct work is required. Built-in cold and warm air registers are provided on both sides to assure ample heat distribution. Two-speed heat circulating fan, which in summer may be used as summer circulating fan. Fireheat Metal Products, Inc., Dept. AB, 55 Spokane St., Seattle 4, Wash.

(Continued on page 142)

Today's Best Buy for...

Sized Right!

Small Houses



Priced Right!

Multi-Family Apartments



Shipped Assembled!

Low-Cost Housing Projects



Mueller Climatrol

Type 111 Gas Gravity Furnace Fuel-thrifty 90,000 Btu Steel Furnace — shipped pre-assembled to cut installation costs

A low-cost furnace with all these outstanding values!

1. All welded steel heat-exchanger and radiator — cleanable through conveniently located access panels; updraft design.
2. Durable cast-iron drilled-port burner — with large single-port, non-lapping air shutter.
3. Heavy-gauge steel cabinet — finished in handsome Mueller green — insulated with laminated asbestos and aluminum foil.
4. Solid steel base — with four adjustable leveling screws for easy installation.
5. Compact, easy to handle, space-saving — dimensions: 51" high, 25½" wide, 26½" deep. (Available with pitch-type burner.)
6. Shipped completely assembled — arrives in two packages: one for burner and trim, the other for assembled heat-exchanger and cabinet.
7. Approved by American Gas Association — for all areas and high-altitude installation with full rating.

Here's the ideal furnace for almost every housing job you handle today. Ideal because it fits the small unit dwelling now in demand... ideal because it fits today's building budgets... ideal because it is quality-built, carries the "big name in heating" — Mueller Climatrol — your assurance of customer acceptance and satisfaction.

- Here are the all-around advantages of this new Mueller Climatrol design:
- ✓ Compact, space-saving — only 25½" wide. Goes through any door easily.
 - ✓ Easily installed — shipped *pre-assembled*, with a solid base and leveling screws to eliminate special concrete work and grouting.
 - ✓ Top quality at low cost — nationally known for 95 years, the Mueller name is a mark of quality accepted by home-owners everywhere.
 - ✓ Beauty to please any buyer — handsomely designed, finished in durable Mueller crinkle green enamel.

Now it's a simple matter to make sure of lasting satisfaction with the heating installation on every job. Standardize on Mueller Climatrol. Write for full details on the Type 111 — and all the other units in the complete Mueller Climatrol line... L. J. Mueller Furnace Company, 2114 W. Oklahoma Ave., Milwaukee 15, Wisconsin.

MUELLER

© 1958

Climatrol

REG. U.S. PAT. OFF.

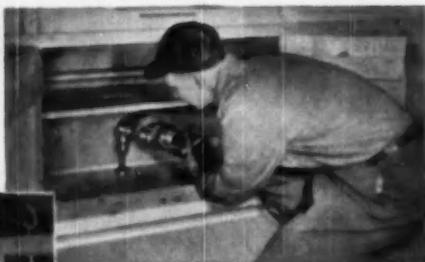


FOR GAS

FOR OIL

FOR COAL

It's the RIGHT ANGLE for Tough Spots...Faster Jobs CUTTING COSTS



YOU'LL be amazed at the cost-cutting, time-saving and accurate performance — in both construction, and plant maintenance — of this remarkable new Tri-Speed HOLE-SHOOTER with its 2-speed "Right-Angle Drive" attachment. See complete kit below.

This tool not only speeds up work in the tightest corners, but also provides the right speeds for boring with bits of every size, including expansive bits and hole-saws. Pays for itself on a couple of jobs. Also suitable for drilling in steel, and concrete with carbide-tip drills.

• See Your Distributor

If he cannot supply you, write us and mention his name. Immediate delivery. "You'll buy if You'll Try".

MILWAUKEE ELECTRIC TOOL CORP.
5356 West State Street, Milwaukee 8, Wisconsin

Milwaukee TRI-SPEED Kit for Contractors . . .

- 1 3-412 1/2" HOLE-SHOOTER, ball and roller-bearing equipped... Jacob's geared Chuck... 450 R.P.M.
- 2 Two-Speed "Right-Angle Drive" attachment... low side, 300 R.P.M.,... high side, 675 R.P.M.
- 3 3 special bits for boring in wood—1/2", 1 1/8" and 2 1/8".
- 4 Special wrench for attaching and adjusting "Right-Angle-Drive" and Chuck.

\$87.00

Adjustable "Long Arm" Accessory...
\$24.50 EXTRA *Pat. Pending



Milwaukee

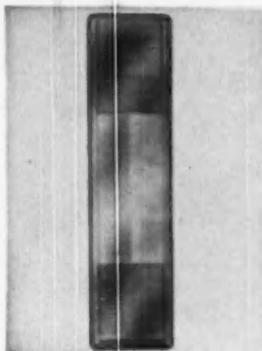
QUALITY TOOLS

NEW PRODUCTS

(Continued from page 140)

RECESSED HEATING SYSTEM AB95016

Gas-fired Empire recessed heating system provides low-cost, safe controlled heat. "Spill Chamber" prevents products of combustion from discoloring walls. Concealed controls



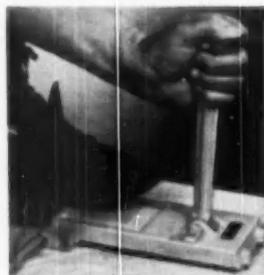
prevent accidental shut-off. Raised from floor, installation will not interfere with wall to wall floor covering. May be installed between standard 16-inch O.C. studs, in walls ranging in thickness from 4 1/2 inches to 3 1/2 inches without furring. Capacities are 25,000 B.T.U. for single wall, 25,000 B.T.U. dual wall and 50,000 B.T.U. dual wall, for natural, manufactured and liquefied petroleum gases. Empire Stove Co., Dept. AB, Belleville, Ill.

PORTABLE REGISTER AB95017

For accurate end-of-day accounting, the UARCO Portable Register, weighing 2 1/2 pounds, holds three-part business forms. It measures 12 inches long, 8 inches wide and 3 1/2 inches high. Used near the telephone, on sales counters, desks, and on the arm of the writer in warehouses, loading platforms or on the construction job, the application of this register is almost unlimited in scope. UARCO Inc., Dept. AB, 141 W. Jackson Blvd., Chicago 4, Ill.

LEVERAGE TOOL AB95004

"Flo-Tite," a new leverage tool for tightening tongue and groove flooring boards instantly into nailing position, has a series of steel pins or teeth that provide a gripping base. A simple movement of a hand lever in-



lines quick, accurate fitting. Provision is made in furring for a changeable insert to cover a wide variety of tightening or separating operations, such as flooring, studding, bracing, siding, roofing, floor-blocks, etc. E. M. Products, Dept. AB, P.O. Box 171, Rochester, Mich.

"Manhattan House" chooses Hotpoint dishwashers



Manhattan House
 Owned and Operated by
 New York Life Insurance Company
 Equipped with Hotpoint
 Automatic Dishwashers

**Hotpoint Dishwashers were selected as
 standard equipment in New York's unique new Manhattan House?**



In the introduction of their many amazing innovations in planned comfort and convenience, Manhattan House, now nearing completion by the New York Life Insurance Company, is establishing new peaks in truly modern living. Because of Hotpoint's reputation of being first with the finest, it is only natural that the revolutionary new Hotpoint Automatic Dishwasher would be selected as standard equipment in this magnificent new apartment project.

This is doubly important news to builders. It is overwhelming proof of the nation-wide popular demand for automatic dishwashers and their importance in modern

home planning. Also, it is positive proof that far-sighted home-equipment experts make Hotpoint Dishwashers their choice.

Today, Hotpoint All Electric Kitchens and Home Laundry equipment sets the standard for beauty, efficiency, practicability and low installation costs. Whether you are remodeling or building a single dwelling, an apartment house or an entire subdivision, the use of Hotpoint home appliances means a faster sale or rental... and a big increase in the property value.

Write now for free literature on Hotpoint Home Appliances. Hotpoint will gladly give you helpful counsel in kitchen and laundry planning for your particular project.

The automatic dishwasher is rapidly becoming required equipment—just like the electric refrigerator and electric range—in today's new homes and apartments.

The builders of Manhattan House specified Hotpoint Dishwashers for the same reasons Hotpoint is specified by more buyers of automatic dishwashers than any other kind.

Hotpoint offers features not found in other makes.

Hotpoint Inc.

RANGES • REFRIGERATORS • DISHWASHERS • DISPOSALS™ • WATER HEATERS
 FOOD FREEZERS • AUTOMATIC WASHERS • CLOTHES DRYERS • ROTARY IRONERS • CABINETS

(A General Electric Affiliate)
 3600 West Taylor Street, Chicago 44, Illinois



CHORD LONG SPAN JOISTS

18" to 54" deep

Up to 108 feet long clear span

For Steel Deck welded to joists, built-up wood deck, or molded slab construction. No sub-joists are required.

T-Chord Longspan Joists are ideally suited for use in buildings where low headroom and unobstructed floor space is desired.

May be used in Schools, Supermarkets, Garages, Warehouses, Factories, and other types of buildings.

Also T-Chord Bow-String Trusses
30 feet to 120 feet long

Send your inquiries or your plans to us for complete Engineering Service.

HAVEN-BUSCH COMPANY

581 Front N.W., Grand Rapids 4, Mich.

Over 60 years of service

Congress Committee to Study Mortgage Finance Proposed by NAREB

Proposal that a joint Congressional committee be created to study the nation's mortgage financing situation with the assistance of organizations in the real estate and mortgage finance fields was recently made to the Senate Banking and Currency Committee by John C. Thompson, Newark, N.J., representing the National Association of Real Estate Boards. He pledged NAREB aid in such a study.

Thompson said the bill now under consideration, S. 3746, would fail because of "its own instability and economic frailty, and would not accomplish the objective of providing workable private national mortgage corporations to purchase, service, and sell government-insured or guaranteed mortgages."

Millwork Promotion Course Given by New York College

The City College Midtown Business Center, New York, has organ-

ized the first advanced course in millwork for wholesale and retail lumbermen in the New York area.

Recognizing that few lumber yards are equipped to take full advantage of the sales potential of millwork, the Building Industry Training Program of the Center has undertaken to provide the training in cooperation with the New York Lumber Trade Association and the New Jersey Lumbermen's Association.

"Experienced lumbermen whom we consulted," said Victor E. Musso, head of the Building Industry Program, "believe that both wholesale and retail yards have much to gain by encouraging more of their personnel to know the millwork field.

"They feel with us that the tendency of most yards to regard millwork as a specialty supplied only in answer to requests results in their missing many fine opportunities."

Yards can greatly expand their sales of millwork if more of the personnel are prepared to point out its advantages to the potential buyer, he said.

The course is organized on an advanced level to supplement the necessarily limited basic training already given in the Center's course in lumber retailing.

FINER FINISH SANDING AT A NEW LOW PRICE!

STRAIGHT-LINE
RECIPROCATING
ACTION LEAVES
NO MARKS

14,400
SANDING
STROKES
PER
MINUTE

(PATENTED)

- Only Two Moving Parts — Uses 110-120 v. A.C.
- Easy To Use — No Bearing Down—Continuous Use Doesn't Tire Operator
- Weight Less than 5 lbs. — Over-all Size, 3½" wide x 4½" x 7"
- Dust-Proof—Fuel-Proof—Fully Overhauled.
- 21 Square Inches of Sanding Surface.



**RUGGEDLY BUILT
FOR AN ECONOMY-WISE
BUILDING INDUSTRY**

The new Dremel Model 2000 is a fast-cutting, finish sander. It offers for the first time in the building field, a top-quality electric sander at a remarkably low price. Truly a versatile performer, it sands dry-wall joints, smooth plaster, puts a satin-like finish on doors, woodwork, siding, etc. Rugged construction, trouble-free design—plus low initial purchase and operating cost—all demand your thorough investigation. Call your supplier, or write us for details.

DREMEL MANUFACTURING CO., 2414 18th Street, RACINE, WIS.

EVERY BUILDER NEEDS . . . EVERY BUILDER CAN AFFORD
THE NEW DREMEL ELECTRIC MODEL 2000 SANDER



ROCKFORD SASH HOLDER

"The Magic Balancer
and Holder in One" is the

Answer to your window problems!



- SAVE \$2.00 to \$5.00 per window.
- It is invisible—rust resisting.
- Installation less than 1 minute. Easy to install.
- Eliminates sticking, binding or rattling of window.
- A turn of the screw loosens or tightens the window as required.
- Guaranteed for the life of window sash.
- Over 200,000 now in use.
- Wonderful to use when replacing old fashioned cord and weights.

DEALERS: Write or wire for descriptive literature and liberal discounts. Free demonstrator window with first order of 1/2 gross or more. Ad mail on request.

ROCKFORD SASH HOLDER, INC.
807 EMPIRE BUILDING - 203 S. MAIN STREET
ROCKFORD, ILLINOIS

FIRST

IN SALES!

FORD F-5

outsells every other truck in the 1½-ton field!

National registration figures prove the Ford F-5 has outsold every other make in its class—bar none—in the postwar period. Since the war it has outsold the next leading make by a ratio of 5 to 3.

Ford Model F-5, rated up to 14,000 lbs. G.V.W.
... Choice of 95-h.p. Six or 100-h.p. V-8.



FOR EVEN BIGGER LOADS—GREATER POWER
Choose Ford Model F-6, rated up to 16,000 lbs. G.V.W., 28,000 lbs. G.T.W. Choice of three engines—95-h.p. Six, 100-h.p. V-8 and new 110-h.p. Six.

FIRST

IN VALUE!

Ford is first in sales because it is first in value. In addition to low first cost, the F-5 offers these 10 advantages over the next four leading makes in the 1½-ton field.

Ford Trucking Costs Less Because—

FORD TRUCKS LAST LONGER

Using latest registration data on 6,592,000 trucks,
life insurance experts prove Ford Trucks last longer!

10 WAYS BETTER

than the 4 other leading makes in the 1½-ton field!

1. Up to 1,720 lbs. more payload capacity.
2. Up to 1,500 lbs. higher G.V.W. rating.
3. Up to 310 lbs. less chassis dead weight.
4. Widest (3½-inch) rear brake shoe lining.
5. Highest compression ratio.
6. Choice of V-8 or 6-cylinder engine.
7. Oil filter standard.
8. One quart oil bath air cleaner standard.
9. Biggest clutch lining area.
10. The "Million Dollar" Cab for extra driving comfort, roominess and safety.

In the 1½-ton field and in over 175 other models from 95-h.p. Pickups to 145-h.p. Big Jobs, Ford is America's No. 1 Truck Value. Switch to Ford Trucks. See your Ford Dealer today.

MAIL THIS COUPON TODAY!

FORD Division of FORD MOTOR COMPANY
3309 Schaefer Rd., Dearborn, Mich.

Send me without charge or obligation, detail specifications on Ford Trucks for 1950.

PULL LINE HEAVY DUTY MODELS
LIGHT MODELS EXTRA HEAVY DUTY MODELS

Name _____
(Please print plainly)

Address _____

City _____ Zone _____ State _____

NEW!**OIL WALL FURNACE**by *H.C. Little***KEY TO ILLUSTRATION:**

1—FURNACE is 80" high, 20" deep, 30" wide. 2—PARTITION wall cut away shows how furnace is set in wall to extend out equally each side (7" for a 6" wall) 3—FURRED OUT wall above furnace both sides provides ample room (20" x 30") for a 4—PATENT FLUE, which comes down from above. (Or brick chimney constructed at side may be used) 5—WARM AIR discharge grilles, 8" x 27", both sides. 6—RADIANT PANEL, 12" x 49", one side. 7—COLD AIR intake grilles, 10" x 27", both sides.

**Perfect for
Small Homes
Without Basements—
Saves Valuable
Floor Space—
Automatically
Lights Itself—
Burns Low Cost
Furnace Oil**

Important Home Selling Features

Fully automatic operation, electric ignition and controls (manual control also available) . . . burns low cost furnace oil . . . occupies minimum space, permits wall to wall carpeting . . . radiant panel one side and large grilles both sides assure excellent heating job . . . ample capacity—over 60,000 BTU output per hour.

For full information, write Dept. A-9

Baltimore, Md.
Belmont, Mass.
Boise, Idaho
Chicago, Ill.
Columbus, Ga.
Detroit Lakes, Minn.
Des Moines, Iowa
Fayetteville, N. Car.

Newark, N. J.
Portland, Ore.
Prescott, Ariz.
Reno, Nev.

Salt Lake City, Utah
Seattle, Wash.
St. Louis, Mo.
St. Petersburg, Fla.

H.C. Little
Burner Company

SAN RAFAEL,
CALIF.

Suberson . . .*(Continued from page 122)*

the end of the housing shortage and its citizens still were sold whole-heartedly on the idea that enough is enough and that an overage may even be worse than a shortage, the public housers were insisting they knew best and that a few more thousand units be thrust upon unwilling taxpayers whether they were needed or not.

It took lusty, well-organized, well-financed opposition to stem the tide—activity which earned the intense scorn of the advocates of the strange theory of "You'll-take-it-and-like-it-whether-you-need-it-or-not." This opposition was invariably described as the nefarious activity of the "all-powerful real estate lobby" whose sole aim in life was to make home ownership impossible for the average family and to deprive as many people as possible from the privilege of living in a home.

What happened in Portland, Oregon, is worthy of careful consideration. The public housers had decided that the well-known "City of Roses" needed 2,000 additional housing units. Thousands of citizens felt otherwise and said so at the polls with such emphasis that the project was defeated decisively. It was a battle of ballots instead of bullets, but the proponents of a socialized approach to the whole subject of housing were just as determined that their views be accepted as are the advocates of other philosophies which strangers in our midst would cram down our throats.

If we have reached the point in our national existence when we neglect normal functions of Government in favor of activities which are already being performed better and more efficiently by private industry, then it is high time to stop, look and listen.

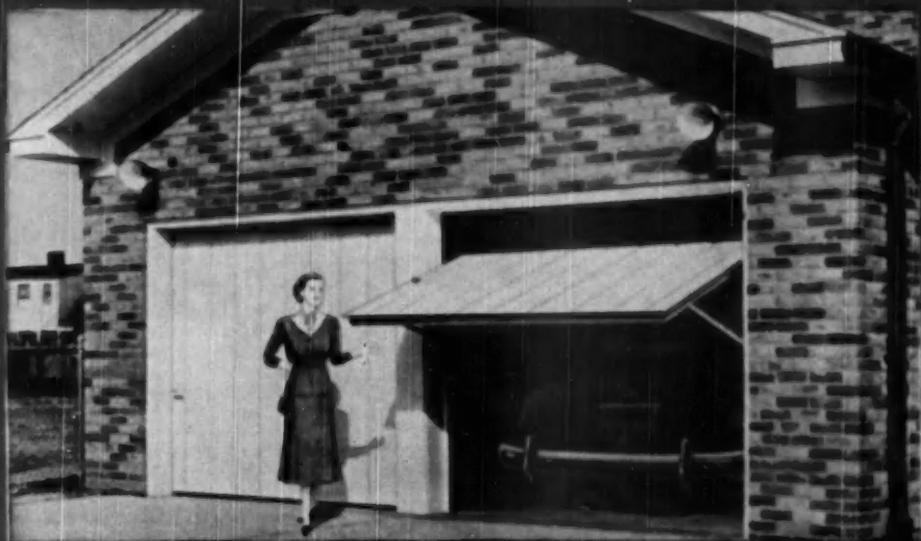
The spectacularly successful achievement of the home building industry should offer conclusive proof that the Government has far more important fish to fry . . . and that they can no longer be classified properly as "red herring."

Perhaps there is a growing appreciation of this fact in certain Government circles. At least there are sizeable crumbs of comfort in the fact that one of the first "non-essential" activities to receive official attention was the public housing program. There must have been many red necks and tingling ear tips among the public housers on that memorable day when the annual allotment was promptly reduced from 135,000 to a token residue of 30,000 units!

Assuredly there must be a ray of hope in this quick admission of the needlessness of the activity.

SO STRONG! SO RUGGED!

So Easily Installed! So Economical!



ENGINEERED BY *Tenestra* PIONEER MAKER OF QUALITY BUILDING MATERIALS



WELDED ALL-STEEL OVERHEAD TRACK



WELDED ALL-STEEL HEAD



WELDED ALL-STEEL TRACK



WELDED ALL-STEEL TRACK

Strand doors are available in single and double. Strand doors for 8' x 7' openings and in a double garage door opening have a 12' x 7' opening, constructed by either panel. Order from your dealer, or mail 2¢ coupon for literature and dealer's name.

STRONGER, MORE RUGGED . . . Strand Garage Doors provide life-time strength and durability: All welded, ribbed one piece panel—strongly steel-framed and braced. These doors of all-steel construction withstand shipping and handling from factory to completed job, without denting or marring, and will *never* sag, swell, warp, shrink, rot or splinter. They'll hold their fine appearance for a lifetime—a lasting credit to the builder.

GALVANNEALING PROTECTS against rust; even when the doors are exposed to weather for weeks before painting. Galvannealing consists of a heavy galvanized zinc coat, oxidized to provide an excellent base for paint without special priming coat.

QUICKER TO INSTALL . . . the one piece door leaf eliminates field assembly of single doors. Packaged hardware is factory assembled; installation is simple and easy for anyone.

LOWER FIRST COST . . . Standardization on 3 models—and large scale production in one plant—make Strand a real value leader. That's why this is the national "best seller" among garage doors, installed by thousands of builders every month.

ALL-STEEL • GALVANNEALED • OVERHEAD



FOR SINGLE AND DOUBLE GARAGES

STRAND GARAGE DOOR DIVISION
Detroit Steel Products Company
Dept. AB-9, 2250 E. Grand Blvd.
Detroit 11, Michigan

Please rub detailed description of Strand all-steel Garage Door, for 8' x 7' and 12' x 7' garage openings.

I am a Builder Dealer Prospective Owner Other

Name _____

Address _____

City _____

State _____

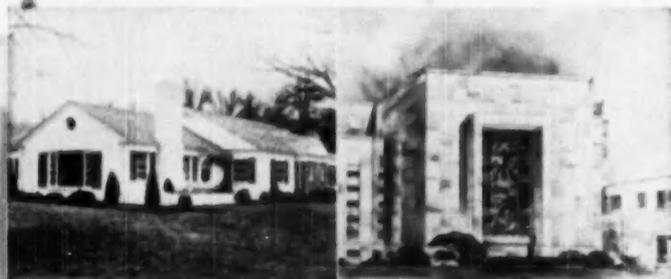
"WHERE do we go from here?"

WHETHER your query has to do with the complex international picture — or whether you ponder the direction of business at home — the answer must necessarily be an unequivocal FORWARD!

To help shape their own policies, builders in great numbers have written us, during recent weeks — as they have doubtless written other conscientious manufacturers serving their industry — to "sound us out" on what is to be expected. Specifically, they query: "Are we going to be able to get all the Auto-Lok

weatherstripped Aluminum Awning Windows we will need to take care of ever-increasing demands?"

Unfortunately, a crystal gazing globe is not part of our equipment. However, we do promise this: the Ludman Corporation will continue to go forward, to manufacture as many Auto-Lok Windows as government regulations of the moment will permit. And there will be no compromise with quality, the good-will of the builders and the reputation of Auto-Lok are valued too highly to ever be jeopardized!



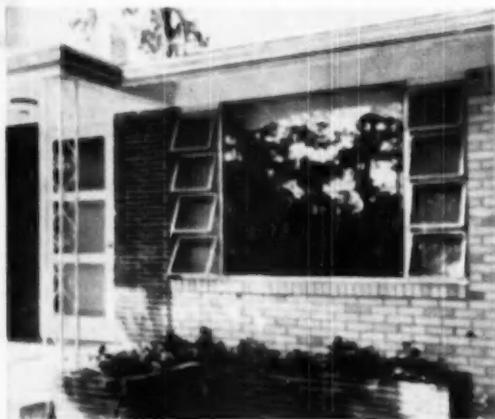
"SELECTIVE BUYING" is already with us

THE BUILDERS of America have apparently not forgotten the costly lessons of past periods of shortages. The visions of mistakes, made where the windows had to be removed and replaced, are vivid danger signals to the builder who may consider accepting less than the QUALITY-PROVEN product he knows and can depend upon. Yes, Selective Buying has become the order of the day.

Auto-Lok weatherstripped Aluminum Awning Windows, a quality product

throughout, is doing an even better job today in helping the builder enhance his prestige as a quality builder. Added to their use appeal, and their eye appeal, is the now all-important quality-price appeal.

For protection against all climatic extremes — for the maximum in ventilation control, ease of operation and durability, consider the first and only effectively weatherstripped awning window... there's never been a building product that sells homes faster!



You'll find complete data in
SWEETS,
or address
LUDMAN
CORPORATION,
Department AB9,
P O. Box 4541,
MIAMI, FLORIDA

National Home Week

(Continued from page 74)

District of Columbia

Home Builders Association of Metropolitan Washington: Will have approximately 100 model homes on display during Home Week. Will tie in with the Washington Post and their "Parade of Homes".

Florida

Contractors and Builders Association of Greater St. Petersburg: Will have special sections of the St. Petersburg Times and Evening Independent. Are working with the Electrical League, Merchants Association and the Real Estate Board. Will have about 30 model homes and projects on display.

Indiana

Home Builders Association of Fort Wayne: Will have special sections of newspapers in the Fort Wayne News-Sentinel and the Fort Wayne Journal-Gazette. Are contemplating a mayor's proclamation. Working with the Fort Wayne Board of Realtors. Will have approximately 10-12 model homes open for the Week.

Marion County Builders, Inc.: Will have special sections in the Indianapolis Times, News and Star. Plan to have mayor's proclamation. Are working with the Indiana Real Estate Board and the Indiana Lumber and Supply Dealers Association. They are contemplating having 300 homes on display during the Week.

Muncie Home Builders Association: Will have special sections in the Muncie Evening Press and the Muncie Morning Star. Working with the Lumber Dealers on Home Week program. Will have approximately 8-12 model homes and projects on display.

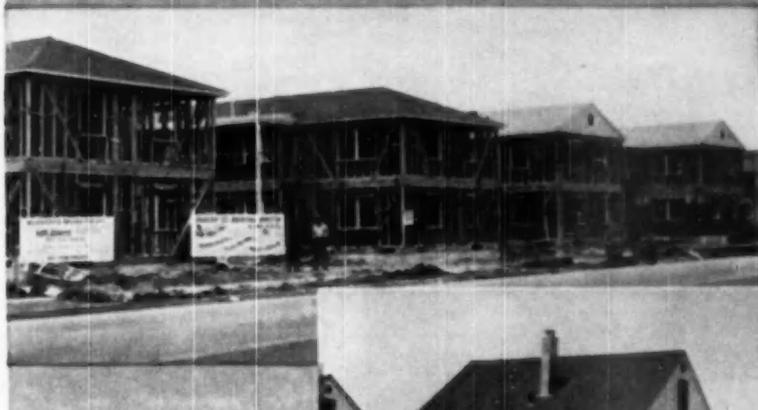
Iowa

Home Builders Association of Des Moines: Special section in Des Moines Register and Tribune. . . . Proclamations by the Governor of Iowa and the Mayor of Des Moines. . . 12 model homes. A publicity firm will handle publicity.

Home Builders Association of Des Moines: Planning to have special sections in the Register & Tribune. Mayor will issue proclamation. Planning to have Governor of Iowa to issue proclamation. Working with the Des Moines Real Estate Board and the Lumbermen's Association. Will have about 12 model homes on display. Hire a publicity firm to handle publicity for the Week.

(Continued on page 150)

FROM COAST TO COAST UP GO THE HOUSES IN GOES RICHMOND...



...In Los Angeles,
California

121 Unit Multiple Dwellings. Building Contractor: N. J. Nelson Co. Plumbing Contractor: Charles C. Lockard, Inc. Distributor: Tri-State Pipe and Supply Co.

...In Westbury,
Long Island

940 Post Acres Homes. Building Contractor: Post Acres Corporation. Plumbing Contractor: Central Plumbing and Heating Co. Distributor: Elite Sales Corporation.



Everywhere you look, it's Richmond. East Coast, West Coast, all around the map, these fine plumbing fixtures are specified throughout. The answer is simply this: Quality installations priced to appeal to the most economy-minded.

Whatever the job—custom-built homes or developments—Richmond meets your customer's requirements with a complete line of vitreous china or

enameled cast-iron units. You can be sure of satisfied customers with Richmond's long-standing reputation for handsome, lasting and economical fixtures—available in four beautiful pastel shades (Azure Blue, Bermuda Coral, Fern Green and Oriental Ivory) or the famous Richmond "whiter-white."

Next time you figure on a job, make it your business to do business with Richmond.



RICHMOND

RICHMOND RADIATOR CO.—AFFILIATE OF REYNOLDS METALS CO.



See your distributor or Mail Order Today.



Vitreous China



Cast Iron Tubs



Enameled Cast Iron Stoves



Window Air Conditioners
Gas—Cast Iron or Steel
Oil—Steel

Richmond Radiator Company
19 East 47th Street
New York 17, N. Y.

AS-9

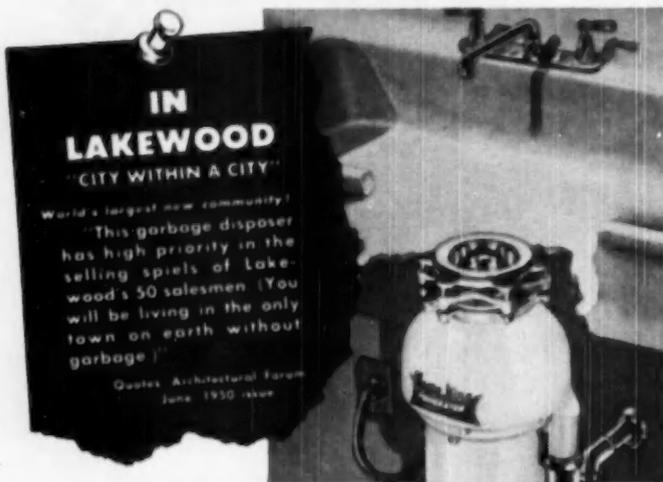
Please send me information and literature on the Richmond Plumbing Fixtures. No obligation, of course.

NAME.....

COMPANY.....

ADDRESS.....

HIGH PRIORITY SALES FEATURE* Helps SELL 17,000 HOMES! at rate of 175 Homes per day



* THE AUTOMATIC WASTE KING Pulverator America's Finest Garbage Disposer!

Wherever Builders are making sales history, you'll find their kitchens equipped with the automatic, tract-tested Waste King Pulverator. As in Lakewood, and other tracts, large or small, this one "high-priority feature" in the kitchen can influence and close the sale faster. It's the one feature that offers the greatest value for the least amount of money.

Here's why more Builders and Architects specify WASTE KING:

- ★ Lifetime Grind Control, protects the plumbing.
- ★ Lower installation cost, no brackets required.
- ★ Continuous-feed operation, preferred by more women.
- ★ Anti-jam features, eliminate binding or clogging.
- ★ Longer, dependable, trouble-free service.
- ★ Competitively priced, your best buy!

FREE! Garbage Disposer A.I.A. file folder sets.
Fill out coupon now! **MAIL TODAY!**



Waste King
GIVEN
PULVERATOR
CONTINUOUS FEED

© GIVEN MFG. CO., Los Angeles 1950

GIVEN MANUFACTURING CO., Dept. AB9
1220 Wilshire Blvd., Los Angeles 14, Calif.
Please send free Garbage Disposer A.I.A. file folder set.
I contemplate using _____ garbage disposers within the next six months.
Firm Name _____
Address _____
City _____ State _____
Your Name _____

National Home Week

(Continued from page 148)

Kansas

Topeka Home Builders Association: Will have special sections of the Topeka Daily Capital and the Topeka State Journal. Planning to have mayor's proclamation.

Louisiana

Home Builders Association of New Orleans, Inc.: Will have special section in the Times-Picayune. Planning to have mayor issue proclamation. Are working with the Real Estate Board and the Lumbermen's Club. Will probably have five model homes, 400 or more on inspection. Will have an industry parade to open the Week, crown a Home Week Queen, radio appearances, civic club luncheons, prizes given away through Magic Key Contest.

Maryland

Home Builders Association of Maryland: Are planning to have special sections in the Baltimore News-Post-American, The Baltimore Sun and the Evening Sun. Will have a mayor's proclamation.

Massachusetts

Home Builders Association of Greater Boston: Committee appointed Arnold Hartmann, Chairman. Boston Globe will have special Home Week section.

Home Builders and Contractors Association of Springfield: Will have mayor's proclamation. Will tie-in with Ted Baldwin on Home Week.

Michigan

Builders Association of Metropolitan Detroit: James Rossin, Program Chairman. Will have special sections in the Detroit News, Free Press and Times and some suburban papers. Will have a mayor's proclamation. Working with the plumbers, electrical suppliers, electrical contractors, mortgage bankers, real estate board, lumber dealers, supply dealers, board of commerce, etc. More than 1,000 model homes and projects on display. Program sponsored jointly by Home Building Industry components. Display materials ready and are now beginning to launch drive.

Home Builders Association of Kalamazoo: Nathan Wilson, Program Chairman. Special section of the Kalamazoo Gazette. Planning to have a mayor's proclamation. Working with the Kalamazoo Board of Realtors.

(Continued on page 152)



Grille removes quick and easy



Grille cleans in a jiffy



One thumbscrew fastens grille



EASIEST TO CLEAN

You'll make a lot with knowledge when you install a Nutone Ventilating Fan in your new home. Nutone's exclusive removable square grille (2 1/2" x 2 1/2" x 1/2") provides an EASIER, QUICKER, SAFER way to clean the all-important "quiet zone" than any other ventilating fan in the world. Give your customer this greater CONVENIENCE . . . sell your house faster by including a Nutone Ventilating Fan in every house you build.

Easiest!

EASIEST TO INSTALL

Never before has there been a Ventilating Fan like Nutone . . . SO EASY TO INSTALL and SO LOW IN COST with so many high-quality, time-and-money saving features. See your Architect or Wiring Contractor or write



2 screws fasten wall plate



Screw driver ONLY tool required



Motor and blade installed quickly



NUTONE

TRADE MARK

NUTONE, INC., Dept. AB4
Cincinnati 27, Ohio



All you've ever wanted
in a fine bathroom cabinet
is in this new Hall-Mack

Mirro-Glide

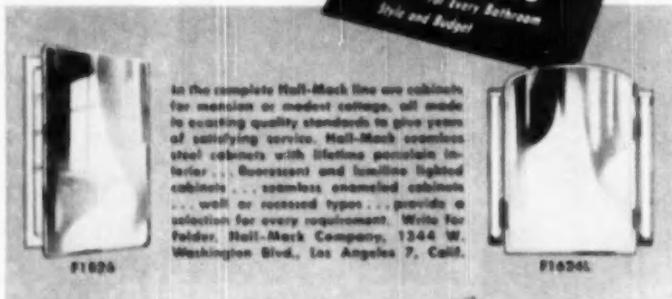
Here is the very *most* in bathroom cabinet beauty and convenience... two sliding plate glass mirror doors which conceal a spacious, double size recessed cabinet.

There's *beauty* in the large handsome expanse of plate glass mirror (19"x22") completely bound by a wide chrome frame... in the gleaming white baked enamel steel cabinet... in the fine Hall-Mack workmanship and finish.

And there's real *convenience* in the big divided cabinet with more than *twice* the room of an ordinary cabinet... in the six fully adjustable glass

shelves... in the smoothly sliding mirror doors which always provide a 20"x22" mirror for use even when one cabinet is opened.

Wherever you want the ultimate in cabinet quality, and the *most* in beauty and practical convenience--install the new Hall-Mack Mirro-Glide.



In the complete Hall-Mack line are cabinets for mansion or modest cottage, all made to exacting quality standards to give years of satisfying service. Hall-Mack seamless steel cabinets with lifetime porcelain interior... fluorescent and luminesc lighted cabinets... seamless enameled cabinets... wall or recessed types... provide a selection for every requirement. Write for folder, Hall-Mack Company, 1244 W. Washington Blvd., Los Angeles 7, Calif.

And remember...
Hall-Mack accessories...



National Home Week

(Continued from page 150)

Michigan Association of Home Builders: As a state association they are doing all possible to activate and cooperate with their local state chapters to encourage best results for the Week. Are planning to have the Governor issue proclamation.

Minnesota

Minneapolis Home Builders Association: Minneapolis Star Tribune is doing a special section for the Week. Will have a mayor's proclamation. Are working with the Realtors, Mortgage Bankers, Savings and Loan people, Retail Lumber Dealers Association, Retail Appliance Dealers and the North Central Electric Industries on the Week. Are planning to have at least 10 model homes and projects open during the Week. Will feature special display posters, planning model and design contest and are working up television and radio programs.

St. Paul Home Builders Association: Contemplating special sections in the St. Paul Dispatch-Pioneer Press for the Week. Will have mayor's proclamation and also governor's proclamation. Working with the Retail Lumber Dealers Association, Appliance dealers and the Realtors on the Week. Expect to have at least 15 model homes on display.

Mississippi

Home Builders Association of Jackson: Will have special sections of the Jackson Clarion-Ledger, Jackson Daily News and the Yazoo City Herald. Mayor has already issued proclamation at breaking of ground of a model home. Are working with the Real Estate Board and the Mississippi Retail Furniture Dealers Association. Will have a HBA Model Home, six subdivisions and various model homes up by builders. Mayor is a member of the HBA and is building a model home himself in the \$9,500-\$10,500 bracket. Newspaper publicity every week through National Home Week. Planning radio programs and will have a Home Week Queen and parade to open the Week.

Missouri

Home Builders Association of Greater Kansas City: Stanley W. Cowherd, Chairman. Will have special section in the Kansas City Star. Planning to have mayor issue proclamation. Planning to have 10 furnished homes and 20 unfurnished homes on display.

(Continued on page 154)

Garages—A Specialty

TO reach the mass home-buying market, thousands of homes have been built without garages. Louis Rothschild could see this trend in Nassau County, N.Y., back in 1946. He reasoned that sooner or later owners of these homes would want to add garages, and that the first builder who could supply good ones at an inexpensive price would be first to cash in on this demand. He decided the best way to trim costs on garages was to specialize in them.

From then on, "Bond-Bilt Garages" came into being, and Rothschild tapped a new market in his area. He was



ROTHSCHILD has a model garage in West Hempstead, N. Y., the first in Nassau County to have a model garage on display.

Garages built by Rothschild's firm are 14x20 feet, of frame construction, with 2x4 studs 16 inches O. C. Gypsum sheathing is used, and either asbestos cement shingles or wood siding. An effort is always made to match the garage design with the house design. He has succeeded in doing this, he says, in 99 per cent of the cases.



A "BOND-BILT" garage under construction. It is conventionally framed, with 2x4 studs, 16 inches O.C.

And he has built 1,000 garages in Nassau County.

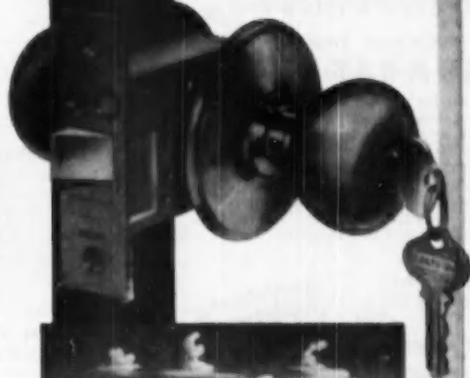
To take care of construction, Rothschild has 10 to 15 men employed all the time. Since garage work is his specialty, the workers rapidly gain proficiency and speed in this kind of work.

Single garages built by Bond Builders sell for \$695; double garages, for \$750. They can be financed through FHA on a three year plan, or through VA on a five year plan. Financing can be up to 100 per cent. To handle his current sales, Rothschild has hired three salesmen on a commission basis. He advertises in local papers and through direct mailing.

SEPTEMBER 1950

in fine buildings
everywhere...

INTEGRALOCK
by
SARGENT



THE VIRGIN ISLE HOTEL.
Architect: Harold Steiner
Interiors: Joe Lesman
Gen. Mgr.: Col. Leo J. Riordan
Locks: by Sargent

A heavy duty lock—in a sealed case only half the size of old-style locksets—for easy installation and years of rugged service with zero maintenance.

That's why Integralock is demanded by so many architects, builders and owners. That's why Integralock sells.

Ask your nearest Sargent distributor for complete information on the Integralock and the Sargent 4500 line of bored-in locks.

Integralock and other Sargent products will be on display at the National Hardware Show in October, Grand Central Palace, New York City, Booths 50 and 51.



Sargent and Company

45 Water Street
New Haven, Conn.

CONTRACTORS!

Here is the Greatest
BARGAIN
EVER OFFERED IN
TOP QUALITY BUILDERS
Exhaust Fans

Shovelair

"BUILDERS SPECIAL"
EXHAUST FANS

Here is a fan you will be proud to install. Features found in the highest priced fan—rugged strength in steel tubular frame. Vertical models mounted in SKF Bearings, horizontal models with diamond-bored sleeve bearings—made in 3 sizes and powered with 1/3 H.P. Westinghouse or GE Motor. Uniquely the lowest priced fan of this quality found anywhere. Write for details today.

**VERTICAL
DISCHARGE**
30" 36" 42"
SKF BEARINGS



HORIZONTAL DISCHARGE, 30", 36", 42"
With Diamond-Bored Sleeve Bearings

- G.S. or Westinghouse Motors
- Only 17" Clearance Required
- SKF Ball Bearings • Extra High CFM
- Easy to Install



DEALERS:

Write for new C & H catalogue showing complete Shovelair line for 1950, and name of nearest distributor.

C & H

**AIR CONDITIONING
FAN COMPANY, INC.**

1295 DeKalb Avenue, N.E.
ATLANTA • GEORGIA

National Home Week

(Continued from page 152)

Home Builders Association of Greater St. Louis: Special sections of St. Louis Post-Dispatch, (Festival of Homes), St. Louis Globe-Democrat (Homes of '51), and the St. Louis Star-Times (Parade of Homes). Will have a mayor's proclamation. Are working with the Chamber of Commerce, Retailers Association and the Furniture Dealers Association on the Week. Will have 20 or more model homes on display. The celebration will run a month. The newspapers will be the sponsors of the celebration, tying in the Home Builders Association. Will have a slogan contest as part of the NHW promotion.

Nebraska

Omaha Builders Exchange: Will have special section of the Omaha World Herald. Will have a mayor's proclamation. Have a public relations firm working on the NHW promotion. Home Show will be held during the Week.

New Jersey

Home Builders Association of Northern New Jersey: Late in starting with their Home Week plans. Are appointing committee now.

New York

Niagara Frontier Builders Association: Matthew Flanigan and Harold Scott, co-chairmen of program. Will have special sections from the Buffalo Evening News and the Buffalo Courier Express. Will have a mayor's proclamation. Are contemplating about 50 model homes and projects to be displayed during the Week. Will have placards on projects, banners on trucks, signs in department stores.

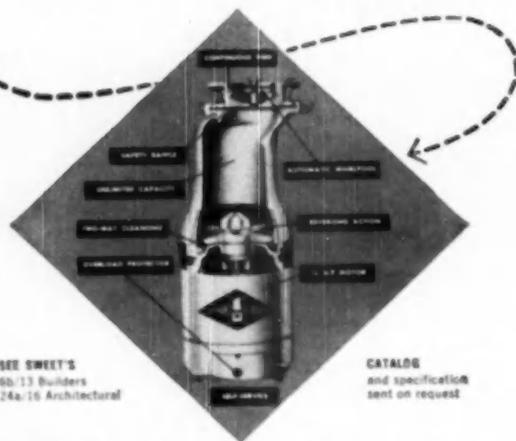
Long Island Home Builders Institute: Meetings being held at present with all New York papers and other associations. Large quantity of Home Week insignias sent to Long Island.

Home Builders Association of Albany, Inc.: Will have special sections of the Albany Times Union and the Albany Evening News. Planning to have the mayor issue a proclamation. Working with the Electrical League and the Real Estate Board. Will have approximately 50 homes and projects on display.

Better Builders Association of Onondaga, Inc.: Will have special sections of the Syracuse Herald-Journal and the Syracuse Post Standard. Planning to have mayor issue

(Continued on page 158)

IN-SINK-ERATOR says:
check these vital points for best performance in
automatic **FOOD WASTE DISPOSERS**...



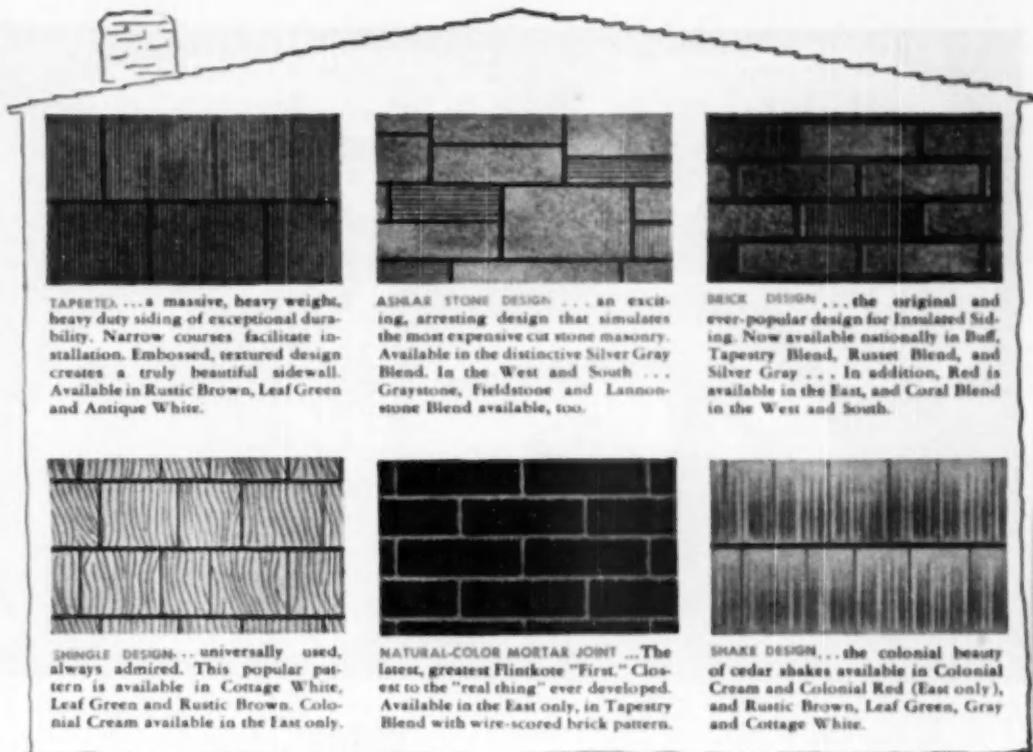
SEE SWEET'S
60-13 Builders
24a-16 Architectural

CATALOG
and specification
sent on request

ONLY IN-SINK-ERATOR offers all these vital product advantages.

ONLY IN-SINK-ERATOR was conceived and engineered by an Architect to meet the exacting requirements of the building profession.

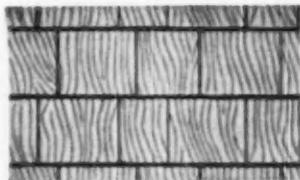
IN-SINK-ERATOR MANUFACTURING CO., 1215 Fourteenth St., Racine, Wisconsin



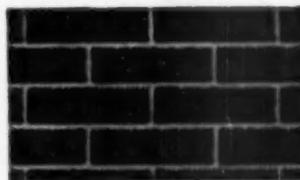
TAPERED... a massive, heavy weight, heavy duty siding of exceptional durability. Narrow courses facilitate installation. Embossed, textured design creates a truly beautiful sidewall. Available in Rustic Brown, Leaf Green and Antique White.

ASHLAR STONE DESIGN... an exciting, arresting design that simulates the most expensive cut stone masonry. Available in the distinctive Silver Gray Blend. In the West and South... Graystone, Fieldstone and Lannonstone Blend available, too.

BIRCH DESIGN... the original and ever-popular design for Insulated Siding. Now available nationally in Buff, Tapestry Blend, Russet Blend, and Silver Gray... In addition, Red is available in the East, and Coral Blend in the West and South.



SHINGLE DESIGN... universally used, always admired. This popular pattern is available in Cottage White, Leaf Green and Rustic Brown. Colonial Cream available in the East only.



NATURAL-COLOR MORTAR JOINT... The latest, greatest Flintkote "First." Closest to the "real thing" ever developed. Available in the East only, in Tapestry Blend with wire-scored brick pattern.



SHAKE DESIGN... the colonial beauty of cedar shakes available in Colonial Cream and Colonial Red (East only), and Rustic Brown, Leaf Green, Gray and Cottage White.



HERE ARE **6** GOOD REASONS WHY

You'll Get More Business

WITH FLINTKOTE INSULATED SIDINGS

Meet every preference. Show customers this complete line of Insulated Sidings, and watch sales grow.

For now you can offer designs that blend perfectly with every architectural style... with any and every section of the country. These six designs give you variety that enables you to sell many more jobs in the same neighborhoods, too... without the danger of "sameness" to nearby homes.

There's plenty of profitable remodeling and renovation waiting for the contractor who takes advantage of the sales opportunities offered by this wide, varied line of Flintkote Insulated Sidings.

Be one of that wide-awake group. If you don't already have complete information about every one of these designs... ask your building material distributor. If he doesn't have it, write us. We'll see that you

both get it. In a hurry.

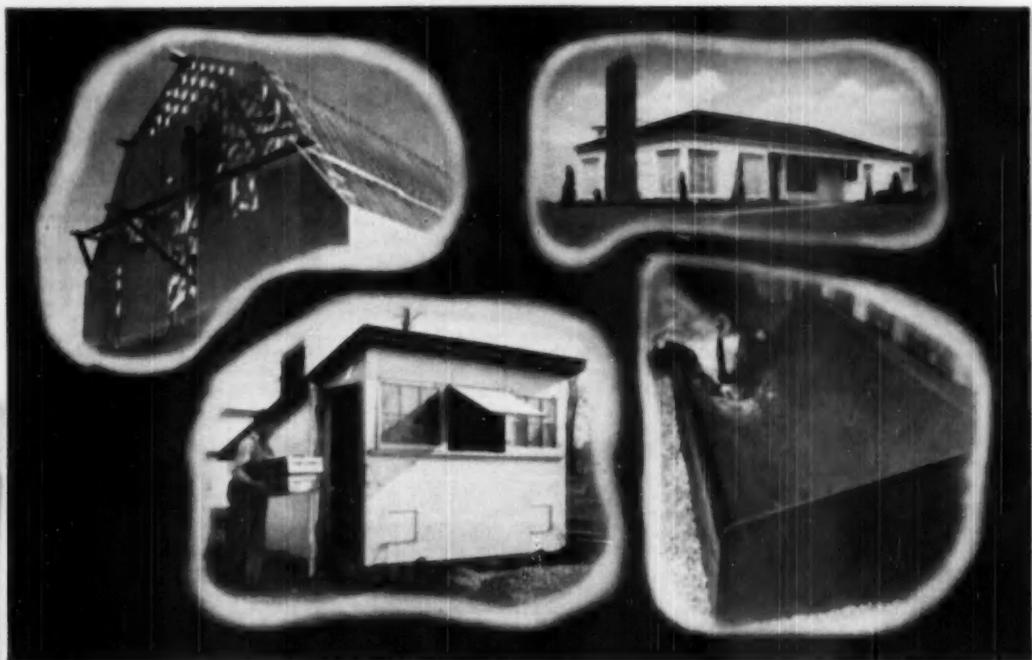
THE FLINTKOTE COMPANY

Building Materials Division
30 ROCKEFELLER PLAZA
NEW YORK 20, N. Y.



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*the extra years of service
and no more!*



**There's Profitable Volume
In Farm Construction—
With Versatile Plywood's
"Double Advantage"**

A BIG SLICE of today's building market is "down on the farm."

Here, especially, Douglas fir plywood offers you a double advantage.

First, plywood's versatility fits it to the farm field all down the line. Plywood not only builds attractive, long-lasting farm homes . . . but barns, grain bins, silos, brooders—all service buildings.

Second, plywood's large panel size speeds your work, makes shop sub-assembly of many farm structures more economical and more practical.

For the farm—for all construction—put plywood high on your materials list!



**PLYWOOD IS NATIONALLY ADVERTISED
AS A FARM BUILDING MATERIAL**

To help you develop this vital market, versatile plywood is getting strong promotion throughout the farm field. Advertisements appear in: *Farm Journal*, *Successful Farming*, *Progressive Farmer*, *California Farmer*, *Oregon Farmer*, *Washington Farmer*, *Idaho Farmer* . . . in *Agricultural Engineering*, *Better Farming Methods*, *Agricultural Leaders' Digest*.

Douglas Fir
Plywood

**AMERICA'S
AMERICAN BUILDER**

Check These Big Reasons Why Douglas Fir Plywood Can Do the Farm Job Better!



It's durable! Exterior-type plywood (for ALL farm service buildings) is bonded with completely waterproof adhesive. Grade-marked, too, the EXT-DFPA on the panel edge is positive identification of this "all-purpose" farm building material.



Remember that Exterior plywood can even be boiled in water without damaging the adhesive—a test far more severe than years of weathering. That's why farm buildings of Exterior plywood give long and satisfactory service.



Plywood's cross-lamination makes it strong, rigid—split-proof, puncture-proof—impact-resistant. To the farmer, this means less maintenance due to damage from horns, hoofs and other special rigors of farm use.



Prefabricated farm structures are especially suited to plywood construction. You can build "knock-down" farm buildings in your shop, using the latest glued-up methods—and assemble them on the farmstead with a minimum of labor.



Plywood farm structures are particularly resistant to racking stresses—of advantage in movable buildings. Plywood's panel characteristics give greater strength and rigidity—yet keep weight to a minimum.



And in the farm home—for new construction or modernization—plywood serves as siding, sheathing, subflooring, interior paneling, cabinets, built-ins. There is a type and grade for every building need.



Large, Light, Strong Real Wood Panels

For data on plywood for siding, sheathing, concrete forms, subflooring, interior paneling and built-ins . . . write (U. S. A. only) Douglas Fir Plywood Association, Tacoma 2, Wash., for 1950 Basic Plywood Catalog.

BUSIEST BUILDING MATERIAL

SEPTEMBER 1950

...in any home—under any
wall-to-wall floor covering—
**Plywood's Best For A
Smoother, Firmer Surface**



UNDERLAY floors for carpeting, linoleum, composition tiles and other modern wall-to-wall coverings must be smooth, firm, solid. Douglas fir plywood answers all requirements. The big panels go down fast with a minimum of sawing, cutting, fitting and nailing. They provide a smooth floor with a minimum of joints—with no ridges or "humps" to mar the beauty of the covering. For underlayment, specify Interior-type Douglas fir plywood—use either PlyPanel or PlyBase grades.

Get This Farm Book!

Twenty-eight pages of facts about plywood on the farm—its use in home construction, remodeling, for barns, silos, hog houses, poultry houses, grain bins and other service structures. Mail the coupon today.



DOUGLAS FIR PLYWOOD ASSOCIATION
TACOMA 2, WASHINGTON Offer Good in USA Only

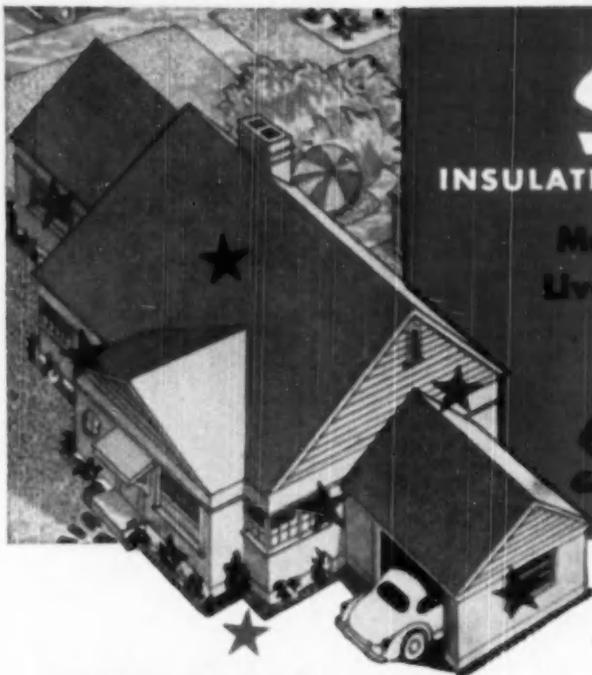
Please send me "Better Farm Buildings with Exterior Plywood." (Single copies free to builders and lumber dealers; quantities at less than cost.)

Name.....

Firm.....

Street.....

City.....Zone.....State.....



Simpson
QUALITY SINCE 1898

INSULATING BOARD PRODUCTS

Make Homes More
Livable, Comfortable,
and

Sell-able!

**Dozens of Uses
—Inside and Out**

SIMPSON FOREST PRODUCTS

INSULATING BOARD PRODUCTS

We conserve timber by converting mill and factory left-overs (not bark nor rotted wood) into the Insulating Board Products described at the right.

DOUGLAS FIR PLYWOOD

Two large plywood mills manufacture Simpson Douglas Fir Plywood, trademarked and DFFA grade-marked.

DOUGLAS FIR AND HEMLOCK DOORS

Simpson Doors are manufactured from mature Douglas Fir and Western Hemlock, in all designs and in all FDI grades.

WESTERN LUMBER

From our forests and mills in Washington State come all grades and sizes of Douglas Fir and Western Hemlock lumber. Our California operations supply a limited quantity of Redwood lumber.

ACOUSTICAL TILE

Simpson Acoustical Tile, preferred throughout the industry for its high sound absorption and Hollo-kore drilled perforations, is available through authorized acoustical contractors, and Simpson Noisemaster Acoustical Tile through regular distributors and dealers.

BUILDERS FIND HOUSES easier to sell if they are constructed with one or more of the Simpson Insulating Board products. Home buyers are quick to realize the greater comfort and economy gained from Simpson Insulating Sheathing, Lath and Interior Finish Boards.

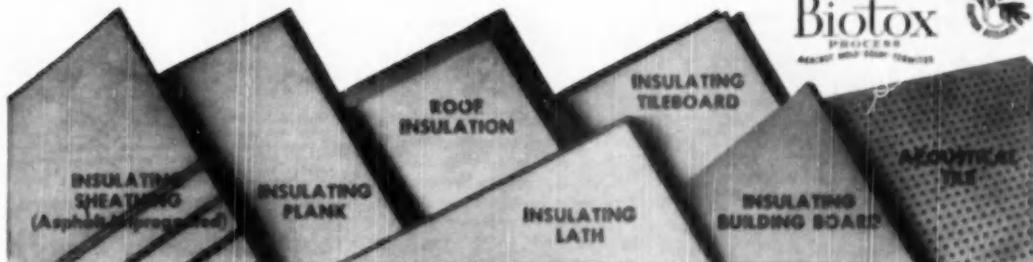
Use Simpson Asphalt-Impregnated Insulating Sheathing instead of ordinary sheathing for greater structural strength and insulation. Plaster over Simpson Insulating Lath for added insulation and a superior plaster base. Simpson Insulating Interior Finish Board, Plank and Tileboard are factory-finished in attractive Tapestry White . . . the ideal material for walls and ceilings of playrooms, attic rooms, dens and bedrooms. Acoustical Tile manufactured by Simpson helps reduce noise caused by appliances in bathrooms and kitchens.

Profit, too, from remodeling, altering and repairing with Simpson Insulating Board products. Use it to cover cracked walls and ceilings, convert carports to usable rooms, and to line garages and work rooms.

There are literally dozens of uses for this material around the home, farm, store, shop, and industrial plant. Consult your dealer or write the manufacturer.

SIMPSON LOGGING COMPANY

Sales Division, 1065 Stuart Bldg., Seattle 1, Wash.

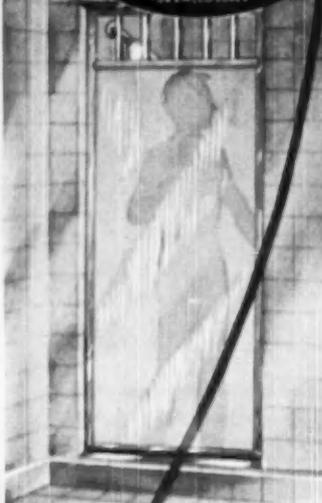


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**WHY
Progressive Builders
Install**

Gulf Spray
SHOWERS DOORS
TUB ENCLOSURES



**shower doors and
tub enclosures**

QUICK SALE Gulf Spray units are home-sale persuaders

GOOD-WILL BUILDERS lasting quality, heavy glass, durable metal, smooth operation mean prestige for builders

PRICED RIGHT volume-produced to keep costs down

STYLED RIGHT smart styles in variety of types and designs

For further details see or write.

Binswanger + co.

207 N. MAIN ST.
HOUSTON

15 conveniently located warehouses to serve you

National Home Week

(Continued from page 158)

and the Portland Realty Board. Approximately 55 projects ranging from 50 to 100 units each will be on display.

Pennsylvania

Home Builders Association of Allegheny County: Will have special sections of the Pittsburgh Press, Pittsburgh Sun-Telegraph and the Pittsburgh Post-Gazette. Mayor will issue proclamation. Will have about 21 model homes and projects on display. Ralph Scherger, Chairman of the Week.

Erie Home Builders Association: Will have special editions of the Erie Times and the Erie Dispatch-Herald. Planning to have the mayor issue a proclamation.

Rhode Island

Home Builders Association of Rhode Island: Special sections in the Providence Sunday Journal and the Pawtucket Times. Will have a mayor's proclamation. Working with the Northeast Retail Lumber Dealers Association, Providence Real Estate Board and the Chamber of Commerce in Rhode Island. Are planning to have about 50 model homes on display. Are planning to tie-in with department stores on furnishing homes.

Tennessee

Chattanooga Association of Home Builders: Special sections in the Chattanooga Times and the News Free Press. The Association is building a model home for the Week.

Home Builders Association of Memphis: W. D. Jenison, Program Chairman. Will have special section in the Commercial Appeal. Planning to have mayor's proclamation and also governor's. Working with the Real Estate Board, Retail Lumber Dealers and Electrical Contractors Association. Will have billboard advertising, radio and television publicity signs for subdivisions, window displays, street banners, about 30 subdivisions each with model home, 12 furnished homes.

Texas

Home Builders Association of El Paso: Special sections in the El Paso Times and the El Paso Herald-Post. Will have mayor's proclamation. Working with the Electrical Federation. Will have several model homes on display.

(Continued on page 162)

**30% to 40% Stronger
Concrete Floors
using a stiff, dry mix
AND VIBRATED
with**

**SYNTRON
VIBRATING
FLOATS**



**5 TIMES FASTER THAN
HAND FLOATING**

Their 3600 vibrations per minute permit the use of a much drier mix—produce denser, vibrated concrete with 30% to 40% more strength—5 times faster than by hand.

Write for folder.

SYNTRON CO.

618 Lexington, Homer City, Pa.

FOR PERIMETER HEATING MOR-SUN presents the **CF SERIES** Pressed Steel Furnaces



As a result of demands by architects, builders and home owners for a method of heating baseboardless slab houses in a manner that would combine the warm floors possible with radiant heat plus the many advantages of forced warm air with its winter air conditioning and summer air circulation, Mor-Sun has developed the CF Series for gas and oil firing.



Based on the nationally famous Mor-Sun Utility Series, and backed by the largest manufacturer of pressed steel furnaces in the world, the CF Series gas furnaces have been tested and approved by A.S.A. and both gas and light oil furnaces are listed by Underwriters Laboratories for zero inches clearance, thus allowing closest installations.

For complete information and the name of your nearest MOR-SUN factory representative, write, wire or phone—

MORRISON STEEL PRODUCTS, INC.
Furnace Division BUFFALO 7, N. Y.

AMERICAN BUILDER



*No Itching
No Scratching
No Coughing*

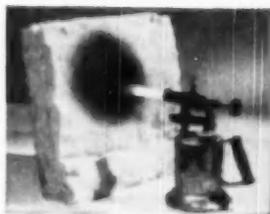


INSULATION COSTS LESS APPLIED

Because Lo-K Insulation contains no harsh particles that irritate the skin and get into workmen's throats — because it costs so little because it is the lightest weight of all commonly used insulating materials (.875 ± per cu. ft.) — because it has a 1½" flange for easy, time-saving fastening — builders everywhere find that its applied cost is less than that of any other commonly used insulating material.

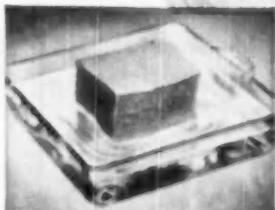
Furthermore, it has greater insulation value (.24K factor) — is flameproofed — resists moisture — does not deteriorate with age — will not mildew or attract vermin.

For better insulation at lower cost, try Lo-K. Compare the cost. Ask your workmen which insulating material they prefer to use. Lockport Cotton Bating Co., Lockport, N. Y.



GIVE IT THE BLOWTORCH TEST

You will find that it won't flame—merely chars without flaming—won't melt or fall apart. That's why it acts as a fire stop. Furthermore, Lo-K's flameproofed qualities are permanent.

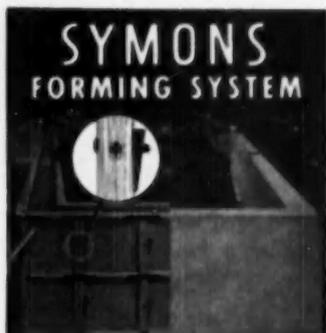


TEST IT FOR MOISTURE RESISTANCE

Float it for days on top of a pan of water. Because Lo-K does not absorb moisture by capillary attraction, only the part in contact with the water will be wet.

Available in either open or enclosed blanket types—and with aluminum foil or asphalt Kraft paper vapor barrier.





SAVES TIME

Just shows how Symons System saves time in erecting and stripping forms. Bolt passes through 2 x 4 studs and fits top. Wedge secures the assembly. This simple device cuts forming time 50%.

SAVES LABOR

Harry G. Dabring, Foreman, Taylor Brothers, South Bend, Ind., states: "Seven men set up the forms for a 20' x 27' foundation in one hour and fifteen minutes."

SAVES COST

With Time and labor cut in two . . . Plus savings in nails, spreaders, wokers and bracing . . . Plus far greater reuse of forms . . . Cost drop to a new low.

RENTED WITH PURCHASE OPTION

WRITE TODAY FOR FREE CATALOG

SYMONS CLAMP & MFG. CO.
 4261 DIVERSEY AVENUE
 CHICAGO 39, ILLINOIS

National Home Week

(Continued from page 160)

Fort Worth Home Builders Association: Will have special sections in the Fort Worth Star Telegram. Committee appointed. Will have a mayor's proclamation. Home Show will be the same week.

San Antonio Home Builders Association: Terry Thrift, Chairman. Late in formulating plans because of the Home Show.

Home Builders Association of Dallas: Will have special sections in the Dallas Morning News and the Times-Herald. Planning to have mayor's proclamation. Will feature daily program in "Home Builders Auditorium" highlighting National Home Week.

South Texas Home Builders Association: T. M. Bell, Chairman. Committee made up of builders, retail lumber dealers, real estate men, newspaper men and radio people. Will have special section in the Corpus Christi Caller-Times. Are planning to have a mayor's proclamation.

Texas Panhandle Home Builders Association: Will have mayor's proclamation. Working with the Kiwanis Club. Will have about 12 homes on display. Planning to sponsor a "Home and Garden Beautification Contest" along with the Week.

Utah

Utah Home Builders Association: Large quantity of Home Week insignias sent for distribution. Will have special sections in the Desert News, Salt Lake Tribune, Salt Lake Telegram, Ogden Examiner and Provo Herald. Will have mayor's proclamation. Working with the Intermountain Lumber Dealers Association, Utah Real Estate Board, Intermountain Electrical Association. Approximately 100 model homes on display. A master committee consisting of two representatives from each cooperating organization is meeting weekly on plans.

Virginia

Home Builders Association of Richmond: Will have mayor issue proclamation. Planning tie-in advertising campaigns.

Washington

Seattle Master Builders: Will have special sections of the Seattle Times and the Post-Intelligencer. Mayor will issue proclamation. Western Retail Lumberman's Association and the Seattle Realty Board cooperating with the builders in National

(Continued on page 164)



A GOOD HOME WELL PRESERVED

The Home of

Mr. & Mrs. O. B. Stares, Dodge City, Kans.
 Herbert E. Duncan, Architect, Kansas City, Mo.
 Emil Becker, Contractor, Dodge City, Kans.

All wood in this attractive home was dip-treated in **WOODLIFE**—including roof and sidewall shingles, millwork, flooring and structural lumber.

See your lumber dealer
 or write for information.



Protection Products Mfg. Co.

Research Laboratory and Plant KALAMAZOO, MICH.

How Does Calcium Chloride Improve COLD WEATHER CONCRETE?

"The Effects of Calcium Chloride on Portland Cement" is a semi-technical book that clearly presents the facts on the use of Calcium Chloride. It is filled with graphs, tables, charts and contains much material not heretofore available. This information will be of great interest to contractors, architects, engineers, plant operators and men in allied fields. For your copy, write on your company letterhead to the address below . . . there is no obligation.



- ✓ CUTS DELAYS
- ✓ SPEEDS STRENGTH
- ✓ ADDS EXTRA STRENGTH

SOLVAY
 Calcium Chloride

SOLVAY SALES DIVISION

ALLIED CHEMICAL & DYE CORPORATION
 40 Bechtel Street, New York 6, N. Y.

THESE LONG ISLAND HOME BUYERS

WILL ALWAYS THANK THEIR BUILDER
FOR SELECTING **TITE-ON** SHINGLES*

* proved on half-a-million applications



These "Commonwealth Homes", in a development of over 50 in East Hempstead, Long Island, N.Y.C. The houses sold for \$9,500 to \$10,500. Ruberoid Dabl-Coverage Tite-On Shingles were specified, in a variety of four color blends. Tite-Ons were applied by the Ruxton Roofing Co., Garden City, Long Island.

Ruberoid Dabl-Coverage Tite-On Shingles give a house sales-appeal. The builder's salesman can talk about Tite-Ons in terms of long-range economy that appeals to budget-minded home-buyers.

Because Tite-On, the original interlocking shingle is still the best . . . famous for its wind-resistant, fire-resistant, long-lasting qualities. And that's important for these houses built on Long Island, where the winter winds get pretty stiff.

Then, from a "looks" standpoint you just can't beat Tite-Ons for beauty. These roofs are substantial, and the attractive blend of colors used in these "Commonwealth Homes" enhances the value of the whole neighborhood.

Cutler Construction Corp., the builder, chose Ruberoid Tite-On Shingles for their plus benefits in closing sales . . . but they didn't overlook the long-range good will that Tite-Ons create for the builder.



The "Good American Homes" Program, sponsored by the NREDA and USLI, is bringing thousands of enthusiastic prospects to the building industry. Five basic modern home designs have been adopted. Ruberoid Asphalt Shingles and Asbestos Siding are featured exclusively. For more information about how the program works, write Ruberoid.

The **RUBEROID Co.**

BUILDING MATERIALS FOR HOME, FARM AND INDUSTRY

Executive Offices: 500 Fifth Ave., New York 18, N. Y.

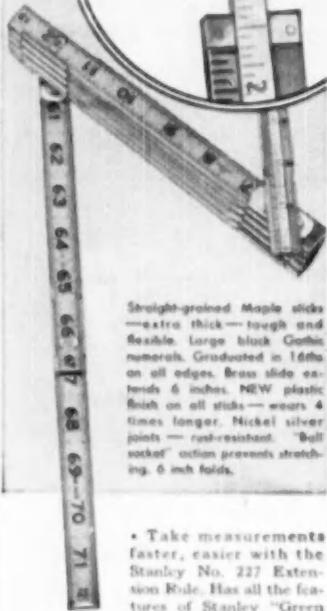
Sales Offices: BALTIMORE, MD. - SOUND BROOK, N. J. - CHICAGO, ILL. - DALLAS, TEXAS - GEE, PENN. - MINNEAPOLIS, MINN. - MILWAUKEE, WIS. - MOBILE, ALA.

**MORE
MEASURE-
ABILITY**

STANLEY

No. 227

**Extension Rule
with the
"Green Ends"**



Straight-grained Maple sticks—extra thick—tough and flexible. Large black Gothic numerals. Graduated in 16ths on all edges. Brass slide extends 6 inches. NEW plastic finish on all sticks—wears 4 times longer. Nickel silver joints—rust-resistant. "Bull socket" action prevents stretching. 6 inch folds.

• Take measurements faster, easier with the Stanley No. 227 Extension Rule. Has all the features of Stanley "Green End" Rules plus a 6 inch brass extension for accurate inside measuring.

You get more value... more measurability in the Stanley No. 227 Extension Rule. See the No. 227 and other Stanley Rules at your local dealer's—there's a wide range of styles, sizes and markings.

**STANLEY TOOLS
NEW BRITAIN, CONNECTICUT
THE TOOL BOX OF THE WORLD**

STANLEY

Reg. U.S. Pat. Off.

HARDWARE • TOOLS • ELECTRIC TOOLS
STEEL STRAPPING • STEEL

National Home Week

(Continued from page 162)

Home Week promotion. Planning to have about 60 model homes on display. Building a model home which will be sponsored jointly by the builders and the Post Intelligencer.

Tacoma Master Builders Association: Will have special section of the Tacoma News Tribune. Planning to have a mayor's proclamation. Working with the Tacoma Real Estate Board. Will have about 40 model homes on display.

Home Builders Association of Spokane, Inc.: Planning to have mayor issue proclamation. Will have at least 20 homes on display. Planning several contests during the Week.

Wisconsin

Madison Builders Association: Special section planned in the Wisconsin State Journal. Mayor's proclamation and also governor's proclamation. Working with the electrical contractors association and the Mechanical Trade Association. Will have 11 display homes open. Will have Home Show during the Week.

Rock County Builders Association: Will have special section of Beloit Daily News. Will have city manager issue proclamation. Working with the Association of Commerce and the Retail Council. Will have about nine model homes on display. Will have Home Week during dates of September 14th and 17th. Will have a parade to open Week.

Milwaukee Builders Association: Will have special sections of the Milwaukee Sentinel and Journal. Will not have a mayor's proclamation. Planning to have three projects and 25 model homes on display. Planning to have product exhibits in each of the model homes.

Georgia

Home Builders Association of Atlanta: Will have special sections in the Atlanta Journal and the Atlanta Constitution. Will not have a mayor's proclamation. Planning to have about 24 model homes on display. Suppliers have agreed to equip kitchens, bathrooms, etc., with various appliances. If the equipment is not sold with the house the suppliers have agreed to take back, with no cost to the builder, any unsold items.

For list of newspapers that plan Special Sections for National Home Week turn to page 166.

**WORLD
FAMOUS
Red Devil
GLASS CUTTERS**

**Scientifically Designed
for Perfect Cuts—
Relaxing
to Use—**

**G1
CAN'T
RUST**



Twelve in a display

**Chapmanized steel
RED DEVIL wheel—
Can't be imitated**

**A Product of
Red Devil Tools.
IRVINGTON 11, NEW JERSEY**

Red Cedar Closet Lining

**Brown's
SUPERCEDAR**

**NATIONALLY
ADVERTISED**



Guaranteed 90% Red Heart or Better

Only SUPER CEDAR is of the same uniform high quality standard that guarantees every package to contain 90% Red Heart or better, and 100% oil content that produces the pleasing aroma.

**ALL WIDTHS PUT UP
40 FT. TO PACKAGE**

Most home builders are specifying cedar lined closets today that even—and Brown's SUPERCEDAR is nationally advertised to thousands of new home prospects, architects and builders. SUPER CEDAR closet lining is surfaced, tongue and grooved, ready to put on with no waste. Packaged and sealed with the Geo. C. Brown label and guarantee, January 1935.

**Product of
GEO. C. BROWN & CO., Inc.
GREENSBORO, N. C. ESTABLISHED 1895**

**LARGEST MANUFACTURERS OF
AROMATIC RED CEDAR IN THE WORLD**

**100% oil content
Suggest Cedar Lined
Closets to Every Home
Builder. There is
Nothing Better than**

**BROWN'S
SUPERCEDAR
CLOSET LINING**

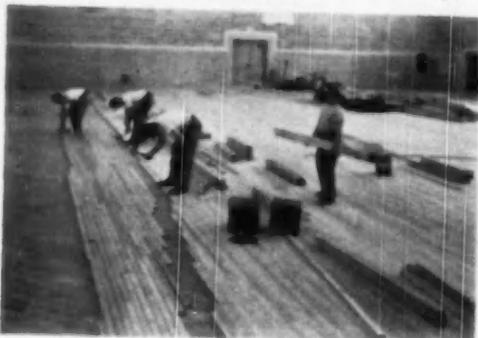
**SEALED
PACKAGED
LABELED**

AMERICAN BUILDER

Set Flooring Record At New School Building

The W. A. Gerrard Co., flooring contractors for the new Elizabeth Waters School recently completed in Fond du Lac, Wis., set two new records for their firm. First, they completed laying the 6,800 square feet of maple flooring in the school gymnasium in 98 man hours; and second, two men, working 18 hours each, put on two coats of penetrating sealer and completely sanded the entire floor area.

W. A. Gerrard, head of the company, of Minneapolis,



FLOORING, made by Connor Lumber and Laid Co., is laid in record time in new Fond du Lac school. Called "Laytite," it is tongue and grooved on sides and ends. Here, no lengths under four feet were used in constructing the gymnasium floor

Minn., said his men were able to develop more speed on this job than any previously for two main reasons: (1) None of the Laytite Northern Hard Maple flooring used was less than four feet in length, and (2) it was applied over a diagonal subfloor. Laytite flooring, he explained, is tongue and grooved on each end as well as on the sides. Thus it is easy to lay. His men used Screw-Tite spiral nails, made by the Independent Nail & Packing Co., which hold in the same manner a screw holds in wood. Sanders used for the job were American, of 12-inch size, made by the American Floor Surfacing Machine Co.

To lay the floor, Gerrard said a line was first established down the center of the gym; then floor laying began in the center and worked out. Reason for this is that in case of a flood or other condition where the floor might buckle, it would push up in the center rather than at the perimeter.

The Elizabeth Waters school, a million-dollar building, contains 18 classrooms and will accommodate approximately 750 children. It is planned with several wings to obtain maximum lighting and ventilation advantages.

The general contractor for the school was the Hutter Construction Co. of Fond du Lac, and architects were F. J. Stepinski and Son.

Need for Lucid Communication Recognized by Carnegie Tech

A new system of teaching English to architecture students will be tried at Carnegie Institute of Technology beginning this fall season. According to English instructor Earle K. Swank, the new system will call on an architecture student's natural abilities in design.

"The philosophy behind the construction of a good building is fundamentally similar to that behind the construction of a good paragraph. We will try to help our students see this similarity and learn how to take advantage of it."

SEPTEMBER 1950

These Builders Save
TIME and MONEY



with
**Fred W. Wappat
ELECTRIC
HAND SAWS!**

Model A-9"
3/4" capacity

\$135 00

with metal case

Model A-8"
2 1/4" capacity

\$115 00

with metal
case

"... use my Fred W. Wappat Saw to cut lumber, terra cotta tile, and sider blocks. It's really a time-saver."
—Contractor

"... my Fred W. Wappat Electric Hand Saw has paid for itself many times!" —Contractor/Builder

"We have found Fred W. Wappat Saws to be completely trouble-free... easy to handle... invaluable aid in speeding up production." —Prof. Bldg. Mfr.

Fred W. Wappat **MAXAW** gives builders maximum performance for a 6" saw!

The MAXAW features built-in depth adjustment 1/2" to 2 1/4" and built-in bevel adjustment 0° to 45°. Has rigid sturdy rip fence. The MAXAW cuts to full 2 1/4" depth cuts 1 1/2" at 45° angle. Even though blade is filed many times, the

MAXAW cuts 2" lumber. There are no wavy gadgets—the MAXAW is a complete electric hand saw. That's why it's called the "6" saw with Big Saw features!"



\$125 00

See this amazing
saw at \$125 00

Ask Your Dealer to Demonstrate Any of These Tools!

Fred W. Wappat, Inc.

135 Valley St., Mayville, N. Y.
(on Chautauque Lake)

Here's
**A REAL
 HEAVY-DUTY
 6" POWER
 SAW!**



New
BRADFORD

MODEL 160

- **Only \$59.50**
- **Complete with Bevel and Depth Adjustment.**
- **2" straight cut, maximum; 3/4" minimum**
- **Bevel cut at 45°, 1 1/4" maximum; 3/8" minimum**
- **Net weight 10 lbs. 4 oz.**

THIS new Bradford 6" Portable Electric Saw is ruggedly constructed and fully powered to take on the toughest sawing jobs! Use of highest quality materials throughout assures carpenters, contractors, and maintenance men YEARS of cost-saving service. Powerful 110 volt AC/DC motor. All ball bearing construction. Helical-cut hardened gears. Compact, streamlined, BALANCED design gives greatest accuracy with least effort.

Ask your Bradford distributor to demonstrate this precision-made tool — it's today's outstanding power saw buy! Write for bulletin giving complete specifications.

••••• **THE BRADFORD** •••••
MACHINE TOOL COMPANY

654 Evans Street—CINCINNATI, OHIO
 Precision Since 1840

National Home Week

(Continued from page 164)

**NEWSPAPERS PLANNING TO ISSUE
 SPECIAL SECTIONS FOR NATIONAL
 HOME WEEK 1950**

1. Birmingham News
2. Birmingham Post Herald
3. Washington Post
4. Fort Wayne News Sentinel
5. Fort Wayne Journal Gazette
6. Indianapolis Times
7. Indianapolis News
8. Indianapolis Star
9. Muncie (Ind.) Evening Press
10. Muncie Morning Star
11. Baltimore News Post
12. Baltimore Sun
13. Baltimore Evening Sun
14. Minneapolis Tribune
15. St. Paul Pioneer Press & Dispatch
16. Jackson (Miss.) Clarion Ledger
17. Jackson Daily News
18. Yazoo City News
19. St. Louis Globe Democrat
20. St. Louis Post Dispatch
21. St. Louis Star Times
22. Omaha World Herald
23. Buffalo Evening News
24. Buffalo Courier Express
25. Pittsburgh Sun-Telegraph
26. Pittsburgh Press
27. Pittsburgh Post-Gazette
28. Providence Journal
29. Providence Times
30. Chattanooga Times
31. Chattanooga News Free Press
32. El Paso Times
33. El Paso Herald Post
34. Fort Worth Star Telegraph
35. Wisconsin State Journal
36. Sacramento Bee
37. Sacramento Union
38. Denver Post
39. St. Petersburg Times
40. St. Petersburg Evening Independent
41. Albany Times Union
42. Albany Evening News
43. Syracuse Herald Journal
44. Syracuse Post Standard
45. Youngstown Vindicator
46. Memphis Commercial Appeal
47. Bolait (Wis.) Daily News
48. Chicago Tribune
49. Cleveland News
50. Cleveland Press
51. Cleveland Plain Dealer
52. Cleveland Shopping News
53. Richmond Independent (Calif.)
54. Oregon Journal
55. Oregonian
56. Tacoma News Tribune
57. Los Angeles Times
58. Los Angeles Examiner
59. Los Angeles Herald Express
60. Los Angeles Mirror
61. Hollywood Citizen News
62. Oakland Tribune
63. Oakland Post Enquirer
64. Hartford Courant
65. Hartford Times
66. New Orleans Times Picayune
67. Detroit Times
68. Detroit News
69. Detroit Free Press
70. Kansas City Star
71. Cincinnati Times Star

(Continued on page 165)



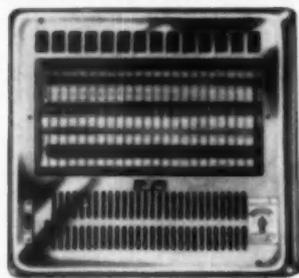
to caulk easier... faster... better
Contractors choose Calbar!

Wherever a tight, weatherproof perfection is required — call on non-hardening, non-staining **CALBAR CAULKING COMPOUND**. It's "elasticized" and adheres to ANY surface.
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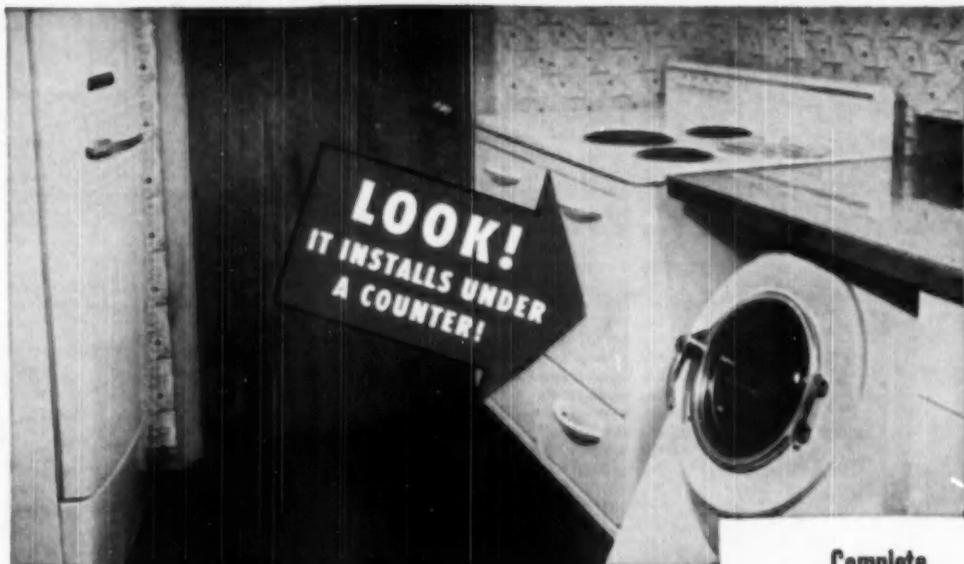
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ONLY Westinghouse
Laundromat^{*}
MODEL RL-1
gives you these "QUICK SALE" features

FULL, USABLE WORK SURFACE—

Note how the construction of the Laundromat and its installation makes possible an additional section of work surface.

CHEAPER TO INSTALL—

Space allotted to, and installation of, set tubs can be saved. Close proximity to regular kitchen water lines and drain minimizes installation cost.

LOW INITIAL COST—

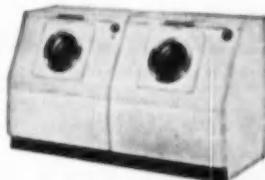
The RL-1 Laundromat is the economy model of the famous Westinghouse Automatic Washer, firmly established as a leader in the field.

WELL-KNOWN NAMES—

When your prospects see the names LAUNDROMAT and WESTINGHOUSE they'll be doubly sure of the house value you are offering. Get details today!

WESTINGHOUSE ELECTRIC CORPORATION • Appliance Division • Mansfield, Ohio
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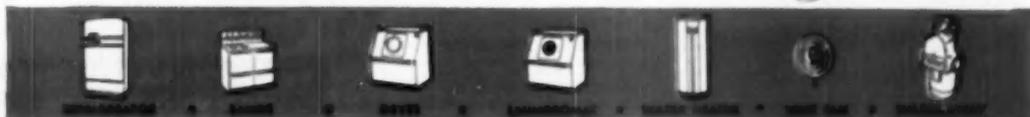
Complete
AUTOMATIC LAUNDRY
in only 5 feet



Laundromat "Twins" (Automatic Washer and Clothes Dryer) need only 5 feet of wall space, do not require bolting to the floor. Washer operates on 115 volts, a-c. Dryers are available for either 115 volts or 250 volts, a-c service. They're proved house sale makers.

... of course, it's electric!

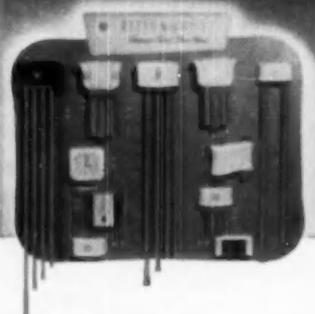
YOU CAN BE SURE ..IF IT'S Westinghouse



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DOOR CHIMES ARE YOUR BEST BUY



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The melodious, cathedral tones of Rittenhouse Door Chimes make them the finest money can buy.

2. STYLED FOR CUSTOMER ACCEPTANCE

Styled with grace-of-line beauty to suit any home interior.

3. TROUBLE-FREE PERFORMANCE

Engineering design, materials, and expert craftsmanship in Rittenhouse Door Chimes enable you to spend your time selling—not servicing.

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There's a model Rittenhouse Door Chime for every type home from cottage to mansion.

5. OVER A MILLION SATISFIED USERS

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12 Owen St., Honeoye Falls, N. Y.

National Home Week

(Continued from page 166)

72. Cincinnati Post
73. Cincinnati Enquirer
74. Dallas Morning News
75. Dallas Times Herald
76. Corpus Christi Caller-Times
77. Deseret News
78. Salt Lake Tribune
79. Salt Lake Telegram
80. Ogden Examiner
81. Provo Herald
82. Milwaukee Sentinel
83. Milwaukee Journal
84. Seattle Post Intelligencer
85. Seattle Times
86. Atlanta Journal
87. Atlanta Constitution
88. Topeka State Journal
89. Topeka Daily Capital
90. Kalamazoo Gazette
91. Des Moines Register and Tribune
92. Rochester Democrat Chronical
93. Rochester Times Union
94. Erie Times
95. Erie Dispatch-Herald

New Show Room for American-Standard Opens in Pittsburgh

Designed to be as functional as it is decorative, the new, modern showroom of the American Radiator and Standard Sanitary Corporation in Pittsburgh, Pa., features a representative selection of American-Standard plumbing fixtures (lavatories, water closets, baths, kitchen sinks) and heating units (furnaces, boilers and winter air conditioners) in a wide price range.

Arranged in many different kinds of realistic, colorful backgrounds that resemble bath and powder rooms, kitchens and basements, these fixtures and heating units are shown in various shades and styles.

Chromed fittings on all plumbing fixtures add to their smooth looks and utility. The lavatories and sinks are equipped with an aerator that adds air bubbles to the water, making it softer and preventing splashing.

Although the window display shows the workings of an entire heating system, several different kinds of heating units with jackets cutaway to show construction and operation are exhibited on the floor.

Color effects have been planned so that each display in white or in color is installed against a background of harmonizing or contrasting tones. Lighting units, suspended for mobility, can be clustered or spread out.

Adaptable to changing modes and styles, partitions of the display can be shifted periodically to exhibit effectively the latest in plumbing and heating design.

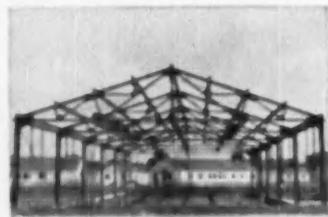
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Structural Steel from International is the framework for a new sales building.

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Nashville 7, Tennessee

new way to

*Make Homes
More Salable...
Get Leads!*



"Custom-Flooring" with Texfloor*



**SO EASY...
SO SALABLE!**

Give your model home the newest decorator look... room-to-room color coordination with sparkling floors of attractive, long-wearing Texfloor.

Tell your prospects the story of Texfloor—how it saves them work and money. They'll see for themselves how Texfloor makes homes more beautiful!

Let home buyers custom-design their own floors selecting the colors and patterns they want from your Texfloor "Custom-Flooring" samples.

Texfloor

*Trade-mark

**GIVES EVERY ROOM
A GUEST ROOM LOOK!**

FREE TEXFLOOR SAMPLES! Send for further information and FREE SAMPLES of TEXFLOOR today. Write Dept. AS-4, Sloane-Blabon Corporation, 295 Fifth Ave., New York 16, N.Y.

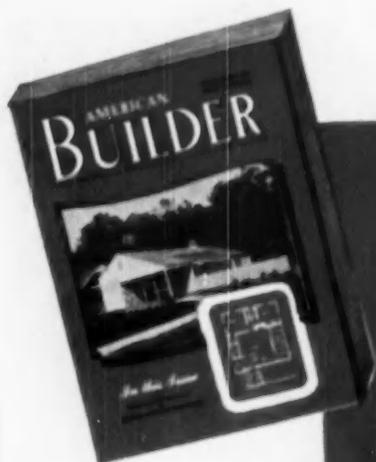
... the linoleum with the textured look!

What a selling story for your prospects... custom-designed floors of Texfloor—the most luxurious linoleum ever made! It means colorful, individualized interiors. It means work-saving... for Texfloor is easy to keep clean and sparkling. It means money-saving... for with the wall-to-wall beauty of Texfloor, homebuyers can save the cost of room-size rugs.

Best of all, quick and easy-to-install Texfloor costs up to 30 per cent less, installed, than ordinary flooring. Check Texfloor now. See how you can offer this extra, and cut costs doing it!



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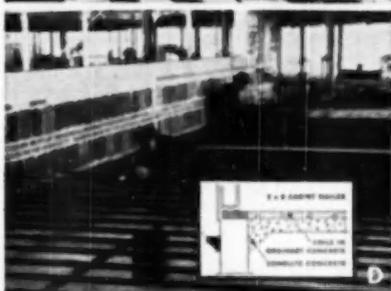
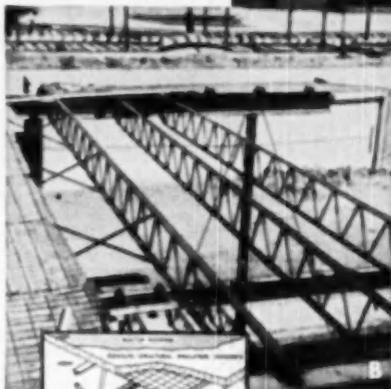
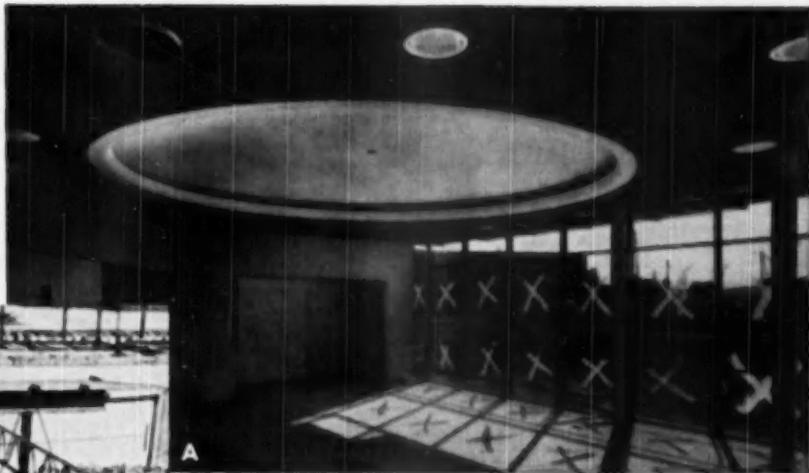
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*If none of the foregoing applies, please advise the type of business with which you are affiliated.

Type of Business

LOWEST COST SOUND CONDITIONING

Right: Library ceiling shows typical use of Zonolite Acoustical Plastic. Frequently, low cost and ease of application over irregular surfaces permit use where other acoustical treatments would be prohibitive.



IT 'COULDN'T BE BUILT' *But they did it with* **ZONOLITE*** **VERMICULITE AGGREGATES!**

The new Senile Ward Building—Eastern State Hospital, Medical Lake, Wash.—illustrates graphically how Zonolite vermiculite aggregates are used in plaster and concrete to eliminate dead weight. They permit construction of class-A buildings at great savings over conventional materials. Many observers declare that the Medical Lake job could not have been built without lightweight aggregates.

Where Zonolite plaster was used in lieu of conventional materials for suspended ceilings, for 2" solid partitions and for fireproofing beams, up to 66% of the dead weight was eliminated. Zonolite concrete used throughout for lightweight roof and floor slabs weighed only 20% as much as conventional concrete applications.

This wholesale elimination of dead weight made practical the use of much lighter structural steel members. By reducing weight in these 3 ways, further drastic reductions in time and costs were made possible.

But why not get the whole story? Mail the coupon below for a detailed story about the Medical Lake job and complete reference material on the use of Zonolite Vermiculite Aggregates.

**WEIGHT COSTS MONEY—
ZONOLITE REDUCES WEIGHT**

CONSTRUCTION DETAILS

- A** Zonolite Acoustical Plastic used on library ceiling.
- B** Paper-backed, welded wire mesh for Zonolite concrete roof slabs.
- C** Applying metal lath for fireproofing girders with Zonolite Plaster.
- D** Installing radiant heating pipes over Zonolite concrete floors.
- E** Zonolite Plaster 2" solid partitions—first side.

ZONOLITE
THE VERMICULITE
BRAND
**VERMICULITE
INSULATION**

ZONOLITE COMPANY
Dept. AS-90
135 S. LaSalle Street
Chicago 3, Illinois

ZONOLITE COMPANY, Dept. AS-90
135 S. LaSalle St., Chicago 3, Illinois

Please mail me detailed reference material on use of Zonolite Vermiculite Aggregates in plaster and concrete.

Name.....

Address.....

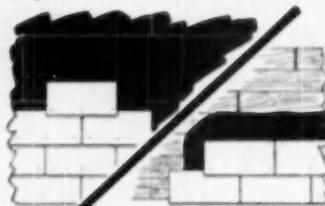
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Here's how you can save \$85.87 on every 10 squares...

Do this—use ES-nails

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Not this

Expensive, slow-to-erect wood sheathing and building paper method—*asbestos* shingles fastened with ordinary shingle nails.

And here's why!

Old-fashioned wood-sheathed, building-paper-protected construction is expensive. Initial material costs are higher, and use of wood sheathing means $\frac{1}{2}$ waste and double the application costs.

There's no need to put up with the higher costs of these slow, old-fashioned building methods. By using ES-nails and fastening shingles *directly* to gypsum or insulation sheathing, you can take full advantage of non-wood sheathing's lower unit cost, faster application, weather-tightness, and reduced waste. Wood stripping costs are eliminated.

ES-nails are easy to use. No special tools, no special skills are needed. Simply nail shingles with ES-nails. You can drive them at any point—no need to locate studs or for the wall. ES-nails are self-locking. They automatically clinch in back of the sheathing and hold fast.

For full information on the savings you can make by using ES-nails, call your supplier, or write: Elastic Stop Nut Corporation of America, 2340 Vauxhall Road, Union, New Jersey.

ES nail

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® Trade Mark Reg. U. S. Pat. Off.

Letters

(Continued from page 41)

Owner-Built Homes

Sirs: I think you are both right and wrong in your consideration of the owner-built home. If you get any group of people doing anything, certain ones are bound to do it better than others. Here's an idea I want to put in the back of your head to consider. If you realize that one day builders will be looking for customers, ask yourself—where are they going to find them? My thought is this: If we can get people to consider the idea of building their own homes, we can broaden the base of operations for the building industry by getting the builders to build part or all of the house for the "build it yourself" type of home owner. If you went out to build your own home and knew nothing about the job, you would certainly welcome the advice and help of the builder who became interested in helping you. Put yourself in the position of the builder who is seeking work for his masons, carpenters and other subcontractors. He knows you want a home and he knows how much money you can afford to spend. So he agrees to do certain work for you at a specified sum. The builder gets work for himself and for his subcontractors to the extent you can afford to pay. This makes a lot of sense to me. First, it makes sense because I have more customers who are willing to do something about building a home. Second, it gives me more customers to sell as much service as they can afford to buy, rather than having no customer at all. In other words, I would rather sell ten people \$500 worth of service than butt my head against a wall trying to sell a \$5,000 job. I am not in favor of the type of advertising one publisher is doing in order to sell his books. I believe in telling people the known facts. I believe that the idea of building one's own home has been so publicized that it's bound to attract more and more people to this point of view. It now depends upon the builders to realize that the seed has been planted and that they can harvest a profitable crop of business if they cultivate this market properly.

Donald R. Brann
Easi-Bld Pattern Co.,
Pleasantville, N. J.

In your October Issue
Complete Blueprints of
American Builder's
First Prize-winning House

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in making layouts and in
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by reducing labor costs,
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Made also
without
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Prompt Delivery

This instrument is made for the Contractor who knows that he can work more efficiently with up-to-date equipment.

This instrument gives you what you have always wanted in a low priced instrument: high power telescope—*close focus*—vertical arc with clamp and tangent sensitive level—compare-plate level—protected limb—*vertical* reading to one minute—*extra large* shift—*steady* construction—*low maintenance* costs.

10 Day Free Trial—No obligation to purchase
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WIRING NEWS

A PERIODICAL DIGEST OF WIRING IDEAS FROM THE GENERAL ELECTRIC CONSTRUCTION MATERIALS DEPARTMENT



Master Selector Switch Adds New Remote Control Uses

Have you stopped to consider the amazing versatility added to General Electric's remote-control wiring system by the master selector switch?

Replacing gangs of separate On and Off controls, the compact master selector switch, RMS-1, provides instant, positive control of up to nine different circuits. With its help you can now plan wiring systems that provide the utmost in convenience—and, best of all, at a cost you'll find hard to believe. Here are just a few of the step-saving advantages you can give clients by using one or more master selector switches.

In Homes and Apartments

Instant bedside control of all interior and exterior lighting . . . an invaluable asset in emergencies. Added convenience through control of kitchen appliance outlets and attic ventilators from several different points. Control of key indoor and outdoor lights from the garage, front door, back door, and bedroom.

In Plants and Factories

Control of fire and alarm circuits. Control of watchman's circuits and provision for pathway lighting on his rounds. Selective control of aisle lights, individual work-area lights, outlets, and small electrically-operated machinery from any desired point.

Then too, there are many applications for farms, swimming pools, parking lots, athletic fields, tourist cabins, schools, museums, hospitals—and you have probably already thought of many more. For further information simply check box (A) below.

New Levelock Switch Box Takes Job-site Abuse



Neither hammer blows nor construction-site abuse can dislodge the side plates of the new General Electric Levelock switch box. Wedging action of a new locking mechanism locks box parts securely in place — yet is simple enough to permit fast, certain assembly of switch-gangs.

Leveling the box against the studding is also a faster, easier operation. Four contact points — instead of the usual three — prevent tilting or rocking of box during nailing.

In addition to nail through holes, an extra set of nail holes through the side plates allows speedy gang mounting of the Levelock box direct to studding. Extra side-plate pryouts provide for out-of-the-ordinary installations. All pryouts are easily removed by a quick twist of a screwdriver.

A new single-screw ear adjusts from slightly above to 1/4 inch below the edge of the new Levelock box, while an extra-sturdy bridge across the ear adds increased strength. There's plenty of space, too, within the bridge to accommodate the device strap.

The ingenious construction of General Electric's Levelock saves time when used on either new construction or modernization work. Builders and contractors will appreciate your specifying the Levelock box, so check box (B) in the coupon and get complete information.

Safe, Dependable . . . Easy-to-install G-E BX* Cable

More than a half-century of research and improvement are reflected in today's General Electric BX armored cable. Factory-assembled and factory-tested, BX armored cable is still the most practical metal-protected wiring system available for general purpose use. For new construction or modernization work, BX armored cable provides safe, dependable, long-term operation.

And, best of all, a BX system is a cinch to wire. A few strokes of a backaw and a quick twist of the wrist removes the armor and leaves the conductors ready for easy stripping. Cable armor provides grounding protection. In Awg sizes 14 and 12 a metal bonding strip is included under and in contact with the armor to provide increased conductivity in case of ground faults.

You'll like the ease and simplicity of a BX armored cable job, so make it a point to offer your customers this added protection. You'll be more than repaid by savings in installation and "call back" time. Underwriters' Laboratories inspected, General Electric BX armored cable is available in Awg sizes from No. 6 to No. 14 in both two-conductor and three-conductor types. Specify it on top-quality jobs.

*Reg. Trade Mark of General Electric Company



New Hung Ceiling Box†

For fast, easy installation and real savings on jobs using conduit, this new hung ceiling box is hard to beat. By specifying this new box you can virtually eliminate special couplings and pipe bending operations. Thanks to its special eight-sided design, this easy-to-handle ceiling box allows conduit to enter the knockout—over the grid structure — from all eight angles. In addition, the lower row of knockouts permits conduit runs parallel to channels.

Four-point suspension of the box is provided by two sturdy mounting bars. With bars in a parallel position, the box slides back and forth for quick, easy centering. When bars are spread slightly, the box locks securely into any desired position for easy wiring. For full particulars check box (C) at left.

(U. S. Patent No. 2,954,481)

Section K15-92

Construction Materials Department, General Electric Company, Bridgeport 2, Connecticut

A—Remote-control Master Switch

Name _____ Title _____

B—Levelock Switch Box

Company _____

C—Hung Ceiling Box

Address _____

City _____ Zone _____ State _____

GENERAL  ELECTRIC



Comfort AND SAVINGS PROVIDED with METAL WEATHERSTRIP

It's mighty hard to provide maximum comfort in homes that do not have the necessary full protection of Metal Weatherstrip to seal the cracks around windows and doors. It literally puts a blanket around them . . . prevents needless heat loss and discomfort.

Metal Weatherstrip pays for itself in two or three years by savings in fuel alone. Reductions in fuel cost range from 20% to 30%. In addition, it's a weather-tight defense against rain, wind, storm, snow and all moisture.

For better Metal Weatherstrip it's "smart business" to talk with anyone of the Weatherstrip Research Institute members. Suggestions and inquiries about metal



weatherstrip are invited—for the benefit of all.

Weatherstrip—the original Fuel Conservator . . .
Saves Most Fuel in Proportion to Cost!

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6090 So. Chicago Ave., Chicago 17, Ill.

Demonstration of Home Ideas

(Continued from page 103)

ing of any areas. A noteworthy feature is the separation of the sleeping area from the living area and the combining of work areas in their planning. Says one of the architects, "We wanted to make it possible for a housewife to do her laundry and at the same time be close enough to the kitchen



REVOLVING closet door, "Bellador" was a feature in Better Homes and Gardens Five-Star Home 2004 built at 1930 Chicago Fair

to keep an eye on food that is placed on the range to cook." Better Homes and Gardens magazine displayed their Five Star Home No. 2004 containing about 1,498 square feet. It is estimated it would cost \$18,000 to build it in Chicago. Five features are achieved in the design. The home should be easy to build. Indoors and outdoors are linked through wide window areas. The home encourages informal entertaining. Simple lines of the exterior make landscaping easy, and there is direct access from cars to house. An unusual feature is that the entrance side of the house has no windows, and



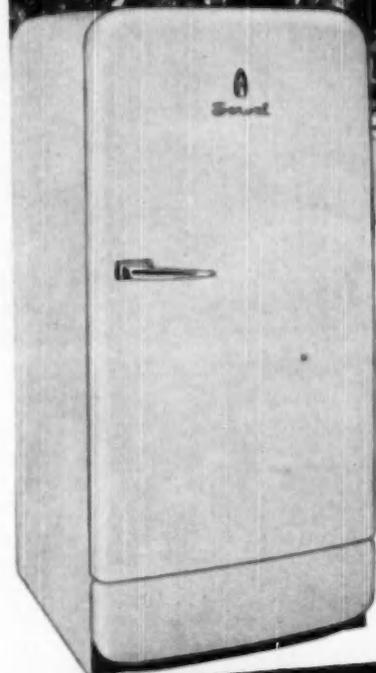
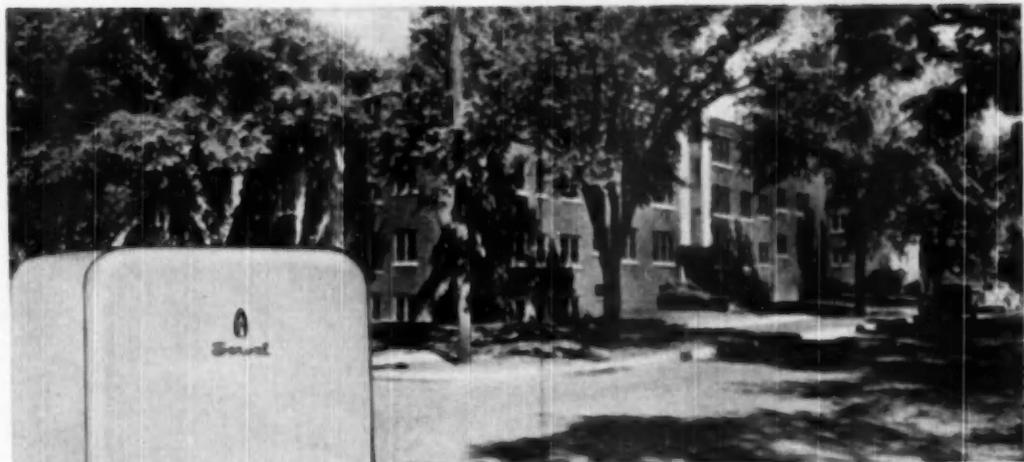
HORIZONTAL joints are accented in exterior wall of "Television House." These joints between concrete block are tooled the entrance is screened from view by a long wall. The architects were Cliff May and Chris Chase.

Features of a brick home sponsored by Structural Clay Products Institute include a brick bathtub, and a fireplace chimney that provide a ventilation outlet for kitchen, boiler, and bathroom. Designed by Schweikher & Elting, architects, of Roselle, Ill., the home on display at the Fair had approximately 1,400 square feet of floor space and the cost to reproduce in Chicago was estimated at from \$18,000 to \$20,000.

This house is designed with a utility corridor used as kitchen and storage area. This corridor is not used as a passageway. The kitchen oven is located in the chimney stack at a proper cooking height. A wood roof is exposed in every room. All interior partitions and doors are Redwood.

(Continued on page 176)

"LESS THAN \$10 to maintain 44 Servels for 10 years"



This report comes from Mrs. W. J. Esch, owner of the Stanley Hall Court in Minneapolis, Minnesota

MAINTENANCE COST is a mighty important factor in determining the best-type refrigerator for multiple installations. That's why the Gas Refrigerator is the choice of experienced owners like Mrs. Esch, who has been "more than satisfied" for ten years. And her testimony is typical of that of owners in all parts of the country:

"After nine years, our 398 Servels cost only 1¢ a month per unit for upkeep." Mobile, Ala.

"Our 750 Gas Refrigerators are 4 years old and cost less than 50¢ a year per unit to maintain." Corpus Christi, Tex.

"In 12 years our Servels have cost us nothing for repairs." Los Angeles, Calif.

This extraordinary performance by Servel through the years is due to basic differences in the most important part of a refrigerator — the freezing system. Servel has a "no moving parts" system. There's no motor to fail; no machinery to wear or break down. A tiny gas flame does all the work. Such a system lasts *much* longer . . . requires *much* less expense for upkeep.

Be sure to compare the 1950 Servel. Designed for a long life by the renowned Walter Dorwin Teague, it offers tenants not only the pleasure of *silence* but also a handsome, spacious cabinet fitted with every modern worth-while convenience. Consult Sweet's "File for Builders" or write to Servel, Inc., Evansville 20, Ind.

STAYS SILENT . . . LASTS LONGER

Servel
The GAS Refrigerator

DON'T LET ROT AND TERMITES ENDANGER YOUR GOOD REPUTATION



WOLMANIZED Pressure-Treated Lumber stops costly damage due to wood decay and termites. It gives your customers better construction and prevents trouble that neither you nor building owners want to experience.

WOLMANIZED Pressure-Treated Lumber provides **SURE, LASTING PROTECTION**. Preservatives are driven deeply into the wood fibres under high pressure—not just brushed on.

Stop Damage to Wood Structures at These Common Danger Points

It definitely pays to use WOLMANIZED Pressure-Treated Lumber where conditions like these exist:

1. Where excessive ground moisture, rain or thaws cause early decay failures.
2. Where wood is open to termite attacks.
3. Where wood is in contact with concrete or masonry.
4. Where steam and vapor from industrial processes promote wood decay.
5. Where walls, floors, ceilings are subject to condensation from refrigeration.
6. Where wood is exposed to moisture in humidified buildings or farm buildings.

FREE BOOKLET WORTH READING

Get all the facts on how WOLMANIZED Pressure-Treated Lumber stops wood decay and termites. Write today for this valuable booklet.



AMERICAN LUMBER & TREATING COMPANY



General Office: 1475 McCormick Building, Chicago 4, Illinois
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For SURE
protection
build with...

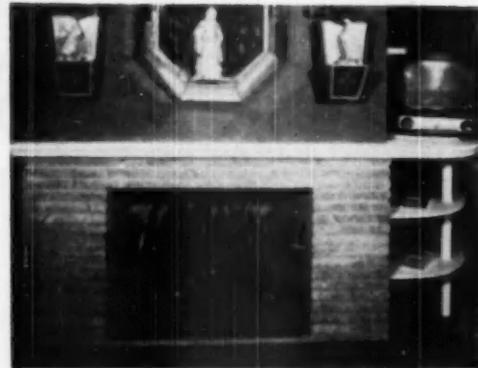
**WOLMANIZED
PRESSURE
TREATED LUMBER**

Demonstration of Home Ideas

(Continued from page 174)

Floor and bathtub of the bathroom are of standard size 3¼ x 8x2¼-inch bricks and ordinary cement properly mixed for water resistance.

Lowest cost home exhibited at the Fair had about 832 square feet of floor area, and the estimated cost to build in Chicago was less than \$9,000. Sponsored by the Chicago



TELEVISION home features television set on turntable that may be seen from any spot in living room, bedroom and kitchen

Plasterer's Institute, it was built by Walter J. Olson & Company of Chicago. Stran Steel framing was used throughout, and plaster with Perlite was sprayed on both inside and outside walls. Though in the low cost bracket, the home avoids a typical "low cost look" by incorporating a wide

(Continued on page 178)

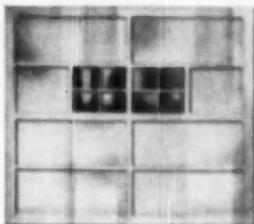
Craw-Fir-Dor

UPWARD-ACTING OVERHEAD TYPE

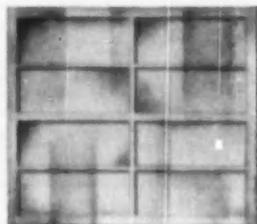
—the trouble-free garage door
... another leader in

Douglas Fir doors

MADE in two designs to harmonize with any style of architecture, any priced home, Craw-Fir-Dor overhead-type garage doors give today's builder up-to-the-minute quality and attractiveness. Home owners, too, find that a Craw-Fir-Dor adds new convenience to the garage. Here is an overhead-type door that opens so easily a child can operate it. It never hangs shut, never sticks or jams, is never snowbound. Manufactured of sturdy Douglas fir, these doors are strong and durable. Panels are of waterproof Exterior-type plywood to withstand permanent exposure to the worst weather. The hardware, designed by skilled automotive engineers, gives years of service and carefree performance. The Craw-Fir-Dor is easy to install — available at lumber dealers everywhere!



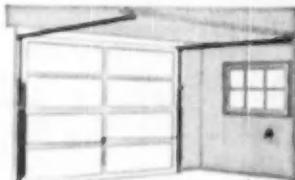
Design No. 45



Design No. 44



Craw-Fir-Dor goes up out of the way—out of the weather!



The simple construction makes for easy installation and operation. Craw-Fir-Dor is very light in weight. Requires only 2 inches head and sideroom.



Auto-type lock—the high-quality automobile type lock furnished with Craw-Fir-Dor hardware. This lock sets convenient to use, positive in action and adds beauty as well as safety.

Fir Door Institute

Tacoma 2, Washington





You'll make friends
and keep them
with wonderful —



Distinctively Styled in long-lived wood



Maple cutting block
saves counter wear



Aluminum drawers
won't rust or chip



Planning center a
desirable feature

Friendly, Livable, Inviting, Smooth and Easy to Clean

Kitchen Maid's exclusive Flo-Line styling brings the first important design change to wood cabinets in the last quarter century. Many call it the most remarkable improvement in cabinet appearance since the war. Many other features help to make Kitchen Maid the best buy in cabinets. Fine furniture-type construction; quiet, aluminum drawers, permanent shelves, light Resinite doors with cushioned silencers, accessories for every purpose, choice of 4 colors or white.

First Choice in Cabinets

Add these to superior styling and you have good reasons for making Kitchen Maid your first choice in cabinets. See your dealer soon. Send coupon for valuable planning booklet, free to architects and builders.



Look for this sign in your dealer's window. It signifies his skill as a member of the nation's oldest kitchen planning organization.

THE KITCHEN MAID CORP.
309 Broadway St., Andrews, Ind.

Please send new booklet containing 10 practical kitchens with details. I am an architect builder dealer.

Name _____

Address _____

Demonstration of Home Ideas

(Continued from page 176)

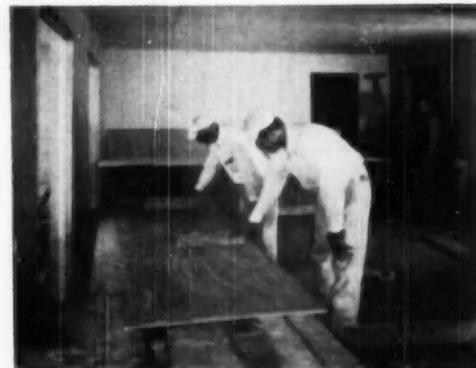
glass area in front, and by a lack of frills that would tend to cheapen its appearance.

The Popular Homes magazine house, sponsored by United States Gypsum Company, demonstrated what can be done with gypsum products in home construction. Conventional wood framing was used throughout, but almost all other building products were made by USG. Rocklath plaster base was applied immediately over the studs; a Perlite base coat plaster, Structolite, was applied, then a skim coat of plaster to finish the inside surface of the walls. Exterior



SHADOW lock system of installing shingles is used on Popular Home magazine house sponsored at Fair by United States Gypsum Co. Aluminum channeled strips, corner angles and hook nails are used to obtain deep shadow lines and distinct corners. Wall covering was Glatex, a cement siding, over 1 1/4-inch USG sheathing. Effect of the siding is a deep, attractive shadow line. Insulation was medium thick Red Top insulating wool.

Television fans were not left out in the home exposition planning. A home designed by Architect Elmer Gylleck of Elgin, Ill., was called the "Television House." It was



DOUBLE layers of gypsum wallboard are used in Parents' magazine's Eighth Expendable Home at Fair. Face layer panels, before being raised into place, are coated with special cement

sponsored by local members of the National Concrete Masonry Association and Portland Cement Association. In this home, a television set is placed on a turn-table next to the fireplace, and can be comfortably viewed from all parts of the living room, dining room, kitchen, and even a bedroom.

(Continued on page 180)



Don't guess
about quality
Be sure
with names you know!

These Trademarks on doors
you buy are quality insurance

Hollow core flush doors today can almost be described as a building "staple." Probably no other building item has had such a sudden and sustained consumer acceptance and demand.

Be sure you reward that demand with the quality it deserves. Install Weldwood Honeycomb Core or Mengel Hollow Grid Core Doors.

THE WELDWOOD HONEYCOMB CORE DOOR is a new development of the United States Plywood Corporation. Thoroughly tested in actual service, it is extremely strong, exceptionally light, eminently serviceable and unusually attractive . . . this new door can be had with birch, oak, Korina or other hardwood faces. Here's top-flight quality at low prices.



THE MENGEL HOLLOW GRID CORE DOOR has thousands of satisfied users to attest its quality. A long-time, low-cost favorite, this popular door is available with faces in a wide variety of beautiful, decorative hardwood veneers.

Don't accept any substitutes. Wherever you have a requirement for interior flush doors, make certain the doors you install bear one of the trademarks above. That way, you can *be sure* about quality, with a name you know.



WELDWOOD FLUSH DOORS

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Choose

the exact instrument
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LOW PRICE MODELS

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Finest 12" Dumpy Level available anywhere — gives you most features you want, more accuracy, more durability at less money than any other instrument. It has dust and dirt-free internal focusing and has coated optics for clearest distortion-free, sharper images.



Model
No. 8014
Price \$130.00
complete with
tripod

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Here's the standard convertible level for the country for the past 50 years! No other instrument has the recognition and acceptance as given to the David White Carnegie Improved Convertible level. Now it's available to you with complete dust and dirt-free internal focusing and coated optics for clearer, sharper, distortion-free images.



Model
No. 7096



Price \$150.00
complete with
tripod

3

The David White "Universal" level-transit is the most practical and complete builder's instrument on the market. Now available in a new improved model — complete with internal focusing, coated optics — guarded vertical arc — in fact every possible feature to assure you lifetime durability and extreme accuracy.



Model
No. 3000
Price \$165.00
complete with
tripod

CHOOSE the exact instrument you need from these three. Compare their outstanding features, their precise, yet rugged construction, their accuracy and their price with all others. Then you'll see why we say you'll buy "right" when you buy a David White. For complete information on any one or all three of these instruments, consult our nearest dealer — or write direct to David White Co., 511 W. Court Street, Milwaukee 3, Wisconsin.

**DAVID
WHITE**
COMPANY

We offer complete, prompt repair
service on all makes of instruments —
levels, transits, theodolites, etc.

Demonstration of Home Ideas

(Continued from page 178)

A glass panel between the living room and kitchen permits the housewife to stand at the kitchen or range and view the television screen. Advantage of this, says Gylbeck, is that children's programs usually are shown at the time the housewife is making dinner or cleaning dishes after dinner.



WOLMANIZED pressure-treated wood sill is installed in U. S. Gypsum company's Popular Home magazine's model house at Fair

With this home design, she can watch the children and the screen and still work at the same time.

This home is built of concrete masonry units throughout. Horizontal joints between masonry units on the exterior surface of the walls are tooled, and vertical joints left flush to provide an effect of horizontal siding. Cavity wall construction, employing two 4-inch block walls with two inches of air space between is used.

BRANDED PRODUCTS IN CHICAGO FAIR HOMES

Merrion Hamletown Ranch House

Philco Corporation — Kitchen Equipment
American Kitchen Cabinet Co. — Cabinets
Hough Sheds Co. — Flexible Sheds
Schubert Hardware Co. — Hardware
Macferlan Irrigation Co. — Irrigation System
Berkwood Insulation Co. — Insulation
Cramer Corp. — Plumbing
Johns-Manville Corp. — Roofing
Weathermaster Distributors, Inc. — Screens & Storm Windows
Detroit Steel Products Co. — Steel Sash
Harrill Wall Products — Wall Tile
Merrion Heating Co. — Furnace
Sarsel, Inc. — Hot Water Heater and Refrigerator
Geo. D. Boper — Shave

Portland Cement Assn. TV Home

Admiral Corp. — Kitchen Equipment
Gerrity-Michigan Corp. — Bath Cabinets
Thor Corp. — Dishwasher, Ironer and Dryer
Lightizer Co. — Electric Fixtures
Cordlier Glass Co. — Glass
Schubert Hardware Co., Inc. — Hardware and Yale Locks
Minneapolis-Honeywell Reg. Co. — Heat Regulators
Lemore Furnace Company — Heating
Bryant Co. — Hot Water Heater
Macferlan Irrigation Co. — Irrigation System
Overhead Door Corp. — Garage Door
Cramer Co. — Plumbing
Johns-Manville Corp. — Roofing
Weathermaster Distributors, Inc. — Screens & Storm Windows
Clemis Steel Co. — Storm Windows
American Steel & Wire Co. — Steel for Concrete Slab

Structural Clay Products Institute Home

Thor Corp. — Dishwasher, Dryer and Ironer
Cordlier Glass Co. — Glass
Schubert Hardware Co. — Hardware & Sugar Locks
Iron Fixman Mfg. Co. — Heating Equipment
Minneapolis-Honeywell Reg. Co. — Heat Regulators
Budd Mfg. Co. — Hot Water Heater
Celotex Corp. — Roofing Insulation
Macferlan Irrigation Co. — Irrigation System
Cramer Co. — Plumbing
American Stone Co. — Stone
Empire Roofing Co. — Roofing
American Steel & Wire Co. — Steel for Concrete Slab
American Lbr. & Treating Co. — Treated Lumber

Better Homes & Gardens Home

Frigidaire Corp. — Kitchen and Laundry
Gerrity-Michigan Corp. — Bath Cabinets

(Continued on page 182)

This SELF-insulating window

Eliminates storm sash!



Window illustrated is made by Chicago and Riverdale Lumber Company, Chicago 27, Illinois.

Looks like an ordinary double-hung window, doesn't it? That's one of the good things about it—an insulating window that not only looks like, but works like regular sash.

But instead of having single panes, it is glazed with *Thermopane*® insulating glass. With this kind of window, home owners can enjoy the extra comfort and fuel savings of double glazing without all the expense and bother of storm sash. Their window insulation job is done, once-and-for-all, when the house is built.

That's a real plus-value you can build into houses—a value that helps sell houses—a value that keeps home owners satisfied for years to come.

Provide this modern kind of glazing, *Thermopane* double glazing, for every window of your houses. Remember, with *Thermopane*, there are no storm sash to buy, no expense for fitting them, painting them, hanging them.

Thermopane is made in more than 80 standard sizes, as well as special sizes, for use in all types of sash—double-hung, casement, picture windows and other styles—made of either wood or metal. Within certain size limitations, you can use *Thermopane* made of 1/8" plate glass or double-strength window glass—the unit being only 1/2" thick. Your L-O-F Distributor can furnish full information. Or write to Libbey-Owens-Ford.

THESE THERMOPANE BENEFITS APPEAL TO HOME OWNERS:



Opens and Closes just like a regular window. Easy to operate. Screens can be full length for ventilation from both top and bottom.



Cuts Window Washing in Half. Just two surfaces to wash—not four, as with storm sash. Hermetic seal keeps dirt from getting between panes.



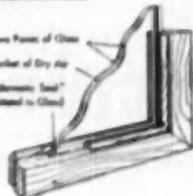
Year-round Insulation. *Thermopane* windows keep rooms more comfortable, save on fuel bills, reduce frost and fogging. In summer, they help keep rooms cooler.



Thermopane

Made only by LIBBEY-OWENS-FORD GLASS COMPANY
3595 Nicholas Building, Toledo 3, Ohio

Two Panes of Glass
Barrier of Dry Air
Hermetic Seal
(Fused to Glass)





- ★ *The heritage of Americanism and all the privileges for which it stands today is being shadowed by the rotten red fabric of communism.*
- ★ *The red cloak has already dropped over many a once free peoples in far-flung places, stifling all individual freedoms so that only a mockery remains of so-called liberty.*
- ★ *These harsh examples of this "other way" of life under the brutal boot of restrictions are the "red" danger signals to the American freedoms of free enterprise . . . freedom of speech and of worship.*
- ★ *No comparison can be drawn between these two ways of life . . . theirs and ours. The two ways are as different as night is to day.*
- ★ *Our heritage will brook no interference from radicals or those who would alter the American picture. Our freedoms have been won at too high a cost . . . are too deep-rooted . . . belong to each and everyone of us!*

It sure is GREAT to be an AMERICAN

CAR ★ STICKER

Write for your free, colorful car sticker that tells the world "It Sure is GREAT to Be An AMERICAN!"

Reprints of above message (without advertising) gladly furnished. Write:

WARE LABORATORIES, INC.
Manufacturers of Aluminum Windows

3705 N. W. 25th STREET • MIAMI, FLORIDA

Demonstration of Home Ideas

(Continued from page 180)

- Cadillac Glass Co.—Glass
Schubert Hardware Co., Inc.—Hardware
Cesco Engineering Works—Heating
Minneapolis-Honeywell Bldg. Co.—Regulators
Newcastle Products Co.—Modernfold Door
Multiformal Irrigation Co.—Irrigation System
Air Equipment Co.—Night Cool Fan
Rayner Bldg. Co.—Garage Door
Crane Company—Plumbing
Revalvador Distributors—Gasstoves
American Lbr. & Treating—Treated Lumber
Towen & Country Automatic Window Sales—Vista Window
American Steel & Wire Co.—Steel for Concrete Slabs
- Living Magazine (Walthamover Electrical Living) Home
Walthamover Electric Corp.—Appliances
Gentry-Michigan Corp.—Bath Cabinets
Cadillac Glass—Glass
Timber Automatic Oil Heating Co.—Heating Equipment
Minneapolis-Honeywell Bldg. Co.—Heat Regulator
Murtshier Bros.—Kitchen Cabinets
Multiformal Irrigation Co.—Irrigation System
Newcastle Products Co.—Modernfold Doors
Crane Co.—Plumbing
American Lbr. & Treating—Treated Lumber
American Steel & Wire—Steel for Concrete Slabs
- Parents' Magazine Home
Gentry-Michigan—Bath Cabinets
Simpson Co.—Automatic Dryer
Cadillac Glass—Glass
Crane—Heating Equipment, Kitchen Cabinets
Schubert—Hardware
Minneapolis-Honeywell—Heat Regulators
Multiformal—Irrigation System
Hig—Kitchen Fan
Newcastle Products Co.—Modernfold Door
Air Equipment Co., Inc.—Night Cool Fan
McEee Door Company—Garage Door
Crane Co.—Plumbing
Servco—Refrigerator
Ruberite—Roofing
American Steel & Wire—Steel for Concrete Slabs
Gibson & Sreten—Stove
1900 Corp.—Washing Machine
American Lbr. & Treating—Treated Lumber
- Popular Home Magazine
Hot Paints—Kitchen and Laundry Equipment
Gentry-Michigan—Bath Cabinets
Cadillac Glass—Glass
Crane—Heating
Minneapolis-Honeywell—Heat Regulators
Multiformal—Irrigation System
Newcastle Products—Modernfold Door
Air Equipment—Night Cool Fan
Crawford Door—Garage Door
- Chicago Plastering Institute "Hortney" House
Crane—Plumbing

Extend Application Time For Slum Clearance Funds

Extension of the period in which local communities may make application for capital grant reservations for slum clearance and urban redevelopment projects has been announced by Raymond M. Foley, Housing and Home Finance Agency administrator. Under the extension, initial applications will be received until December 31, 1950 for projects to be initiated prior to July 1, 1951. The previous limit for initial reservations had been June 30, 1950. Procedures governing applications for reservations on projects to be initiated on or after July 1, 1951 will be announced later.

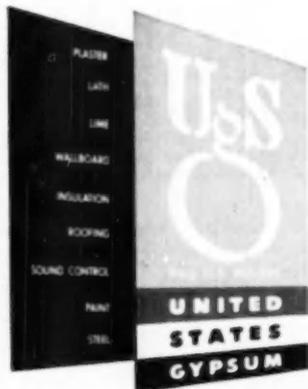
HHFA Surveys Announced

A survey of a potential residential redevelopment area in Washington, D.C., to ascertain elements to be considered in such projects will be made by American University under the HHFA program of housing research. Dr. Richard U. Ratchiff, HHFA research division director, announced recently. Development of a standardized cost accounting system for possible use by home builders is the goal of another study, to be made by the University of Michigan; and a two-year HHFA contract with Tuskegee Institute will extend that school's research into production of homes in rural area for small cash outlay.



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BUILD WITH USG



You build with a great deal more than quality products and modern systems when you build with USG. You also provide, for your customer's protection, every advantage of scientific research performed in the famous United States Gypsum laboratories.

No less important, when you build with USG, you claim for your customers the lasting benefits of precision quality control that begins at the point of raw material selection and carries through to the final rigid inspection.

... the greatest name in building

... build with

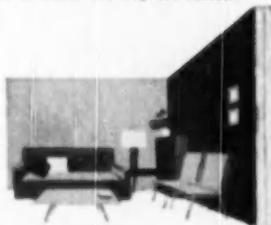
SHEETROCK

TM REG. U.S. PAT. OFF.

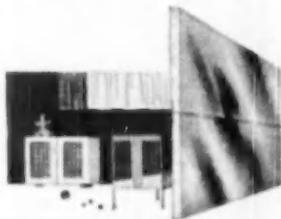
Fireproof Gypsum Wallboard



Use regular 1/2 inch SHEETROCK with recessed edges which take the POP-A-TAPE Joint System, for dry-wall construction. Together they build strong, rigid walls and ceilings that are beautifully smooth and stay that way. Rooms ready for any decoration—ready for living in a matter of days, not weeks. Rooms that help sell houses!



For even finer dry-wall construction, build with laminated SHEETROCK, a double wall system. Two layers of 1/2 inch SHEETROCK, job laminated, produce dry-wall interiors offering all the advantages of single layer construction, plus extraordinary beauty, strength, fire protection, and sound resistance. Walls and ceilings worthy of America's finest homes!



Now one material, one application to outside walls and top floor ceilings builds, insulates, controls vapor. It's 3 in-1 Insulating SHEETROCK, regular board with aluminum foil laminated to the back side. Here's insulation equal to 1/2 inch fiber insulating board, and one of the best vapor barriers known. Also, here are substantial savings in time, effort, money!

You can really
DO THINGS
 with this versatile
HARDWOOD PLYWOOD!



Here at last is a genuine *hardwood* plywood, free from the disadvantages of soft woods, yet attractive in price. It is ideal for dry-wall construction, built-in cabinets, furniture, partitions, score fixtures, etc.

Mengelbord® is a low-priced utility hardwood plywood available in standard stock panel sizes $\frac{1}{2}$ " thick, 5-ply. It is moisture resistant—recommended for a wide variety of interior uses.

Mengelbord has a one-piece face with no joints or oval patches. It is made from beautiful unselected White Gum (Tupelo) with the face grain running the long way of the panel for greater strength and better decorative effects.

It is smoothly sanded, free from grain-raising, warp-resistant, cuts and works cleanly.

Mengelbord is light in color and suitable for a variety of finishes—paint, stain, natural, or as a base for wallpaper.

Write today for samples and descriptive literature. No obligation, of course.

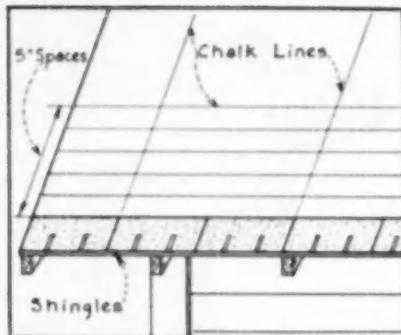
Where fine wood panels of Mahogany, Oak, Birch or Walnut are desired—ask for Mengelux. Literature on request.

Plywood Division, The Mengel Co., Louisville, Ky.

*Reg. U. S. Pat. Off.

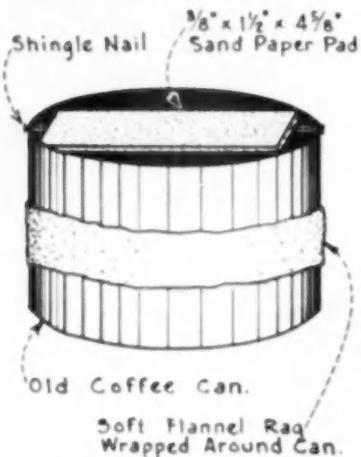
TECHNICAL GUIDE
 for Builders and Craftsmen

How to Lay Roof Shingles Accurately



Use a chalk line before placing shingles in position. Nail first double row as indicated in sketch. Make pencil marks every five inches along both overhangs of sheathed roof. Chalk line is used to mark horizontal lines. Mark several lines at right angle to horizontal lines at points where shingles are lapped. The shingles can be lined up quickly. Result, perfectly straight rows—Submitted by Herbert E. Fey, New Braunfels, Texas.

How to Make a Pencil Pointer



Use an old coffee can for this purpose. Glue a sandpaper pad to piece of wood; drive shingle nails on both ends of can as shown, and a place for pencil shavings and lead has been arranged. Wrap a soft flannel rag around the can and wipe pencil points after sanding—Submitted by J. G. Caldwell, San Mateo, Calif.

Let your suggestion pay you five dollars (\$5.00) in cash. This sum is paid by the American Builder for each short cut or job pointer that is accepted for publication. Send all material to Architectural Editor, American Builder, 79 W. Monroe St., Chicago 3, Ill.

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SAY VETERAN CINCINNATI BUILDERS DUGAN AND MEYERS



BUILD BETTER FOR BIGGER PROFITS WITH CAREY FIRE-CHEX!

No Other Roofing Material Offers All These Advantages.

Greater Fire Safety—Actual U. L. tests proved that Carey Fire-Chex will resist a blazing wood brand 108 times larger than the size used to test Class C shingles . . . qualified these great new shingles for the highest possible fire safety rating—Class A by Underwriters' Laboratories, Inc.

Beautiful Copyrighted Roof Designs—Only Fire-Chex Shadow-Blend shingles can be laid in exclusive copyrighted shadow blend roof designs that cannot be duplicated! Available in blends of green, gray, red and blue—also rich solid shades in Velvet Black and Autumn Brown.

Please refer to Sweets Catalog for further information

Years and Years More Protection—

Tests under the roughest weather conditions dished up by nature—from sub-frigid cold to sizzling heat—prove that Carey Fire-Chex resist blistering, hail and wind damage far better than ordinary roofing materials.

What an array of "extras" to help you build better for bigger profits! See your Carey Dealer for samples and prices!

Fire-Chex Specifications:

12x36 inches—Square Butt 3-Tab
—Headlap 2 inches—Exposure 5 inches—Weight: approx. 325 lbs. per sq.—Colors: Green, Red, Gray and Blue Shadow Blends. In solid colors, Velvet Black and Autumn Brown.

"You'll be pleased to know that Carey Fire-Chex asbestos-plastic shingles are the preferred roofing on the great majority of new homes we build. Once we tell folks the facts about Fire-Chex, and show samples of those beautiful blends and colors, no shingles but Fire-Chex will do. That's true even on jobs where it seems spending a little more to get Fire-Chex, than for ordinary asphalt shingles. Naturally, we're "sold on Fire-Chex. They run true to size—go on faster, give us more profit per job and provide greater satisfaction for our customers."

James E. Meyers

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In Canada: The Philip Carey Co., Ltd.
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Bathroom Cabinets and Accessories—Ceroma Asbestos Siding—Tri-Tone Asbestos Shingles—Rock Wool Batts—Other Famous Products for Home, Farm and Industry



WINDOW WALLS illustrated are Andersen Casement Window Units in combination with fixed double glazing.

ANDERSEN
Windowalls[®]



THREE VIEWS IN ONE is the effect achieved by Architect Magnus Jemne's interesting use of Andersen WINDOWALLS around the corner of this lakeside Minnesota home.

These WINDOWALLS are constructed of lasting, beautiful wood... wood which blends with the room's paneled walls... wood whose insulating qualities reduce heat losses and help control troublesome condensation.

These wood windows play a dual role as WINDOWALLS. They serve as windows by bringing in sunshine and fresh air and the owner's prized view; and as walls they keep the room snug and comfortable. For builders, WINDOWALLS mean quick sales and satisfied customers.

See your local millwork dealer or write us for details and further information. Detail catalog of Andersen WINDOWALLS is in Sweet's Builders' File.

*TRADEMARK OF ANDERSEN CORPORATION

Andersen Corporation • BAYPORT • MINNESOTA

Now! **OVER-THE-TOP**

CONVENIENCE... For the Modest Budget!



For Use with
MILL-MADE DOORS

For Use with
CARPENTER-BUILT DOORS

**POPULAR-PRICED No. 80
FOR DOORS WEIGHING UP
TO 150 LBS. OFFERS FOOL-
PROOF PERFORMANCE**

Frantz again proves you don't need a big building budget to include a genuine "Over-the-Top" Garage Door. "Over-the-Top" is the over-head door equipment that offers architect, builder, or home-owner complete freedom in choice of door design. The No. 80 set is low in cost and may be installed on either inexpensive stock panel doors (or specially-designed, custom-built doors) weighing up to 150 pounds.

Frantz Equipment is easy to install, smooth operating. Its simple design and rugged construction means no service worries and bother.

BUILDERS! See the No. 80 Set at your nearest Frantz Dealer's; or, write the factory for full information on this and other models in the complete Frantz line.

WRITE FOR FREE LITERATURE

Be sure to have the latest Frantz folders on "Over-the-Top" Garage Door Equipment and "Over-the-Top" Garage Door Units in your file. There's a set for any size door. There's a Unit for most popular-sized openings.



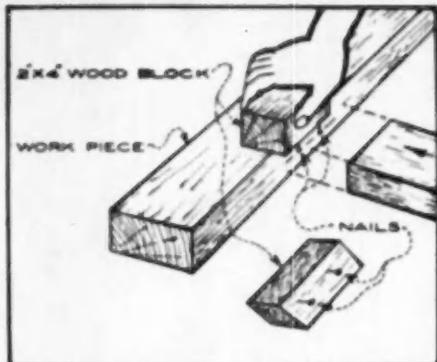
FRANTZ

GUARANTEED BUILDERS' HARDWARE

FRANTZ MANUFACTURING CO., STERLING, ILLINOIS

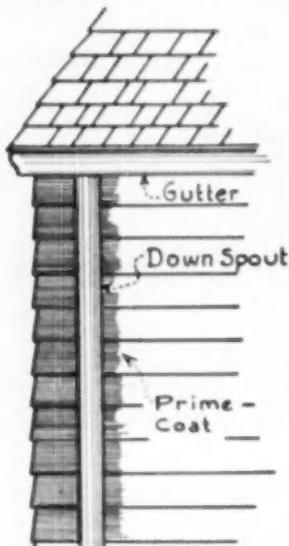
TECHNICAL GUIDE for Builders and Craftsmen

How to Align Dowel Holes



Dowel holes can be located accurately by use of a small 2x4 block into which two nails are driven. The block is placed on one of the joining members and the other member is pressed squarely against the nail heads, thereby making impressions in both members. Holes are then drilled at these points. Nails must be of the right length and correctly spaced.—Submitted by Herbert E. Fey, New Braunfels, Texas.

How to Avoid Wood Rot Behind Downspouts



When downspouts are applied prior to painting of house, exterior wood rot often results some time later. This can be avoided if vertical section of wall on which downspout is to go is painted. Rafter ends primed ahead of gutter installation will also stay sound much longer.—Submitted by Arthur Nelson, Kansas City, Mo.

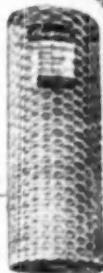
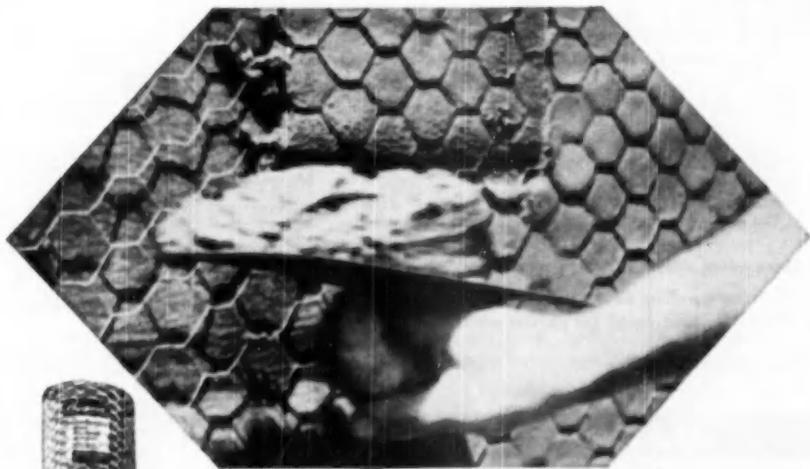


Dollars shaved without cutting values

You don't have to be a magician to make houses "look like more than they cost" if you use the Keystone System of Stucco Application. And with this system durability is added to the original good looks and economy.

More and more builders and contractors are using the Keystone System of Stucco Application. Architects are specifying it. Buyers recognize it as a real sales feature. Let us send you the facts, in the new 44-page "Keystone System" booklet today. Write:

Keystone Steel & Wire Company, Peoria 7, Illinois.



**KEYSTONE SYSTEM OF
STUCCO APPLICATION
WITH KEYMESH**



plan on shellac



THE finest FOR FLOORS

Interior by William Puhmann

—and ALL natural wood finishes

The natural beauty of floors, wood paneling—all woodwork, is enhanced and preserved longer by shellac—the satiny smooth finish that

- won't scratch or mar
 - will not darken with age
 - outwears other finishes
- Sealcoative scientific floor tests prove this!*

SPECIFY

easy-to-apply • fast-drying

SHELLAC

The modern wood finish for the homes of tomorrow

Unequaled where a natural wood finish is desired

Outstanding as a primer for woodwork and sealer for plaster walls

Your clients are being sold on the merits of shellac through
National Advertising!

MAIL TODAY

SHELLAC INFORMATION BUREAU

OF THE AMERICAN BLEACHED SHELLAC MANUFACTURERS ASSN., INC.
65 FINE STREET NEW YORK 5, N. Y.

Please send, without obligation, "Standard Specifications on the Use and Application of Shellac".

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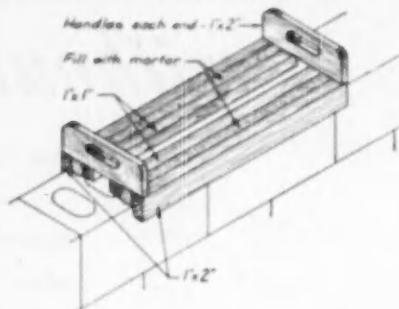
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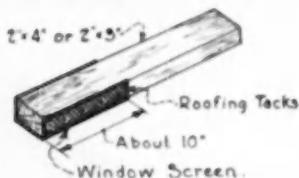
TECHNICAL GUIDE for Builders and Craftsmen

How to Use Jig to Place Mortar Joints on Concrete Blocks



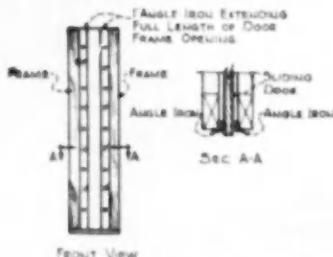
This jig, made entirely of wood, nailed or screwed together and lacquered to prevent absorption of moisture from fresh mortar, can both prevent mortar waste and simplify the laying of mortar strips in concrete block construction. Jig is simply placed over the blocks in each course and mortar grooves filled. Dimensions shown are for average 1/2-inch joints. Strips are beveled for easy removal. Length is optional and width depends on size of blocks.—Submitted by Andrew Murcko, Garfield, N.J.

How to Make a Wallboard Rasp



An effective rasp for smoothing the edges of wallboard can be made by attaching a piece of window screen or metal lath to a short length of 2x4 or 2x3. The screen is attached to block with roofing tacks or lath brads.—Submitted by M. E. Ames, Dover, Idaho.

How to Strengthen Door Frames



A piece of 1-inch angle iron set flush on each side of a sliding door frame opening stiffens the frame at its weakest point and guards against warpage during plastering.—Submitted by M. E. Ames, Dover, Idaho.

AMERICAN BUILDER



**4-Wheel
Drive**

118-in Wheelbase 5300 GVW

WILLYS TRUCK

Goes Through When Others Can't

Here is the truck that helps contractors and builders keep work moving on schedule—the 4-Wheel Drive Willys Truck. It takes material right to the job when conditions are too tough for ordinary trucks.

The extra traction of all-wheel drive goes through the deep-rutted mud and sand of building sites... over ice and snow... up steep grades. For highway travel, shifting to 2-wheel drive disengages the front wheels.

Rugged construction of the 4-Wheel Drive Willys Truck assures low-cost maintenance and long dependable service. Low weight of the functionally designed sturdy steel body along with its higher-compression *HURRICANE* Engine provide maximum fuel economy.

Let the 4-Wheel Drive Willys Truck help you save time and money on your building projects — ask your nearby Willys dealer for a demonstration.

NEW *HURRICANE* ENGINE GIVES MORE POWER AT LESS COST

The sensational new Willys *HURRICANE* Engine has a compression ratio of 7.4 to 1 (optional 7.8-1 for high altitude), but it does not require premium-grade fuel. The *HURRICANE* is an F-head engine with valve-in-head intake and valve-in-block exhaust. The advanced design of the *HURRICANE* gives you more power for every gallon of gas.



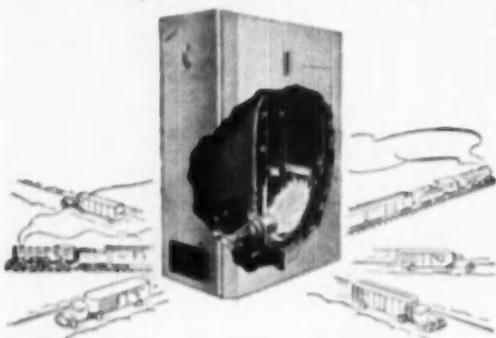
WILLYS-OVERLAND MOTORS, TOLEDO 1, OHIO • MAKERS OF AMERICA'S MOST USEFUL VEHICLES

SEPTEMBER 1950

391

PACEMAKER

is Going Places



The Boiler that Scooped the Market is Making SALES HISTORY!

Burnham's cast-iron PACEMAKER oil-fired boiler introduced less than a year ago is now one of the leaders in the heating field.

And here are some of the reasons for this universal acceptance:

Low Initial Cost • Made of Cast Iron • High Efficiency • Low Installation Cost • Fine Appearance • Wide Range of Sizes • Built-in Tankless and Storage Hot Water Heaters • Light Weight, Kilo Baked, Practically Unbreakable Refractories • Available in Flush or Extended Jackets • Built to ASME Specifications.

Low initial cost and low installation cost make PACEMAKER the logical choice for low-cost housing developments.

Wide range of sizes makes the PACEMAKER Boiler adaptable for almost every type of residential installation.

PACEMAKER is also available with the specially designed Burnham flange-mounted burner. Your plumbing and heating wholesaler can make immediate delivery.

EASY AND INEXPENSIVE INSTALLATION

Boiler shipped assembled—can be tilted to base while lying on side and easily raised to vertical position.



The Importance of CAST-IRON Construction

Cast iron, the metal of the ages, combines excellent heat conductivity with life long service and dependability. Its durability has proven it to be superior to other metals. Many cast-iron Burnham Boilers are still giving dependable service after more than a half century of service.



Burnham Corporation

"PIONEERS OF RADIANT BASEBOARD HEATING"
IRVINGTON, N. Y., Dept. AB-90



.....

BURNHAM CORPORATION AB-90
IRVINGTON, N. Y.

Please send folder showing all details of the low-cost PACEMAKER boiler.

NAME

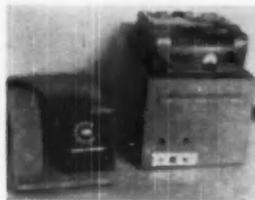
ADDRESS

CITY STATE

.....

'Gadgets' Add to Efficiency Of Builder's Operations

Electronic secretary and mobile telephone are time and work savers for Milwaukee firm



CLOSE-UP of "Secretary"

When a client telephones Van Dyke Builders, Milwaukee, Wis., during off-hours, he hears as follows: "This is the recorded voice of the Electronic Secretary answering the phone for Van Dyke Builders. No one is in now but if you will kindly leave your name, address and telephone number, I will record the message. Please do not hang up until you again hear my voice. Begin now." At the end of a minute, the voice concludes: "Your time is up now. If you have any more to say, please dial this number again."

The "Electronic Secretary" consists of a small phonograph containing an answering record and a standard wire recorder which can record an hour of talk. The record can be changed at any time. Physicians often put on records giving the phone number of the place they can be reached.

There are no electrical connections to the telephone circuit and nothing is screwed or clamped to the instrument.



VAN DYKE plant seen from highway bridge spanning railroad tracks. Firm has both a rail siding and a loading platform

The phone is put in the machine in such a way that the hand-set can be raised three quarters of an inch when the bell rings. All recordings of both conversations is done inductively. The phone can be left in the machine or lifted out as desired. It can be answered manually at any time in the usual manner.

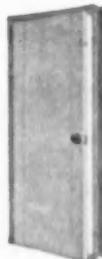
The Milwaukee firm does custom building and Curtis Van Dyke, president, has office hours four nights a week. If he isn't busy with customers, he uses the Secretary to catch up on office detail. The wire recorder part of the machine is equipped with a microphone and can be used for either dictating letters or issuing instructions for the shop men who arrive early. When Van Dyke goes home, he plugs in the machine; then, if he remembers something he wanted to tell his staff, he can telephone the office and record it.

Subcontractors doing work for Van Dyke are often (Continued on page 194)



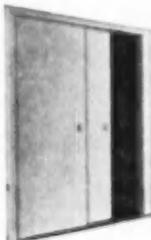
TRUSCON
Residential Interior
STEEL DOORS
 Swing and Slide Type

sex appeal...



SWING DOORS AND FRAMES — Series 90

Designed to compare in cost with doors of any other material or design, Truscon's new line of 6' 8" high interior flush type steel doors, in five (5) width dimensions from 2' 8" to 3' 0", are available from warehouse stocks, complete with choice of either 4 1/4" or 6 1/4" depth frames and four types of locksets.



SLIDING CLOSET DOORS — Series 90A

Outstanding economy of construction cost with maximum convenience of operation commend this space-saving door design to the architect, builder and home-owner. Sliding closet doors are stocked in two widths of 4' 0" and 5' 0". The complete door package is delivered in a protective carton.



that appeals to both sexes

Trim, clean-cut lines and modern beauty . . . operating convenience and efficiency of space . . . these outstanding features are acclaimed by men and women in every installation of Truscon Residential Interior Doors and Frames. They're the newest note in smart home design. Long life . . . smooth, trouble-free operation . . . no warping, shrinking or sagging . . . these advantages are assured by Truscon precision engineering and manufacturing. Economy of installation is an important feature. Write for Truscon Residential Interior Door catalog giving complete range of sizes and full details.



FREE Book on Complete Line of Truscon Residential Steel Doors. The Truscon Steel Company Manufactures a Complete Line of Steel Windows and Mechanical Operators . . . Steel Joists . . . Metal Lath . . . Steel Deck Roofs . . . Reinforcing Steel . . . Industrial and Hanger Steel Doors . . . Bank Vault Reinforcing . . . Radio Towers . . . Bridge Floors.

TRUSCON STEEL COMPANY

Subsidiary of Republic Steel Corporation
 YOUNGSTOWN, OHIO
 Warehouses and sales offices in principal cities

THE RUSCO



Rusco is a complete factory-controlled factory-painted window unit... custom glass, screen, weather stripping, installation members (wood or metal), and self-cleaning insulating sash (optional).

PRIME WINDOW

(VERTICAL SLIDE)

The durable, rust-resisting
Armco Metal window unit that provides
BUILT-IN, CONTROLLED VENTILATION
FOR YEAR 'ROUND COMFORT

OFFERS YEAR 'ROUND ADVANTAGES THAT INCREASE HOME SALABILITY . . . 1. Made of strong, tubular, hot-dipped galvanized Armco Ingot Iron Zincgrip, Bonderized and finished with baked-on enamel. No field painting required . . . 2. Glass and screen panels removable from inside for easy washing . . . 3. Year 'round, rainproof, draft-free, filtered-screen ventilation . . . 4. No screens or storm sash to buy . . . 5. No weights, cords or balances . . . 6. Slide freely—never stick or bind . . . 7. Waterproof felt weather stripping . . . 8. Lumite plastic screen cloth—permanent—no deterioration or streaking . . . 9. Automatic locking in closed and ventilating positions.

CONSTRUCTION FEATURES THAT REDUCE YOUR INSTALLATION AND FIELD COSTS . . . 1. No field painting (except wood trim when used) . . . 2. No on-the-job glazing or puttying . . . 3. No on-the-job refitting . . . 4. Installed in less than 50% of the time required for ordinary window units . . . 5. Versatility permits many distinctive window arrangements . . . 6. A quality product competitive with the lowest priced window unit on the market.

Get the facts about Rusco Prime Windows. You'll SEE why they save on material and on-the-job costs . . . help sell houses. See the Rusco distributor in your locality, or write direct.

THE F. C. RUSSELL CO.

DEPARTMENT 7-A890 • CLEVELAND 1, OHIO

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Manufacturer of the famous Rusco all-metal,
self-storing Combination Screen and Storm Sash



Gadgets Add to Efficiency

(Continued from page 192)

away from the phone all day and appreciate the convenience of leaving messages on the Electronic Secretary at any time. If they want, they can call after midnight.

In spite of the fact that the office is open four evenings a week, the Electronic Secretary averages three or four calls a day during dinner or after evening hours. Another feature of the device is that the entire telephone conversation can be wire-recorded. Thus, if some detailed instructions are being received from a supplier, both the questions and answers can be recorded.

Another aid to the building firm is the mobile phone which Curtis Van Dyke has in his car. While he could call from a filling station, it would take both time and mileage and possibly cost more than a mobile call. So if he finds a material shortage or other trouble on a job, he can start remedial action immediately.



CURTIS VAN DYKE making a call over his mobile phone. When he's away from car a red light signals him to call operator

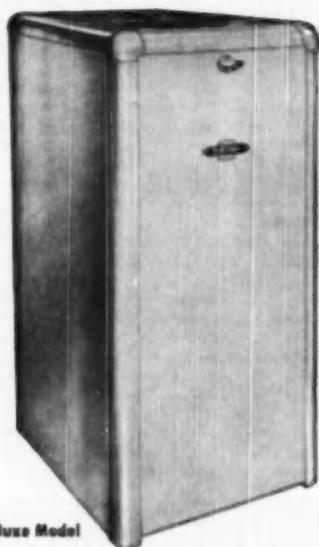
The greatest advantage of the mobile phone is to enable his office to reach him any time a prospect is ready to talk business. Building on owners' lots spreads the jobs throughout the county and Van Dyke travels to all parts of the county. If he isn't in his car, a red light flashes signaling him to call the mobile operator. Sometimes when his office staff expects him to be in one end of the county the mobile phone locates him at the opposite end.

Twenty calls a month are allowed for a \$28 charge, and Van Dyke usually uses more than that. Cost of a call from office to car is about 30 cents. Mobile conversation is billed at long distance rates, so conversations are necessarily brief.

Van Dyke Builders was founded by Curtis Van Dyke's father, Ernest, in 1914. There wasn't much building during the past war. In 1939 and 1940 they built about 150 homes on two large subdivisions. Immediately after the war, when labor and materials were scarce, Van Dyke put up owner-finished homes, or shells.

When selling these partial houses, the Van Dykes were careful not to give the impression that finishing a house was child's play. By being pessimistic, they discouraged persons lacking the requisite skill and stamina. In all cases they agreed to finish the home if the owner couldn't. Because of their conservative approach, they had to finish only one of the houses. Several of their partial house customers sold their finished homes at a nice profit.

(Continued on page 196)



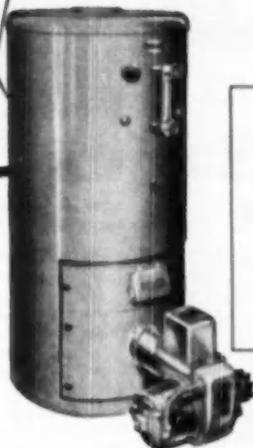
Deluxe Model

New! This "Small-Home-Size" DELCO-HEAT OIL-FIRED BOILER Packs Extra Sales Features!

The new "Series S" Delco-Heat Oil-Fired Boilers are low in cost—yet have all the features that make them ideal for steam, hot water or radiant installations in today's popular sized homes:

- Compact! Deluxe model takes only 24" x 39" floor space.
- Beautifully finished in Delco-green enamel—harmonizes perfectly in utility and recreation rooms.
- Helical swirl plates in 12 heat tubes extract maximum heat from fuel.
- Quiet, smooth-running Delco-Heat Burner is powered by famous Delco Rigidframe Motor.
- Insulated with full 1" blanket of fibre glass wool.
- Comfortable, even heat doubly assured by Delco coordinated controls.
- Burner and controls are located on front of unit for easy installation in restricted areas, and to simplify servicing and adjustment.

**YOUR NEW HOMES
WILL SELL BETTER
IF THEY'RE
EQUIPPED WITH
DELCO-HEAT!**



Round jacket model is especially suited for installation in closets or wherever space is limited. Performance specifications identical with Deluxe model.

Domestic Hot Water Service . . .

This large copper coil, built into the boiler, delivers an abundant supply of hot water for household use, all year around. Entirely automatic.



Specifications and performance data

	Capacity						Heat Surf. Sq. Ft.	Boiler Water Cap. Gals.		Fire Box Vol. Cu. Ft.	Appx. Weights		
	Btu Heat Output	Total		Hot		Steam		H. W.	Steam		H. W.	Heat Steam & H. W.	Ship. Steam & H. W.
		Steam	H. W.	Steam	H. W.								
Deluxe Models SOS, SWS	95200	396	635	300	480	17	25	22	1.41	775	811		
Round Jacket Models SS, SW	95200	396	635	300	480	17	25	22	1.41	706	742		

Oil Burner	Gals. Oil Per Hr.	Rigidframe Motor				Pump		
		H. P.	Volts	Cycles	Watts	B. P. M.	Lift	Gals. Per Hr.
Delco-Heat Model E-150-1	1.0	1/10	115	60	190	1725	8"	13

**GENERAL MOTORS
DELCO-HEAT**

Delco-Heat manufactures a complete line of automatic home heating products—for all types of fuels, all heating systems, and all sizes of homes. Also manufactures of oil and gas-fired water heaters and electric water systems. Let our engineering and sales departments serve you. Write to Delco Appliance Division, Dept. AB-9, General Motors Corporation, Warrenton 1, New York.

Long Handle CEMENTERS' TROWELS



Highest grade spring steel blade, tempered, ground and polished. Steel mounting; first quality ash handle 7 feet long, adjustable to any position; bolt and nut.

18x5 inches	\$ 8.00
24x5 inches	9.00
30x5 inches	10.50
36x5 inches	12.50

LEVELING INSTRUMENTS

These levels are simple, accurate, durable and complete with 9 foot rod, target, plumb bob, carrying case and directions.

- No. 2 Farm Level...\$38.00
- No. 4 Contractor's Level...\$53.00
- No. 5 Convertible Level, without Compass \$78.00
- No. 5C Convertible Level with Compass \$99.00



No. 4 Level Illustrated

Long Handle Trowels and Leveling Instruments shipped Express, transportation charges collect. Immediate delivery. Send money order or check with your order.

WRITE FOR
FREE CATALOG

Send for 1950 illustrated catalog describing largest and most complete line of masonry tools for your trade, including steel mortar boxes and steel trestles.

Goldblatt Tool Co.

1912 Walnut Street Kansas City 8, Mo.



FIRST CHOICE OF THE TRADE FOR 65 YEARS

Gadgets Add to Efficiency

(Continued from page 194)

The Van Dyke plant is located on a trunk highway and can be seen by hundreds of cars daily. Their signs are lighted at night and can be seen by both passing cars and trains. A railroad siding permits the convenient unloading of carload lots of material, although at present, material is trucked directly to the job by the supplier.

The firm has discontinued experiments in mass produced homes, doubting that they would be able to achieve sufficient volume for economy of operation. Their present custom built houses sell for around \$11,000 without lot. Van Dyke has some standard plans and he also uses revised owner plans.

To speed production a 16-foot mobile trailer is towed to the owner's lot to start the building. It is equipped with a gasoline-driven army surplus 110 volt D.C. generator set and is used to drive a power saw mounted on the trailer and electrically-driven hand saws. The trailer is bench-height for convenient operation of power equipment and is towed as near the foundation as possible to facilitate the passing of cut lumber to the building. By the time rough work has been completed, central station power is



LOW platform of trailer permits use of power saw without climbing. Nuts and other supplies can be locked in trailer at night

available for the finishing crew. A spare generator set is available in case of breakdowns or need for overhauling.

Two years ago, during the newsprint shortage, Van Dyke advertised heavily over the radio. Curtis Van Dyke feels, however, that radio advertising is better for mass-produced homes than custom-built ones; and he prefers newspaper advertising for his business. Floodlighting the plant is also good advertising for him.

Van Dyke employs about 20 men, most of them carpenters, with a skeleton mason crew to expedite progress. By careful selection of men, steady employment, and daily personal contact, Van Dyke is able to maintain high morale. On rainy days, the rough crew is put on finish jobs and in winter the men make some millwork and such items as standard basement windows. The firm operates one truck.

The senior Van Dyke is still active in the business although much of the work is done by Curtis whose civil engineering training was supplemented by many years of practical work experience in the business. The elder man confines himself mostly to sales work although both father and son can do each other's work.

Columbia University Research

Two housing research projects, one for a critical study of the concepts and methods of housing market analysis, and the second to provide information on the nature and effects of residential mobility are to be made by Columbia University under the Housing and Home Finance Agency. Raymond M. Foley, HHFA administrator announced recently.

Your nearest **LONG BELL** representative is your
BEST SOURCE for LUMBER



○ U. S. Sales Offices

Your requirements for lumber and lumber products of **DOUGLAS FIR, WEST COAST HEMLOCK, SOUTHERN PINE, PONDEROSA PINE, WHITE FIR, SOUTHERN HARDWOODS, OAK FLOORING, SASH and DOOR, and PRESERVATIVE TREATED POSTS, POLES and PILING**, can best be filled by your nearby Long-Bell Sales Representative. Ready to serve you, keeping in close contact with your needs, he represents one of America's largest lumber distributors.



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 W. G. Thun, Jr., R. E. Creel, 332 So. Michigan Ave.
 COLUMBUS 15, O., H. D. Jones, 16 East Broad St.
 DALLAS 9, TEX., A. W. Sharp, 3411 Cedar Springs
 DENVER 2, COLO., R. C. Hillman, 527 Exchange Bldg.
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 LOS ANGELES 14, CAL., H. F. Bowles, A. M. Boffner, 1709 West
 8th St.
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 Finney Temple Bldg.
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 EL PASO, TEX.

FT. LAUDERDALE, FLA.
 GRAND RAPIDS, MICH.
 INDIANAPOLIS, IND.
 LANSING, MICH.
 LIMA, O.
 LOUISVILLE, KY.

MEMPHIS, TENN.
 NEW CASTLE, PA.
 NEW ORLEANS, LA.
 PADUCAH, KY.
 ROSWELL, N. ME.
 SALT LAKE CITY, UTAH

SAN ANTONIO, TEX.
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 SAULT STE. MARIE, MICH.
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The Long Bell Lumber Company

ESTABLISHED 1875

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DIVISIONAL SALES OFFICES: Eastern Division, Kansas City, Missouri • Western Division, Longview, Washington

**Only 56¢
per month Extra
for
Gate City Awning Windows**



• It may add as little as \$100 to the selling price of the average home you build to install Gate City Awning Windows. Included in a 25-year mortgage, this comes to only 56¢ extra per month—a trifling amount for such outstanding beauty, comfort and convenience.

Buyers gladly pay 1 2/3¢ a day to have year-round ventilation; freedom from drafts; protection from rain; no-push, no-pull operation; easy cleaning from the floor. And just this one feature will help you sell your homes faster.

Gate City Awning Windows are economical to install. They are precision-fabricated at the factory. Even the glass and hardware are in place. You simply install and paint them. Toxic-treated for lifetime service. Lumite screens included.

PORCH AND BREEZEWAY ENCLOSURES

add extra rooms for the owner... extra dollars for yourself



See Sweet's Architectural Catalog for full information or write Gate City Sash & Door Co., Dept. AB-9, Fort Lauderdale, Florida



Gate City

Wood Awning Windows

Toxic-treated against rot-fungus-termites

Sound Ideas Make A Choice Home Development

When a builder takes on the job of building homes to sell on a rugged 80-acre area in a comparatively small town with little industry, he needs good ideas—and many of them. Belle Haven development in Manhattan, Kas., is a good example of how a builder with sound ideas converted a rocky, hilly, and otherwise almost useless area into one of the most talked-about spots in town. It is an example of how good land development, home design and construction ideas can surmount the natural obstacles of rocks and hills.

Sound ideas represented in the project have added up



FLOWER box is made of same stone as fireplace



APPEARANCE of greater expense is added to living room in this floor plan by opening it onto hallway and dining room area

to ready sales for the builder, Lloyd T. Johnson.

First good idea he had in regard to the project, Johnson says, was in realizing it requires an expert to get the best planning possible out of rugged land. At nearby Manhattan State College he obtained the help of their land planning director, who helped subdivide the land into 62 lots varying in size from 90x120 to 100x150 feet.

Trade and shelter magazines were used for home design ideas. All designs were picked according to how well they adapted themselves to lots. All completed homes in the project have large window areas which take advantage of the scenic view. In some cases, complete walls on one side of the houses are opened up with glass. All homes are completely different in appearance.

Most of the homes have basements, and with the exception of some which have roof trusses, they are conventionally framed. Homes with reinforced concrete slab floors have FHA-approved trusses, placed 2 feet O.C. Both asphalt tile and wood floors are used over concrete

(Continued on page 200)

Step Inside...

and see what **CURTIS**
means by **quality**



Quality is a word that is easy to use—but often hard to demonstrate. But in Curtis wood kitchen cabinet units, "quality" becomes a definite, tangible asset—not only for the kitchen planner, but for the owner as well. Here are some of the many features of sound construction and good design that give the home-owner more for his money in Curtis cabinets.



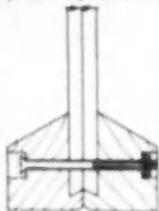
Strong and True

Illustrated on the right is a section of the union of two cases (front corner posts). The strong, space-saving construction of Curtis cabinets appeals to both home-owners and contractors.



Sound Drawer Construction

Drawers in Curtis cabinets are dovetailed at all four corners (A). Back, front and sides are plowed near their lower side, (B), the Curtis Prespine bottom panel is inserted in plow before sides are joined by dovetail.



Ample Toe Space

Note ample toe space at bottom of cabinets—two inches—to eliminate marring cabinet and scuffing of shoes. Beautifully styled hardware is furnished with cabinets, and they come painted two coats.

Curtis PRESPIKE

Doors and panels are made of Curtis PRESPIKE—a superior new Curtis wood product made exclusively for use in Curtis Woodwork. Prespine provides a beautiful paint surface—no grain raising or checking.



Curtis cabinets are made in 20 basic unit types and a total of 70 sizes to fit any size or shape of kitchen. Cabinets are designed to permit rapid installation. Let us give you full details about Curtis kitchen cabinet units, Curtis Woodwork and Silentite Windows. Mail the coupon!

Curtis makes a complete line of architectural woodwork for the modern home.
Make your next house "all Curtis."

1866
CURTIS
WOODWORK

Curtis Companies Service Bureau
48-9K Curtis Building
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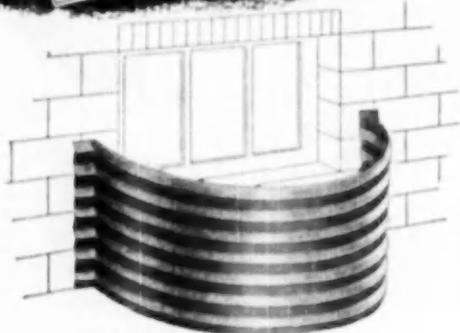
Gentlemen: Please send me literature on Curtis kitchen cabinets and other Curtis Woodwork.
I am () architect () contractor () prospective home builder () student. (Please check above).

Name.....

Address.....

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

**NEW
LOWER PRICED
USF WINDOW
WELL**



**NEW DEVELOPMENT
produces a
LOW COST CORRUGATED
WINDOW WELL!**

Buyers call it the *best quality low priced window well ever produced*—it's the new USF Standard Window Well!

A brand new, exclusive development of USF produces a streamline-corrugated, galvanized steel window well in a single, highly adaptable opening width with fully turned top and husky flanges that does a swell job at one-fourth less cost. If you don't have all the facts on this cost-saver and profit-builder . . . write today or see your distributor of USF Window Wells.



USF Custom Window Wells, for those who want the finest, heavy-duty quality and construction, are furnished in the full range of sizes and depths. Get the facts on both!



Sound Ideas . . .

(Continued from page 198)

slab floors. Where wood is used, short length 2x2's, 16 inches O.C., are placed over the slab to permit free air circulation under the wood flooring. These 2x2's are secured to the concrete slab with metal anchors, and ends are staggered to permit proper floor nailing.

Attractive design and good construction is an important sales aid to Johnson, but certain "extras" he is convinced, are just as important. Among these, offered with most homes, are door chimes, garbage disposers, attic fans, choice wall papers, post lanterns, small wood fences, fireplaces, large wardrobe closets, and plenty of ceramic tile in bathrooms.

"Even the cheapest wallpaper you buy is designed by a good artist," is Johnson's theory. "Anyone can apply

WOOD members placed diagonally from edge of overhang to face of wall add interesting architectural detail to front elevation of this Lloyd Johnson home



FLOOR plan below is of one of Johnson's higher cost homes in Belle Haven. Its picture windows take advantage of the surrounding view



paint." Mrs. Johnson, his wife, handles all interior decorating for the homes, and does a professional job of harmonizing background colors of wallpaper with color of wood used in interiors. Before decorating a home, she takes a sample of wallpaper, paint, carpeting of floor

(Continued on page 207)

**IMPORTANT
NEW PRODUCT
NEWS**

New Pre-Finished Weldwood Plywood Available in Low-Cost Narrow Panels

Easily Installed "PLANKWELD" Panels, $\frac{1}{4} \times 16\frac{1}{4} \times 8'$
Enable you to Include Wood-Paneled
Walls in Every Home You Build

Here is beautiful $\frac{1}{4}$ -inch hard-wood paneling that needs no finishing after installation. It is factory-finished to save you both

time and money and provide a beautiful, durable finish comparable to a custom job. Available in birch, oak and

other hardwoods. Plankweld is furnished $16\frac{1}{4}$ " wide, 8 feet long, and packaged 10 panels in a carcase grooved so that each panel slips into the next to form a continuous wall.

Special metal clips, used to secure Plankweld to the wall, eliminate face-nailing and can be fastened directly into new studs or old plaster.

Use for New Construction

Many large operative builders have been quick to appreciate Plankweld's low cost and ease of installation for new construction. It goes up fast, eliminates plastering, provides a popular sales feature and costs surprisingly little.

Use for Remodeling

Plankweld is also ideal for remodeling work. Home owners will be delighted with the finished job and low cost. The panels can be put up right over old battered walls of any kind. And after they're up they need no finishing. Just wipe up with a damp cloth and the job is done.

Visit your lumber dealer soon to see this versatile new material. You'll find scores of profitable uses for it.



Plankweld is easy to install and needs no finishing

SEND FOR FULL DETAILS OF

PLANKWELD[®]

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Manufactured and Distributed by
UNITED STATES PLYWOOD CORPORATION
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and

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THE BEST FOR LESS!



when you install a

Bilco

TRADE MARK

Copper-Steel CELLADOOR

Modern design, finest materials, top craftsmanship make the Celladoor vastly superior to ordinary, old-fashioned wooden basement doors. There's simply no finer door made . . . at any price!



SAVES YOU TIME LABOR, MONEY!

You can install the Celladoor in as little as ten minutes . . . as pleased builders everywhere can testify. And there's nothing to go wrong. No breakdowns, repairs, or maintenance for your customers.

SATISFIES YOUR CUSTOMERS KEEPS THEM SATISFIED



The Celladoor opens the way to new living pleasure! And it keeps giving pleasure for a lifetime. It's super-safe, foot-proof, weather-tight, fire-proof, and flatters every home. Bilco performance means happy customers . . . better business for you.

THE BILCO CO., 165 Hallock Ave., New Haven, Conn.

Please send me all the facts that prove the "best costs less" when I install Bilco Celladoors.

Company Name _____ Architect
 Address _____ Builder
 City _____ Zone _____ State _____ Dealer

Sound Ideas . . .

(Continued from page 200)

covering, and places them beside any interior fixtures to be used. One color is picked as a "theme" color, and this is surrounded by harmonizing colors. To make sure colors blend, she uses a color chart offered by Acme Paint Co.

"Out of at least a thousand people who have visited our project," Johnson says, "I have heard no more than two people register disapproval of our interior decorating." Wallpaper, he believes, is one of his best selling features.

With paved driveways, winding roads through scenic hills, and downtown Manhattan only a few minutes' drive away, the homes with two and three bedrooms sell for \$12,500 to \$20,500. Heat is supplied with 100,000 to 140,000 B.T.U. forced warm air furnaces.

MATERIALS AND EQUIPMENT—Armstrong Furnace Co. and American Radiator and Standard Sanitary Corp. furnaces; Black & Decker Mfg. Co. hand sanders; DeWalt, Inc., table saw; Briggs Mfg. Co. plumbing fixtures; Emerson Electric Mfg. Co. attic fans; General Electric Co. garbage disposers; Heatilator, Inc., fireplaces; Johns-Manville asbestos shingles; Kohler Co., bathroom fixtures; Nutone, Inc., door chimes; Sisal-Kraft Co., waterproof building paper; J. S. Thorn Co., metal windows.

Charts Can Save You Money

(Continued from page 113)

caulking, engineering, electric power, gas service, general expense, lot survey, plans, water, bath accessories, waterproofing.

We use this percentage breakdown on building material:

	Per Cent
Dimension lumber	32.70
Roof sheathing	10.50
Boxing, gyp. shgt.	3.25
Flooring—No. 1 PRO	9.50
3/8" red cedar siding	19.10
Shingles	4.00
Drywall and tape	10.95
Finish and miscellaneous items	6.00
	100.00

These percentage breakdowns enable us to quickly determine what an increase in any one item will do to our total cost. For instance, at the present time our building material cost, exclusive of masonry and land, is 27.66 per cent of our total cost. A 20 per cent increase in building material, therefore, means 5.53 per cent increase in our total cost. Since building material is our largest item, and the most fluctuating item, we break them down into percentages as shown above. This enables us to determine what effect an increase in any one item does to our building material estimate and, thus, to total estimated cost. For example, the original estimated cost on a certain plan may be \$8,000. Of this, 27.66 per cent equals \$2,212, or the total building material cost. If dimension lumber, which represents 32.7 per cent of the total building material cost, increases from \$100 per thousand to \$110 per thousand, or 10 per cent, then the 32.7 per cent increases to 35.97 per cent. By applying this factor of 35.97 per cent to our building material estimate, we immediately have our new cost of building material for this particular plan by adding the increase in dimension lumber. In other words, instead of either refiguring the entire cost of building material or picking out the dimension items to refigure, you simply apply the 10 per cent increase to the dimension lumber factor of 32.7 per cent, take the new factor of 35.97 per cent, and apply this to your original material estimate.

"I just solved eight buying problems ...with one call to Roddiscraft"



Bill... Please find the best source
for buying the following...
Plywood... top quality... hardwood
and Fir.

Flush Doors... both solid and
hollow core

Best Plastic Surfacing you can
find... in natural wood,
solid colors and patterns

Hard board... want to save
money on this job.

Plastic Enamel Wall Surfacing...
must have a quality tile board

Overhead Garage Doors
Fasteners... for that new fixture job

Glue

Also... pick up one of those
Roddiscraft Door Selectors...
they're great for showing customers
what we're talking about.



RODDISCRAFT HARDWOOD PLYWOOD—Wide variety of domestic and foreign woods. Douglas Fir Plywood.



RODDISCRAFT FLUSH VENEERED DOORS—Smooth finishes in a variety of woods.



GE TEXTOLITE—Ideal decorative surfacing. Placing patterns and solid colors.

GENUWOOD—Wood veneers combined with toughest of plastics.

HARDBOARD—Economical answer to hundreds of fabricating problems. Perfect surface for paint.

TYLAC plastic enamel wall covering. Four distinctive patterns, 18 lustrous tones.

RODDISCRAFT OVERHEAD GARAGE DOORS—Distinctive for beauty, convenience and strength.

TITE-JOINT FASTENER—Solves many manufacturing and repair problems. Provides tight joint under concrete pressure.

GLUE—Casein and Urea Resin Glue Powdered Cold Water Mix.

RODDISCRAFT DOOR SELECTOR—Show your customers exactly what the finished job will look like. Ten different wall treatments, ten different doors reproduced on thick enamel stock. First free. 15¢ each additional... available at nearest Roddiscraft warehouse.

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Your nearest Roddiscraft warehouse can simplify your buying with the wide variety of materials on hand ready for immediate delivery. You'll have the advantage of dealing with one company — one call will take care of all your needs.

Roddiscraft

RODDIS PLYWOOD CORPORATION, Marshfield, Wis.

GILSON Mixers.....

cost less to own
and operate



You save money with a Gilson mixer right from the start, for low initial cost — lowest on the market — is yours with this best-engineered machine that is packed with quality construction features that you know mean added years of service and precision mixing. You'll find an extra rugged all-steel frame, oversized engine, heavy duty ball bearings, steel

precision flame-cut gear teeth — everything you'd expect only in a power loading mixer. For these good reasons, and many more, thousands of Gilson mixers are being used today by contractors everywhere — 29 models to meet your needs. Write today for an informative, well illustrated bulletin and the name of the Gilson distributor in your community.

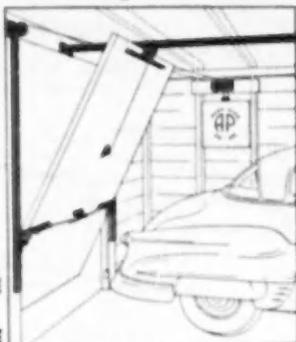
GILSON BROTHERS CO. Fredonia, Wisconsin

Manufacturers of Contractors Equipment Since 1911

ALLITH
50-50
PUSH-OVER

**GARAGE
DOOR
HARDWARE**

**Easy to Install...
Lasting Satisfaction**



Combine the expertly-designed Allith garage door hardware with your own or any standard door. Result... a rugged, easily-operated overhead door that gives full and lasting customer satisfaction.

Quickly 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.

ALLITH
PROUTY, INC
DANVILLE, ILLINOIS

Association News, cont'd

Herbert Lotz Awarded Training Course Certificate

In acknowledgement of his work as an instructor in the Retail Lumber Training Course, Herbert Lotz, of the Johns-Manville Company, was awarded a certificate of graduation



Herbert Lotz

from the Lumbermen's Short Course by the School of Commerce, University of Wisconsin, and the Wisconsin Retail Lumbermen's Association.

In making the presentation, F. H. Elwell, dean of the School of Commerce, said that the active participation of many top-flight instructors loaned by various firms was one of the contributing factors that made the Retail Lumbermen's Training School a success.

School of Modern Heating To Eliminate Rule-of-Thumb In Heating System Design

To eliminate the "rule-of-thumb" in heating design and installation, the Institute of Boiler and Radiator Manufacturers is sponsoring a school of modern heating in dozens of cities throughout the East, South and Midwest.

Begun in Springfield, Mass., the traveling school has been set up in metropolitan centers in 12 states. Instructor is Arthur L. Wales, field training director of the Institute.

R. E. Ferry, general manager of the Institute points out, "The design methods taught at the IBR school have been developed by men well-known for their contributions to the science of better heating.

"The IBR School should not be considered as being only for men who have recently come into the industry. Experienced men can benefit from instruction in cost-reducing designing and from new slants on selling."

The school provides intensive training for a three-day period. All working material including guides, floor plans and data sheets is gathered in a convenient binder so that the student has a complete file for future reference.

The school of modern heating will continue on the basis of one city a

(Continued on page 206)

CRANE

baseboard radiant heating



Uniform room comfort with Crane Baseboard Panels. Shown: Type "RC" Panel

for any home, new or remodeled



*Crane 16 Oil Fired Boiler
ideal for use with
Crane Baseboard Panels*

Even modest homes can now have the best in heating—uniform from floor to ceiling—with Crane Baseboard Panels. Ideal for modernizing. Complete planning freedom . . . valuable wall space and space below windows may be utilized.

Two types: "R" Panels for radiant heating; "RC", radiant and convection. Crane supplies the *complete heating system* . . . for hot water or steam . . . coal, coke, oil, or gas. Consult your Crane Branch or Crane Wholesaler.

CRANE

SEPTEMBER 1950

CRANE CO., GENERAL OFFICES:
836 S. MICHIGAN AVE., CHICAGO 5
PLUMBING AND HEATING •
VALVES • FITTINGS • PIPE

305

BUILD AT LOWER PRICES

BE MORE COMPETITIVE

MAKE YOUR OWN

- Sash—double hung and casement
- Trim—including base, shoe, crown and cove mold, window stop
- Sponials—and matching old style millwork
- Banded panel doors
- Window blinds
- Storm windows and screens
- Interior paneling
- Nosed stair treads
- Lipped cupboard doors
- Special shaped windows
- Drawer fronts—all made quickly and at little cost with a

Boice-Crane SHAPER

(Low investment—around \$100) plus a variety of professional type "Tri-Form" Shaper Cutters keep your men busy on all days.

Feed yourself from high mill charges. Save big money. Save hours spent in trips to the mill. Avoid long waits for special made sash and millwork. Investigate now!

You can't make commercial sash and doors without a properly powered shaper. The Boice-Crane No. 2100 Shaper is designed for 1710 r.p.m. high torque, high power motors up to 1½ H.P.

Shapers with 2000 r.p.m. low torque motors simply will not do a satisfactory job, as those who have tried it will testify.

The Boice-Crane Shaper has a more accurate, sensitive spindle, strong enough for cutters to 6-½" diameter. (Contrast with the 1" maximum of other makes with spindles under 1" diameter.) Makes longer tenons.

YOU CAN COPE AND SABBETT AT THE SAME TIME

and without a crib shaft. The tenon can be passed under the long swing cope cutter.



YOU GET DOUBLE THE WORK RANGE WITH A BOICE-CRANE SHAPER

Boice-Crane intermediate capacity power tools are of just the right size for setting up a mill in your own shop. A 10-inch saw—4-inch jointer combination, a drill press and mortiser and a 17-inch band saw can be had for less than \$700. That'll pay for themselves in no time and go on to make money for you for years to come.

Boice-Crane tools are sold through industrial supply distributors in most cities.

BOICE-CRANE COMPANY

924 Central Avenue • Toledo 6, Ohio

Please send FREE LITERATURE on Boice-Crane Shapers () New 14-page No. 10 catalog on complete line () Tri-Form Safety Cutters for Shapers

NAME _____
FIRM _____
STREET _____
CITY & STATE _____

Association News, cont'd

Houston NRLDA Conventioneers Plan Tour To Mexico City

A 9-day post-convention tour to Mexico City, beginning Friday night, October 13, from Houston, is on the agenda for members of the National Retail Lumber Dealers Association who care to make it, according to a news bulletin from the Lumbermen's Association of Texas.

As planned, highlights of the trip are as follows:

Conventioneers leave Houston via Southern Pacific lines at 11:40 P.M. . . . arrive San Antonio 6:15 A.M., Saturday, where an optional two-hour tour is suggested . . . leave San Antonio 12:05 P.M. via the Missouri Pacific for the Texas border, and arrive at Laredo at 4:20 P.M. . . . move across the International bridge to Mexico.

En route to Mexico City, Sunday, the convention party will ride over the Grand Central Plateau . . . have a short stay in San Luis Potosi, Queretaro and other little towns . . . Arrive Mexico City at 8:30 P.M.

Monday, a tour will be made of Mexico City . . . Tuesday, an excursion to the Shrine of Our Lady of Guadalupe, then to Pyramids of the Sun and Moon at San Juan Teotihuacan and to Monastery of Acolman . . . Wednesday, to Xochi-

milco, the Floating Gardens, then to Cuernavaca, resort of Cortes . . . Thursday, to Tascen, to see work of tin and silver craftsmen, then back to Mexico City. Leave Mexico City at 8:00 A.M. Saturday, October 21.

Memphis Mid-Year Summary Reveals Record Activities

In a mid-year summary published by the Home Builders Association of Memphis, Tenn., President D. T. Kimbrough, Jr., and the organization's officers and directors reveal that the volume of building activity in Memphis and Shelby County, Tenn., during the first six-month period indicates that all previous annual records will be shattered.

To June 30, an estimated 4,652 living units had been completed with approximately 1,600 homes under construction as compared with a total of 6,038 completed living units for the entire year of 1949. In the four-and-a-half postwar years, the association estimates that 84,000 persons, or 21 per cent of the population have been housed in new homes.

School of Modern Heating

(Continued from page 204)

week for an indefinite period. Students wishing to enroll in the school can obtain full information from the Institute of Boiler and Radiator Manufacturers, 60 East 42nd Street, New York 17.

We Apologize!

for our previous inability to accept the flood of orders for Lemco Series 62 Monumental Aluminum Awning Windows. To accommodate the increased demand, we have now established an additional modern one-floor plant with tripled production capacity especially equipped for the manufacture of aluminum windows.

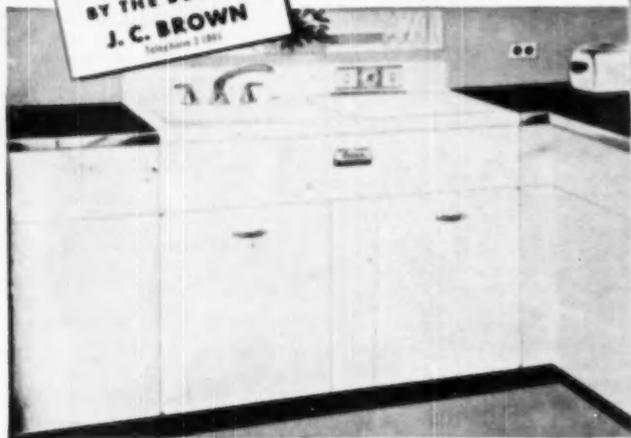
Write for catalogs describing Lemco Series 62 Monumental Aluminum Awning Windows, Panoramic Aluminum Awning Windows and Casement, Basement and Utility Windows in aluminum or steel

AMERICA'S OLDEST CASEMENT WINDOW MANUFACTURER

CROFT STEEL PRODUCTS, INC.
14 MARKET STREET - JAMESTOWN, N. Y.

FOR SALE
 BY THE BUYER
J. C. BROWN
 Telephone 1-1881

The Apex DISH-A-MATIC Electric Sink Model, combining sink and dishwasher in a beautiful, compact unit finished in white porcelain enamel with chrome-plated fixtures.



The SOLD sign goes up faster...
 when your homes are equipped with

Apex DISH-A-MATIC

The ONLY Automatic Dishwasher with
 the built-in electric hot water tank that SUPER-heats
 and keeps its water at pasteurizing 180°!

● Home buyers know the DISH-A-MATIC as the automatic dishwasher that SUPER-HEATS its own water. And you will be surprised how many are acquainted with the many other outstanding features of this automatic wonder that silently washes, rinses and dries a service for six, sparkling clean in 30 minutes or less. If you are not already employing this important aid to quicker, easier home sales... send coupon below for detailed specifications and special discounts or contact the Apex distributor near you.

The Peak of Quality for 37 Years

Apex HOUR-SAVING APPLIANCES



THE APEX ELECTRICAL MANUFACTURING COMPANY • CLEVELAND 10, OHIO

SEPTEMBER 1950



Apex DISH-A-MATIC Separate Cabinet for installations where a cabinet unit is more desirable.



Apex DISH-A-MATIC Drop-in Unit for simple installation in wood or metal counters.

HERE'S THE SECRET
 Only Apex guarantees super-hot 180° germ-killing water at all times. The secret is this separate, built-in electric hot water tank made of Muntz metal. Household water supply does not have to be boosted to dangerous temperature.



IT'S HERE NOW! America's finest disposer

No wiring required - the new Apex WASH-A-MATIC disposes of all food waste at the same time, including any kind of bones that can be passed through the drain opening. And wires can be fed in continuously while "Drain-Away Action" is pulverizing and flushing in one simple operation. Exclusive anti-gumming source-protection mechanism and hose wiring. Available with complete DISH-A-MATIC Electric Sink (above) or can be installed in any sink with standard drain.



THE APEX ELECTRICAL MANUFACTURING COMPANY
 Dept. AS-2, Cleveland 10, Ohio

Please send descriptive literature, detailed specifications, and information on special low prices on Apex DISH-A-MATIC Sinks.

Name _____
 Address _____
 City _____ County _____
 State _____

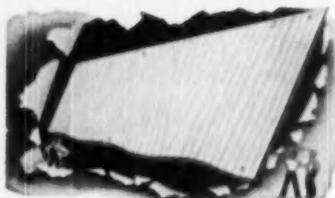
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NEW COLORS IN



MUSTANG

ASBESTOS SIDING SHINGLES



- ★ NATURAL WHITE
- ★ FOAM GREEN
- ★ DOVE GRAY
- ★ PALOMINO TAN

MUSTANG MERCHANDISING PLAN MAKES YOU MONEY

The four new colors of Mustang Asbestos Shingles are right for every style of architecture. Your customers will like the beauty, the charm of Mustang Asbestos Shingles.

Strong, tested advertising and merchandising helps back you when you sell Mustangs! These merchandising and advertising helps are yours for the asking. They are furnished at no charge to you.

WRITE TODAY Get the full facts about how you can make money selling Mustang Asbestos Siding for remodeling jobs, for new homes, for housing projects. Write for free descriptive folder and price list. Dealer inquiries welcome. 107

The ASBESTOS CO. of TEXAS
P. O. Box 1082 • Houston, Texas

"Peas-In-A-Pod" Housing Is On The Way Out

The home building industry is continuing its all-out war on monotonous design in housing.

The goal: An extensive variety of floor plans, exteriors, colors and designs in mass-produced homes. The housing development where every home is exactly the same, like peas-in-a-pod, is on the way out, reports the National Association of Home Builders.

The NAHB, together with the American Institute of Architects, is making arrangements to provide the field of small home design with the best architectural services available.

Builders and architects in ten key cities over the nation are sitting down together to work out the problems involved. These teams will promote the utilization of architectural services by merchant builders on a mutually satisfactory basis.

The teams are composed of the following, with builders listed first: St. Louis, Mo., J. Harvey Vatterott and Kenneth E. Wischmeyer; Buffalo, N. Y., Walter Johnson and John N. Highland, Jr.; Fort Worth, Texas, Joe Driscoll and Hubert H. Crane.

Miami, Thomas P. Coogan and Alfred B. Parker; Philadelphia and Washington, D. C., Clark Daniel and Howell B. Pennell; Kansas City, Mo., John C. Taylor and David B. Runnels; Boston, Clark Sundin and Hugh A. Stubbins, Jr.

Seattle, Albert Balch and Lawrence Wahlron; Chicago, H. Morton Robbins and L. Morgan Yost; Los Angeles, Paul L. Burkhard and an AIA representative to be named.

In addition to these teams, the following builders will work on the architect-builder promotion: Franklin L. Burns, of Denver; Emmanuel M. Spiegel, of Passaic, N. J.; Cy Williams, of Roslyn, L. I., N. Y.; Alan E. Brookbank, of Salt Lake City and W. P. (Bill) Atkinson, of Oklahoma City.

"Builders have been criticized for lack of good design in their mass produced homes," Thomas P. Coogan, NAHB president, said. "We want to improve our product. However, the standard architectural fee has been too high for the majority of builders."

"We are going to explore the entire field of architectural usage. We hope to educate architects, builders, bankers, government housing agencies and the home buying public to the wonderful possibilities for better housing in this field," Coogan added.

Both builders and architects feel the fee scale can be easily worked out on a local level provided adequate allowance in mortgage commitments is made for complete architectural services.

The architect-builder teams have been furnished with a proposed agenda. They will meet with other local architects and home builders for discussions of mutual problems. The entire AIA and NAHB committees will then meet in October at the Shamrock hotel in Houston.



4 REASONS

why you should use

HEATFORM*

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More Heat Delivery

—2—

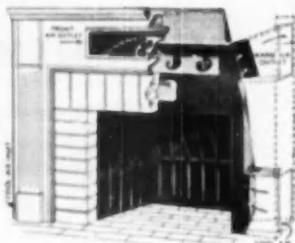
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—3—

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Add but little to the cost of the fireplace because it is a complete unit hearth to flue—firebox, throat, dome and throat damper—which replaces other materials necessary for the ordinary fireplace.



Front Cutaway View

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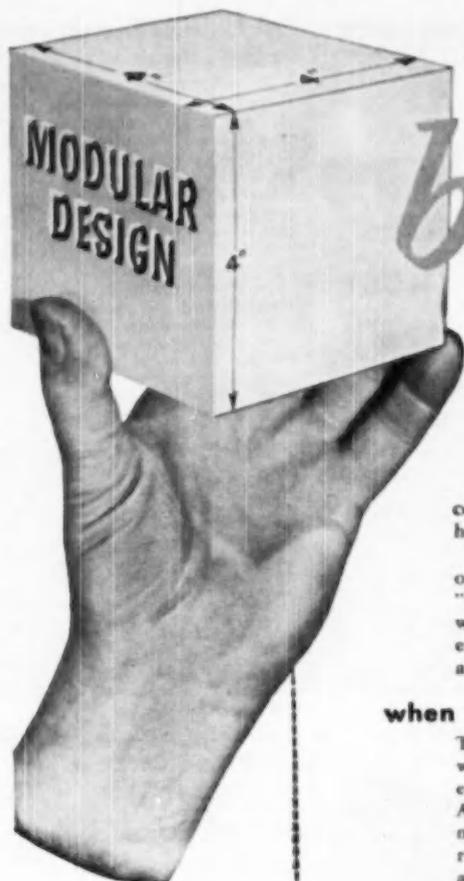
Our new Book of Prize Winning HEATFORM* Fireplace Designs is now ready. Building Material Dealers, Architects, Builders, Brick and Stone Masons, write for free copy TODAY.

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1708-C East 15th St. 601-N North Point Rd.
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the
biggest

little cost-saver in the building industry today!

This four-inch cube is your key to lower building costs. It saves cutting and trimming time ... reduces waste ... helps you give the owner more value for his building dollar.

It stands for *modular design*—the simple system of coordinating all plans and building materials on a four-inch "module," or unit of measurement. Modular design wood windows, frames and other building materials fit together easily and quickly, without wasteful cutting and trimming at the building site.

when you install windows, for example ...

The standard opening sizes take *any* design of modular-size wood window, whether plans call for two-light, four-light, eight-light, twelve-light, top divided or some other type. And the sizes are the same anywhere in the country. One national standard now replaces the ten or more local or regional standards. As a result, you save hours of cutting and fitting time on every job.

see your lumber dealer ...

He can give you additional information on modular design. Or, mail the coupon for our free folder.

FIVE POPULAR DESIGNS OF MODULAR SIZE WOOD WINDOWS

These five favorite window designs are all manufactured to fit any modular size window opening. Your lumber dealer can supply them all without delay.

Ask him today about these cost-cutting window values.



NATIONAL WOODWORK MANUFACTURERS ASSOCIATION

332 SOUTH MICHIGAN AVENUE • CHICAGO 4, ILLINOIS

This seal of approval identifies woodwork products which meet N.W.M.A. minimum standard of water repellent preservative treatment.



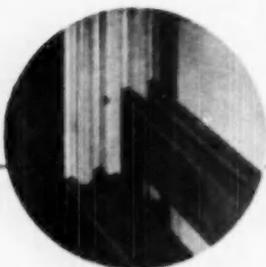
National Woodwork Manufacturers Assn.
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Chicago 4, Illinois

Gentlemen: Please send me your folder, "New Savings for Builders."

Name.....

Address.....

City.....



YOUR HOME BUYERS WANT

IN ONE UNIT { EFFORTLESS WINDOW OPERATION
COMPLETE WEATHER PROTECTION

Dura-Seal Combination Metal Weatherstrip and Sash Balance provides weather protection, free, easy window operation and window beauty... *all in one unit.* It eliminates old style pulleys, cords, weights and box frames. It is used with a plank frame which permits the use of narrow mullions and trim. It provides an outstanding visual sales feature for your homes!

ZEGERS *Dura-seal* COMBINATION METAL WEATHERSTRIP SASH BALANCE

Dura-seal aluminum housings contain life-time cadmium plated steel coil springs. These housings are attached to the jamb of a plank frame and fit into the grooves at both sides of the sash. The springs are completely enclosed.



- The back surface of the Dura-seal one-piece jamb members is concave. This concavity provides a desirable flexibility that assures smooth, easy operation during all atmospheric conditions.
- Dura-seal permits easy removal of the sash.
- One-piece jamb members are cut to the pitch of the sills, thus providing an attractive appearance.

FOR COMPLETE
INFORMATION ON

Dura-seal



ZEGERS INCORPORATED

8096 South Chicago Avenue, Chicago 17, Illinois

Association News, cont'd

Coogan

(Continued from page 27)

receives authority from Congress he will impose similar curbs on private credit and commercial building. It is my opinion that unless the war situation becomes extremely worse, or unless you make it necessary, we will not have additional controls.

"We are busy denying all sorts of rumors regarding cut-offs, limiting orders, curtailment by FHA and VA. Needless to say, these are not true. Do not believe rumors—we will keep you advised—do not repeat rumors.

"Your country needs your industry on a sound basis. We accept willingly any curtailment required for the war effort. We pledge ourselves and our membership to the aid of our country as it may be needed. Meanwhile we will continue to do our job as we have in the past."

Utah Adds 15 Members

A membership increase of 15 during the first six months of 1950 was recorded by the Utah Home Builders Association, bringing the total enrollment to 180.

Past Presidents Honored By Utah Association

The seven past presidents of the Utah Home Builders Association were guests of honor at the association's summer picnic, at which they were presented gold pins in recognition of service. Acting President A. P. Neilson made the awards. Former presidents receiving the pins were Alan E. Brockbank, Alex G. Adamson, Howard J. Layton, Edward J. Holmes, C. Taylor Burton, Elbert G. Adamson and B. Luc Bettilyon.

The picnic entertainment program was planned by the Ladies' Auxiliary and included musical numbers and a barbecue supper. Nick Papanikolas, first vice president, was chairman of the party.

Steel Cabinet Institute Names New Officers

Elected president of the Steel Kitchen Cabinet Institute at its recent annual meeting in Cleveland was E. E. Brey, assistant to the president of the Acme Metal Products Corp., Dover, N. J. Arthur J. Tuscany of Cleveland was named Institute executive secretary.

Other new officers are: vice president, M. M. Miller, Miller Metal Products Co., Baltimore; directors, J. Lewis Palley, Palley Manufacturing Co., Pittsburgh; Charles E. Howes, Berger Manufacturing Division, Republic Steel Corp., Canton, Ohio; and H. G. Knuth, Lyon Metal Products, Inc., Aurora, Ill.



Bostwick METAL LATH AND ACCESSORIES

● Bostwick's contractor and dealer friends order continually from its Catalogs, many since 1890, when the company was founded. Now, in 1950, you'll find its latest Catalog the best ever! It tells you what you want to know about Bostwick lath, corner bead, and accessories. Don't miss seeing your copy. Send for your 1950 Catalog today.

THE BOSTWICK STEEL LATH COMPANY
103 HEATON AVENUE - NILES, OHIO



A Modern Rambler
with
Special Appeal for Today's Market

Builders who seek practical small homes that follow approved trends will find great value in this modern ranch type rambler.

This is the latest design to be added to the scores of other homes in the Weyerhaeuser 4-Square Home Building Service. It is available for your study at the office of your 4-Square Lumber Dealer.

Every detail has been carefully worked out . . . complete working drawings . . . material lists . . . easy estimating forms . . . together with a folder showing elevation, floor plan and an alternate design without basement.

This material is ready for your use . . . it places at your disposal a modern rambler developed by architects who specialize in small home design.

See your 4-Square Dealer . . . ask to see this design . . . at the same time study the many other homes in his 4-Square Home Building Service . . . all architect-designed and Weyerhaeuser-engineered . . . all complete with blueprints and material lists.

Busy builders find in this Service a wealth of helpful, practical designs suitable for custom building or community projects. You will find great home values to feature and to sell.

Weyerhaeuser

4-SQUARE LUMBER AND SERVICES

WEYERHAEUSER SALES COMPANY, ST. PAUL 1, MINN.

**Build for Greater Value with the
4-SQUARE BUILDING SERVICES**



Easy's the electric finisher with genuine reciprocation action. Duplicates the craftsman's natural back-and-forth motion of hand block sanding and rubbing. STRAIGHT-LINE action sands up to moldings. Does not sand cross grain, cut swirls, eye wipers or other hard to cover abrasive patterns. NO HAND CLEAN UP WHEN YOU USE AN EASY.

NEW MODEL DP:



- FASTER CUTTING
- POSITIVE DRIVE
- VELVET SMOOTHNESS and a host of other new features.

Plus EASY'S REPUTATION FOR TROUBLE-FREE LOW COST MAINTENANCE

Call your jobber or dealer or write for bulletin.



DETROIT SURFACING MACHINE COMPANY

7458 W. DAVISON • DETROIT 4, MICH.

45% MORE METAL HEAT-RADIATING SURFACES AT NO EXTRA COST

with the exclusive **Radiant Blades** in

Majestic CIRCULATOR FIREPLACES



REAR CUTAWAY

Note wide *Radiant Blades* within the heating chamber. Solidly welded to firebox, these metal fins boost heat-radiating surfaces and guide air over unit's hottest area.

Build a "heat bonus" into any home, easily and at low cost, by fitting masonry around this all-inclusive fireplace core. It's properly proportioned to work perfectly! Saves labor, materials. Send for details.



- FIT ANY MANTEL
- WILL NOT SMOKE

The Majestic Co.

300-B Eric St., Huntington, Ind.

Also a complete line of Outdoor Fireplace Units. Write today

Combination Heating Method Proves Effective For Automobile Dealer

A heating system which combines warm air radiant heating with a direct-fired convection method has been installed in the East Side branch of the Edwards Motor Co., Milwaukee, Dodge-Plymouth dealers. A feature of the system is that it is designed to

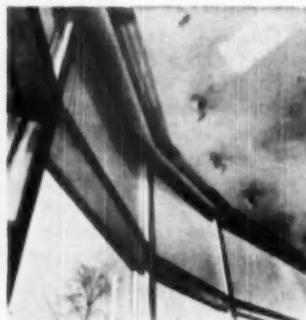


EXTERIOR of East Milwaukee branch sales and service center of Edwards Motor Co.

prevent display windows from fogging during cold weather.

The entire ceiling of the Edwards showroom has been constructed to form, in effect, a chamber for heated air. A 1/2-inch wide slot has been cut around the perimeter of the ceiling. Warm air is forced down from the slot and covers the face of the window, this having the double effect of minimizing moisture condensation (fogging) on the glass and reducing heat losses.

One direct-fired oil heater takes care of the heating requirements for



CLOSE-UP shows small slot opening around perimeter of false ceiling, from which warm air is forced downward to prevent fogging of windows and to minimize heat loss.

the entire showroom. The heater, a Dravo "Counterflo," manufactured by the Dravo Corp., Pittsburgh, has an output of 750,000 B.T.U. per hour. It is located in a small room above the employees locker room in the building's service area.

Warm air is forced from the heater through a large sheet metal duct and into the space between the false ceiling and roof of the showroom. As

(Continued on page 214)

Every Home and Business is a Prospect for

Johns-Manville CEILING PANELS

You, too, can make more money with this J-M Insulating Board Product!

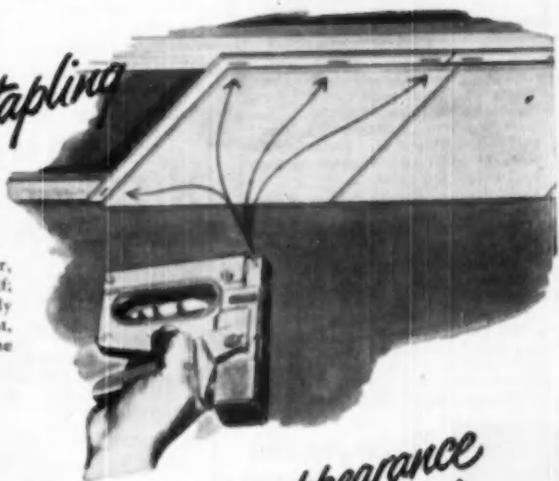


Application is easy

• J-M Decorative Ceiling Panels are easily and quickly applied on new or existing construction. All you need to do is install furring strips at right angles to ceiling joists, and nail or staple the Panels in place. Detailed instructions come with each carton.

You can save time by stapling

• By using a trigger-type automatic stapler, you can cut application time by one-half, and tests show that staples hold as securely as nails. Thanks to the J-M Lightning Joint, all staples or nails are concealed in the finished job.



Attractive appearance sells additional jobs

• Panels come pre-decorated in ivory or white, and all have the durable Glazecut finish that is smoother, harder, and more beautiful than ever. Your customers will be delighted with the new and attractive ceiling. Without fuss or muss, the room is ready for use in a matter of hours. One job sells another—and the potential market is unlimited.

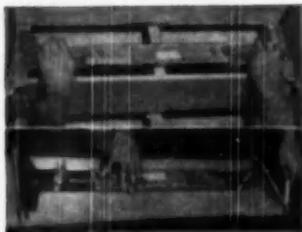
Send for free Instruction Sheets and full-color brochure, IS-30A. Write Johns-Manville, Box 290, New York 16, N. Y.

JOHNS-MANVILLE
JM
PRODUCTS

SEPTEMBER 1950

213

Save HALF Your Time BUILDING STAIRCASES



Above—Measure tread or rise in 10 seconds.
Below—Mark board with gauge for perfect fit.

ELIASON STAIR GAUGE

in 10 seconds gives you BOTH correct length and angle of stair treads, risers, closet shelves, etc., ready to mark board. Each end pivots and locks at any LENGTH OR ANGLE, automatically Adjustable from 20° up. Saves a day or more, increases your profits \$20 or MORE on each staircase. Fully guaranteed. Circular on request.

Only \$12.95 cash with order,
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ELIASON TOOL CO.

2119 E. 56th St., Minneapolis 17, Minn.
Dealers and Agents Write Us

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SAWHORSE BRACKETS

SET UP OR TAKE DOWN
WITHOUT NAILS OR BOLTS
2' x 4' FOR LEGS



2' x 4', 6', 8', 10',
and 12'
FOR CROSS BAR

Timesaver for contractors, builders,
painters, paper hangers.

COLORFUL COUNTER DISPLAY PACKAGE SELLS



\$1.50 Display it on your counter. Retail \$1.50. Slightly higher in West. Order from your jobber or direct from us.

**GRAND HAVEN
STAMPED PRODUCTS
CO.**
GRAND HAVEN, MICH.

Garage Door Panels Permit Choice of Decoration

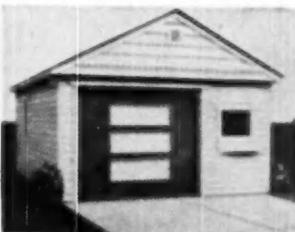
Flat and plain panels, which permit choice of design through application of simple moldings, are a feature of the Crawford Marvel-Lift Stylist, an



APPLYING moldings to "Stylist" door

upward-acting sectional garage door. The panels are made from Southern hardwoods with a patented hollow core. The door is manufactured by the Crawford Door Co., Detroit, Mich.

After the moldings are applied any desired color scheme may be used. In many cases the work of applying the moldings and painting the door can be done by the home owner.



FINISHED job, with door painted to emphasize the decorative effect of the panels

Combination Heating ...

(Continued from page 214)

with warm air the entry of cold air when the doors are opened.

Another heater is arranged to perform several importance functions. From one of its discharge nozzles a duct is directed toward a wheel alignment pit three feet deep. The service superintendent's office is heated through another nozzle, a third one blasts warm air along the continuous steel sash windows and the fourth forces air diagonally across the building to an area where snow or ice covered cars are parked for thawing before being serviced.

The building and heating system were designed by V. K. Boynton, Milwaukee consulting engineer.

HOW TO MAKE ACCURATE ESTIMATES



NEW REVISED

TAMBLIN BUILDING LABOR CALCULATOR

You, too, can make accurate estimates. Forty years of on the job cost analysis has produced the factors given in the Tamblin Building Labor Calculator. Use these factors and make your estimate right!

HOW TO USE THE TAMBLIN BUILDING LABOR CALCULATOR ... simple multiplication of figures

To figure the cost of laying 8" x 8" x 16" cedar block analyze the cost of 100 square feet as follows: (Wage rates and material prices assumed.)

Item	Rate	Cost
113 Pcs. 8" x 8" x 16" cedar block	@ 24c	\$27.12
4.4 C. F. Mortar	@ 45c	1.98
Total Material Cost		\$29.10
4.0 Hrs. Mason	@ \$3.00	\$12.00
4.0 Hrs. Trowler	@ 1.75	7.00
4 Hrs. Foreman	@ 3.50	14.00
Total Labor Cost		\$33.00

Or \$66.00 per square foot for material—and \$33.00 per square foot for labor.
Figuring for all the trades is as easy as this example—and accurate!

WHAT CONTRACTORS SAY ABOUT THE TAMBLIN SYSTEM

"I think it is the best system I have seen."

"...just the thing I wanted..."

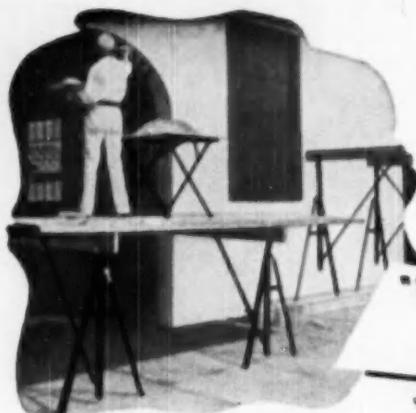
"...I want to congratulate you upon an excellent piece of work."

THE TAMBLIN SYSTEM
1115 So. Pearl St., A-45, Denver, Colo.

Run the Tamblin Building Labor Calculator on free 10-day trial. At the end of 10 days I will return it and no charge for \$10.00.

**FREE EXAMINATION
OFFER**

Name _____
Address _____
City _____ State _____



DOLLAR SAVERS for Many Jobs

**"TROUBLE SAVER"
ADJUSTABLE
STEEL TRESTLES**

Details of the quickly adjustable "Trouble Saver" Steel Trestles — made in eight handy sizes.

No tools, no triggers, no gadgets — only one easy, positive adjustment to make.

Your men will spend less time in setting up and moving scaffolds — more time in actual work.

Made of carbon steel — will not bend. Each trestle will support a ton with safety.

Write for Catalog M — Complete information on all "Trouble Saver" scaffolding accessories.

THE STEEL SCAFFOLDING CO., Inc.

846 Humboldt Street

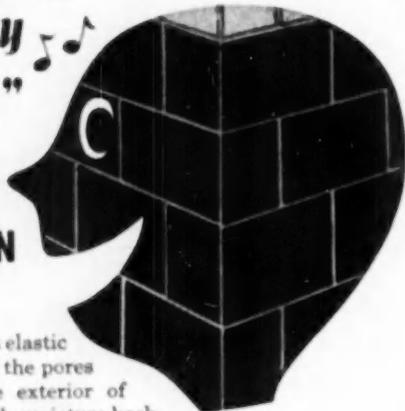
Dept. AS

Brooklyn 22, New York

Telephone: EVergreen 3-3310

Manufacturers of
"Trouble Savers" since 1913

♪ "How Dry
I Am!" ♪
WITH
**CABOT'S
FOUNDATION
COATING**



This black bituminous elastic coating fills and seals the pores when applied to the exterior of foundation walls. Holds moisture back . . . protects cellars and below-grade masonry from the weakening effects of water seepage. A coal-tar product . . . therefore repels termites. Inexpensive . . . easy to apply.

SAMUEL CABOT, INC., 951 Oliver Building, Boston 9, Mass.

I'd like to know more about
Cabot's Foundation Coating.
Please send me FREE sample and
complete information.

NAME _____

ADDRESS _____

CITY _____

STATE _____

SAMUEL CABOT, INC.

Medusa's President Honored

J. R. John, president of the Medusa Portland Cement Co., Cleveland, was recently honored by the portland cement industry on occasion of his 80th birthday and completion of 52 years of service in the cement industry. Seventy-seven members of the industry in the United States and Canada gathered in his honor for luncheon, an afternoon of recreation and a banquet. Presentations were made commemorating the gathering. John started working at the coal mines at the age of 10, and in 1898 joined the Lehigh Portland Cement Co. Since that time he has been associated with several different cement companies, becoming president of Medusa at the time of the merger forming that company.

Building Officials Publish Performance Type Code

A "performance type" building code prepared by the Building Officials Conference of America, Inc., has been published in abridged form for national use by communities which are principally residential in character including the usual civic, commercial and educational buildings essential to community life.

The comprehensive Basic Code from which the abridgment was made is now on the press.

Aside from the code's suitability for adoption in all parts of the country, its feature is that it employs performance requirements rather than detail specifications. The code accepts all recognized standards of construction and specifications of material of authoritative technical agencies.

The Abridged Building Code in its first printed edition is now available from the Building Officials Foundation, 51 East 42nd Street, New York 17.

Education for Tenants

The "Code of Co-operative Conduct for Apartment House Dwellers," a public relations brochure for apartment house owners to distribute to their tenants, has been prepared by Tyler Kay, Inc., advertising agency at 775 Main Street, Buffalo 3, N. Y.

This pamphlet contains 26 suggestions for tenants to follow on how to act in apartments that will contribute to low maintenance, more privacy and better relations with associates.

linoleum underlay drive screws



To make your linoleum underlays hold tightly and lay flat permanently, secure them with Hassall linoleum underlay drive screws. They are spiral-threaded and cement-coated for maximum holding power. Heads are flat countersunk type. Size: $1\frac{1}{4}$ " x #3 ga. State quantity when writing for prices to:

JOHN HASSALL, INC.

186 Clay Street
Brooklyn 22, N. Y.
Established 1850



SEAL-ALL CLIPS



Actual view
of Seal-All Clip

A simple sturdy clip designed to interlock shingle sections and prevent raising of asphalt shingle tabs. The perfect clip for hexagonals, 3 in 1 strips and individuals laidup Dutch Lap method.

- Made of solid copper wire—pliable yet strong enough to anchor single sections.
- Cannot rust out.
- Hammer is only tool necessary.
- Easy to handle.
- Beauty of roof unmarred.
- Perfect on repair jobs to correct leaky, unsightly roofs
- Millions in use since 1935.

BUILDERS AND DEALERS! For complete information and free samples, write today.

SEAL-ALL CLIP COMPANY

BOX 3028

FLINT 1, MICH.

SEPTEMBER 1950

Consolidated Machinery Announces New Comet Cub Multi-Purpose Tool

The "Comet Cub" tool, recently introduced by the Consolidated Machinery and Supply Company of Los Angeles, will crosscut, rip, bevel, miter, compound miter, trim, bore, carve, rout, plane, shape dado, plough, bull, sand, turn and many other woodworking jobs—all with only



ROUTING with the versatile Comet Cub may be done free hand, against the shaper fence or with a template. Foot-operated, the router table can be accurately set for depth of cut with special micrometer depth-adjuster

minor resetting. Its two-speed motor unit provides the correct speed for each job.

The new tool incorporates an overhead retractable radial saw arm, mounted on lifetime lubricated ball bearings, that moves with the saw and provides an unobstructed view of



MORTISE and tenon joints can be made in front or behind table fence of Comet Cub

the work at all times. It is powered by a 110-volt, three-quarter horsepower duplex drive motor, with one shaft that turns at 12,500 r.p.m. for smooth routing, shaping and finish

(Continued on page 218)

Contractors!

This is Profitable
Business For You!



Resurface Worn,
Dangerous Floors
Quickly $1\frac{1}{2}$ " With



At Savings Up to 50%

Ideal for warehouse floors, loading docks, walks, platforms—easily installed over wood, concrete or composition floors—does not wear either. No tools to buy. No heating. Normal curing time 36 hours.

Customers often ask name of Contractor who will install Resurfacer and other Tufcrete products. If you can see more business, send coupon for detailed information and prices.

TUFCRETE *Company, Inc.*

552 Teasdale Bldg. Des Moines 9, Iowa

ATTACH TO YOUR LETTER HEAD AND MAIL

Please send complete information about your Resurfacer preparation to Contractor.

Name

Business

Address

City

State

Zip

8

Make \$20 to \$30 a Week EXTRA MONEY!

With the high prices of food, clothing and everything else, just think what you could do with extra money every week! Turn your spare time into CASH—sharpening saws with a Foley Automatic Saw Filer pays up to \$2 or \$3 an hour. Start in your basement or garage—no experience necessary. "The first saw I sharpened with my Foley Filer came out 100%," writes Clarence E. Parsons. No cravasing—"I advertised in our local paper and got in 93 saws," says M. L. Thompson. With a Foley you can file all hand saws, also band and cross-cut circular saws.

FREE BOOK Shows How to Start

It explains how you can get business from home owners, farmers, carpenters, schools, etc. It tells you how to get work from 20 to 30 miles away!—says Charles G. Smith. Free Book "Independence After 40" tells just how to start. Send coupon today—no salesman will call.



UP TO \$30
PER HOUR

Send Coupon for FREE BOOK

FOLEY MANUFACTURING CO.
924-O Foley Bldg., Minneapolis 18, Minn.
Send Free Book "INDEPENDENCE AFTER 40"
Name _____
Address _____

Savings Associations Top Previous Loan Records

All previous records on mortgage loans to build new houses were shattered in the first four months of 1950 by savings associations, it was recently disclosed by Henry A. Bubb, president of the United States Savings and Loan League.

He estimated that a total of 71,150 loans to finance the construction of new homes had been closed by the savings institutions during this period. This represented a rise of 75 per cent from 40,750 loans on new construction for the same months last year.

Dollar volume of the new construction financing for the first four months amounted to \$498,000,000 compared with \$273,000,000 in the same 1949 months.

The volume of financing for the purchase of existing homes also turned upward, both in number and dollar amount, although the increases registered in these fields were not as substantial as for new construction lending.

Statistics released by the United States Savings and Loan League revealed that the 91,070 loans to finance the purchase of existing houses represented a 36 per cent gain when compared with the 66,800 loans for

the corresponding 1949 four-month period.

The loans on existing homes amounted to \$582,000,000 for the four months as against \$401,000,000 for the same period a year ago.

Consolidated Machinery

(Continued from page 217)

cutting and a second shaft that turns at 7200 r.p.m. for clean sawing and other slower speed operations.

Sturdily built, the Comet Cub has a one-piece cast frame mounted on a heavy pressed steel table; a surface-ground router-shaper table with micrometer depth adjustment and a foot-operated raising device.

Accessories available include a boring table; adjustable router-shaper table; lathe; shaper; fences; power take-off; sanding table; miter gauge; buffing, grinding and wire wheels; adjustable dado head; and a complete collection of cutting blades and heads for every woodworking purpose.

Because of its rugged construction and versatility, the Comet Cub is an ideal industrial tool in the manufacture of furniture and in cabinet making.

Here's the amazing Calcinator disposal unit . . . AT NEW LOW COST!

CALCINATOR
Gets rid of ALL GARBAGE
—ALL BURNABLE TRASH!

- ★ NO SEWER PROBLEMS!
- ★ TAKES ALL BONES AND STRINGY VEGETABLES!
- ★ INSTALLED ANYWHERE ON MANUFACTURED, MIXED OR L. P. GAS, OR ELECTRICITY!
- ★ COMPLETELY AUTOMATIC!

Don't build grief into your homes with a disposal unit that won't do a complete job, may cause sewer or septic tank trouble. Assure lasting satisfaction with Calcinator—the only completely automatic unit that disposes of all garbage completely! More space in kitchen, basement or utility room, too—Calcinator disposes of all burnable trash, too!



SEND FOR COMPLETE INFORMATION, SPECIFICATIONS, NEW LOW PRICE, AT NO OBLIGATION—

CALCINATOR DIVISION

VALLEY WELDING & BOILER CO.
DEPT. 68 - BAY CITY, MICH.

MAKE Extra Money

with the

WALLACE
No. 1
RADIAL SAW



Portable — powerful — accurate. Saves from \$200 to \$400 on small home jobs. Saws rafters without marking or handling the material twice—faster than you can lay them out!

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Air Conditioning And Building Design

By *F. Horschamp*

Chief Engineer, Anometat Corporation of America

THE DESIGN of the air conditioning system starts with the structure for which it is intended. It is useless to produce a given set of atmospheric conditions if the building will not hold them.

A maximum resistance to heat transmission is therefore the first requirement for a successfully air conditioned building. No less important are sufficient and favorably located areas for the air conditioning equipment as well as sufficient clearances for the ducts.

The machine room should be situated near the center of the area to be served, to keep the duct system as simple and compact as possible. Sufficient space for equipment and



ASPIRATING air diffuser is combined with light in this home

ducts permits better maintenance and cleaning of equipment which is of the greatest importance for the proper functioning of the system.

Air conditioning requirements may well influence the design and size and shape of the rooms. Close cooperation between architect and air conditioning engineer is therefore an essential factor in creating a satisfactory air conditioning installation.

Many air conditioning installations have been designed which sacrifice comfort and operating economy to low initial cost. This practice can not be condemned too harshly, because the industry is in a position to satisfy every sensible demand for proper control of indoor conditions. If air conditioning is deemed essential for any building, the design should not suffer because someone wants to save money in the wrong place. Regardless of the type of equipment and the system selected, air conditioning should be planned in such a manner that a comfortable atmosphere is produced within the building, regardless of temporary fluctuations of outside conditions.

In determining the cooling load, the variable nature of

(Continued on page 222)



Larch lumber as manufactured by member mills of the Western Pine Association, is becoming more and more popular. Everywhere wholesalers, dealers and builders are finding Larch profitable to handle, easy to sell and excellent to use.

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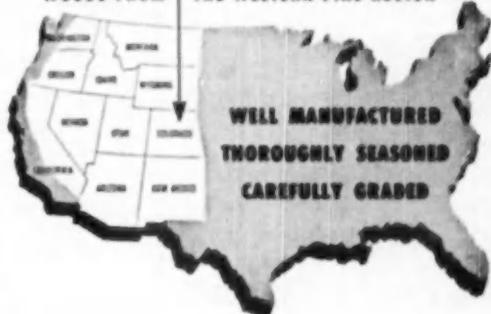
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Ponderosa Pine, Sugar Pine

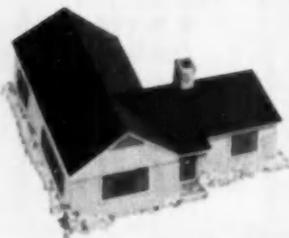
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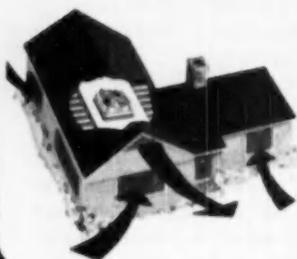
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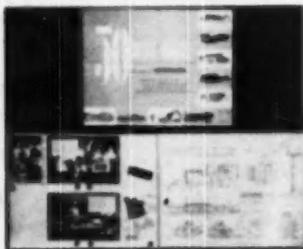
Write for complete installation manual. "How to Cool for Comfort" Hunter Fan and Ventilating Co. 381 S. Front St., Memphis, Tenn.

Hunter
PACKAGE ATTIC FANS

230

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Recognizing the importance of the builder in helping prospective home owners determine the kind and type of house they wish to build, Good Housekeeping has brought out a striking



book of sketch-plans of the 50 best and most popular houses from the pages of the magazine.

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houses and includes as well the illustrations and descriptions as published. They are bound together in a rugged plastic cover, which will stand up under hard use.

The collection provides a remarkable cross section of the best and most popular modern homes by the nation's foremost architects. They were selected by Joseph B. Mason, Building Editor, on the basis of hundreds of thousands of sales and the reactions of consumers to the plans as published in the magazine. Models of many of the homes were built and displayed in department stores, furnishing further check on popular acceptance.

Both low and medium cost houses of every popular type are included: ranch, one and two story colonial, houses for narrow lots, expansible houses, contemporary designs, Cape Cod. Price, \$5.00. The book can be obtained from Simmons-Boardman Book Department, or ordered direct from Good Housekeeping Bulletin Service, 57th St. at 8th Ave., New York 19, New York.

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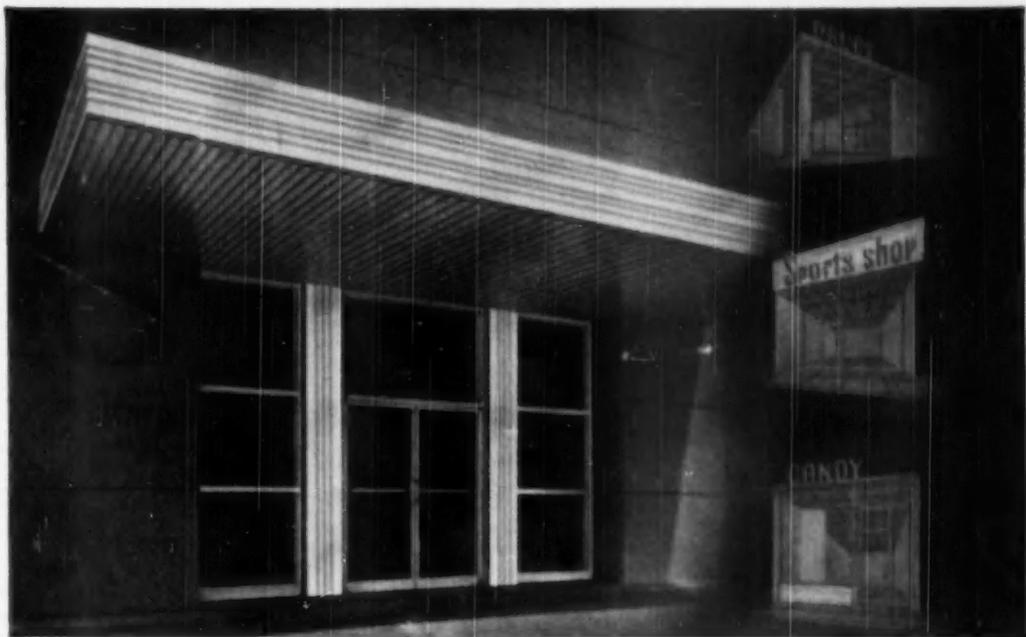
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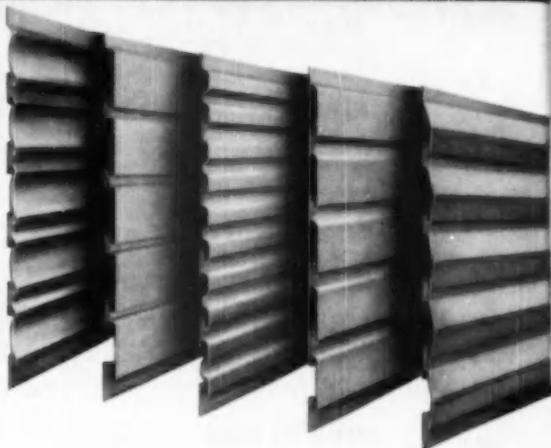
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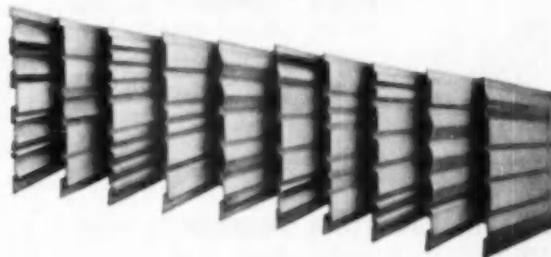
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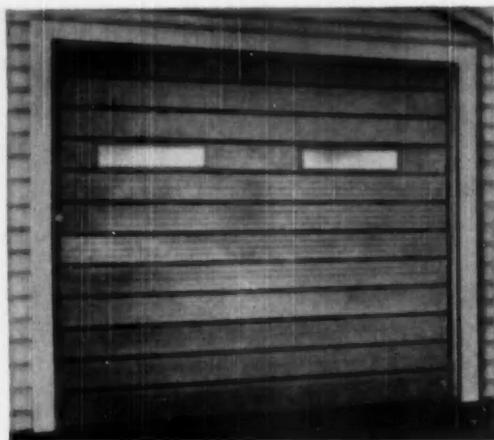
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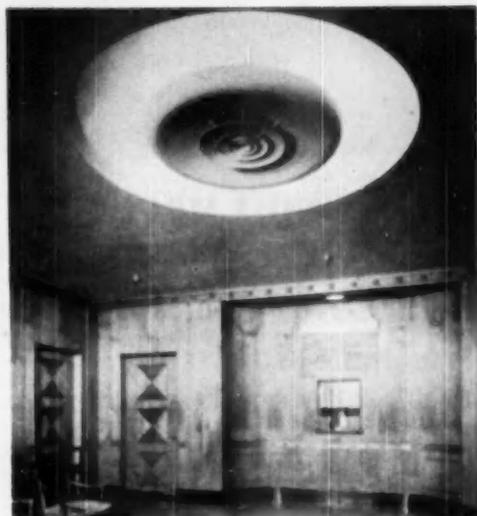
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Air Conditioning ...

(Continued from page 219)

the contributing load components should always be kept in mind. The heat from solar radiation, for example, varies with the time of day, with the direction each wall or window faces, and with the day or season of the year. In building with east and west exposure this heat load varies, of course, considerably in accordance with the movement of the sun effect across the building and may constitute a large percentage of temporary heat which must be taken care of by the cooling equipment. In order to adjust the cooling of various spaces or parts of the same space to varying solar heat reception, it is customary to divide the air conditioning systems into sections (zones). It is then possible to shift a portion of the cooling effect from one room to another as the sun progresses around the building. Complete zoning is a problem in engineering economics; however, good zoning contributes essentially to the success of an air conditioning system.

Adequate capacity of the dehumidifier is most essential for a comfort air conditioning system so that both temperature and humidity may be held at a definite point regard-

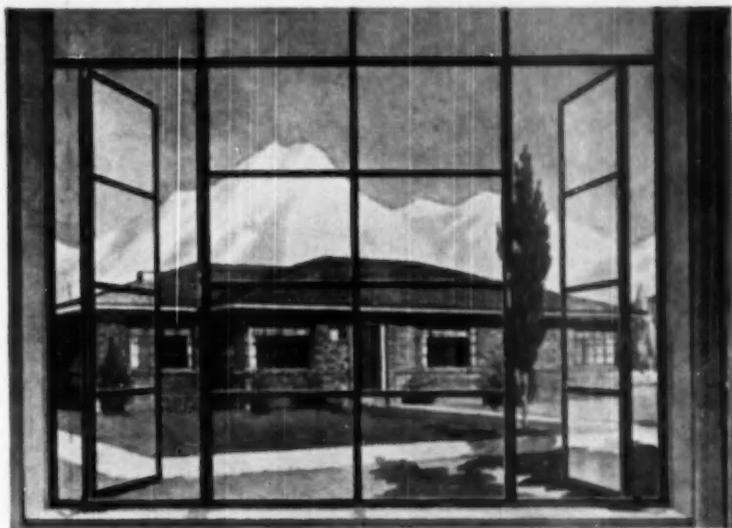


ATTRACTIVE architectural effect is achieved in Popsodent Co. building in Chicago, by using diffuser recessed in ceiling

less of outside weather conditions. There are now several methods of dehumidification available which are equally practical from the viewpoint of engineering performance for most comfort air conditioning installations, provided that they are correctly designed. The choice between the different systems will not only depend on the first cost of the equipment, its operation and its maintenance costs, but also to a large degree depend on the availability and cost of prime energy sources, the demand for space and the degree of control required. There have been interesting installations of chemical dehumidification systems in buildings, but most installations use the conventional spray-type or surface-type dehumidifiers. In spray-type dehumidifiers with two banks of sprays, the air temperature leaving the apparatus is practically identical with the temperature of the leaving water, the difference never exceeding one degree in a properly designed apparatus. If the dehumidifier has sufficient length of spray chamber and density of spray, and the arrangement of the nozzles is satisfactory, the leaving air

(Continued on page 225)

Lupton Residence
Casement installa-
tion in Hoffmar
Terrace, Phoenix,
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Ralph Haver.



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This bright, cheerful house achieves its effect with a striking corner window arrangement. First impression—delightful. Lasting impression—satisfaction with a trim, modern home.

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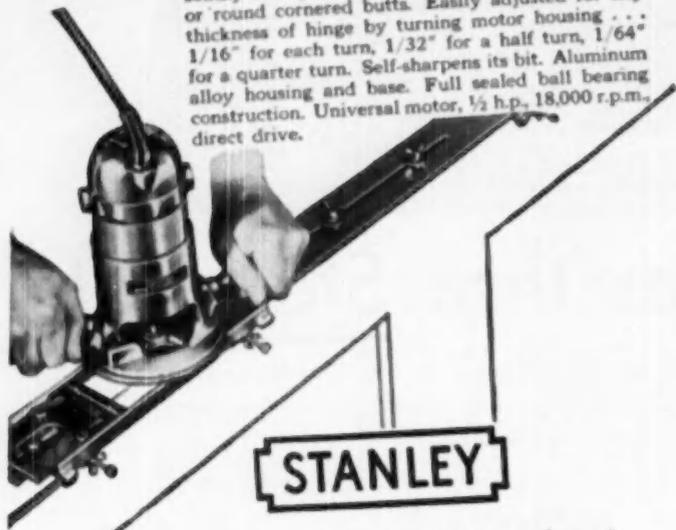
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W7 Safety Saw. Heavy duty for fast cutting. Duplex handle and independent trigger switches for easy handling in all positions. Saw teeth covered at all times. Simple adjustment for depth of cut (3" to 2 1/2") bevel cuts up to 1 1/2" depth at 45°.



J4A Power Plane. 16 h.p., 18,000 r.p.m., will plane any width edge up to 2 1/2" straight or bevel cuts up to 45°. Spiral cutter leaves smooth, waveless surface even against grain. Grinds own cutter. Bracket, supplied, converts J4A to bench plane.

First Housing Project Under Sec. 213, Title II Being Built in Illinois

What is believed to be the first cooperative housing project in the country under Section 213, Title II, of the National Housing Act is being built in Evanston, Ill., Chicago suburb, by Leonard R. McDonald of the Mid-States Development Co., Chicago. It will consist of 52 single-family units.

McDonald, chairman of the Chicago Metropolitan Home Builders Association's committee on housing redevelopment, and John F. McCarthy, association attorney, have made a thorough study of the possibilities of the Act, including two trips to Washington to work out procedures with government officials. Features of the program, which was enacted as a substitute for the defeated bill designed to provide direct government loans for cooperative housing, were described by Martin C. Huggett, Chicago Association executive vice president, in an August *American Builder* article.

Two types of houses—a one-story ranch and two-story Cape Cod, with two variations of each—make up the McDonald development. There is a stove and refrigerator in each unit.

The corporation is made up of the individual occupants, each holding one share and a long-term lease, obtained by payment of 5 per cent of the cost of the particular house. FHA-insured mortgages are for 95 per cent at 4 per cent on a 40-year period. To the monthly assessment is added utilities, which average about \$25.

Any shareholder has a right to sell his stock or lease at any time. If he wishes to do so, he must first offer it to the corporation and then to a purchaser approved by the corporation. A stockholder may purchase his way out of the cooperative at any time by paying his proportionate share of the over-all mortgage.

The program offers favorable terms for both veterans and non-veterans—90 per cent FHA insurance for the latter—and a chance for a fair profit to the builder, McDonald pointed out. He also emphasized its usefulness as a tool to fight government intervention in cooperative housing.

In your October issue
Complete Blueprints of
American Builder's
First Prize-winning House

Air Conditioning . . .

(Continued from page 222)

will approach absolute saturation very closely. This type of dehumidifier is therefore considered by some engineers to be best for year-round air conditioning installations.

Comfort installations in buildings should always be so designed that a quantity of outside air at least equal to the quantity of cool or dehumidified air can be taken in when desired. This enables conditioning of the building without the use of refrigeration at all times when the outside wet-bulb temperature is lower than the inside wet-bulb temperature to be maintained. If the system uses a spray-type dehumidifier, then it is also possible to dispense with refrigeration and to operate on an evaporative cooling basis, whenever the outside wet-bulb temperature is below the apparatus dew-point temperature required. These savings should be carefully investigated when selecting the system.

It has been pointed out that reheating is the most satisfactory method of controlling temperature and relative humidity in different rooms or entire zones. If this method is used, the air volume is always constant and the relative humidity will not rise when the load in the area is not as heavy as calculated. When volume control is used, the rela-



ANEMOSTAT half-round type diffusers have wide application

tive humidity will rise in this case. The disadvantage of reheating is that it is rather wasteful because it adds heat to air that has already been conditioned. Furthermore, if this method is used there will be, in general, an increase in the refrigeration demand. A combination of reheating, however, with the by-pass method, or in connection with a limited volume control may give a satisfactory solution.

The duct system represents a considerable part of the entire investment of an air conditioning system. The necessity of correct design of the duct system can therefore not easily be over-estimated. Not only does it influence the initial cost, its design also influences the annual power cost, because the resistance of the duct system is a substantial portion of the static pressure against which the fan operates. The design of the duct system is intimately related to the room air distribution because the duct velocities will depend to a large degree on the type of outlet used. The type of outlet selected will considerably influence the design of the duct system with respect to permissible duct velocities and temperature differentials.

In discussing the proper design of duct systems, it should be pointed out that the heat gains in large duct systems can be quite considerable, not only if the duct passes through unconditioned space, but also on long duct runs running within conditioned space. In the first case, proper insulation will remedy the difficulty to a certain extent. In the second case a redistribution of the supply air to the various supply

(Continued on page 227)



MFMA Northern Hard Maple Floor in the summer lake shore residence of Architect George C. Schneider, Milwaukee, Wis.

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Remember, **MFMA** strictly-enforced grading rules guarantee absolute soundness, true dimensions, genuineness of species. All **MFMA** Grades are good grades, worthy of use in the finest homes.

For full details, dimensions, standard specification data, see *Sweet's—Architectural 13g-7; Engineering 4j-21*. Write for special folder of latest **MFMA** approved finishes and processes.

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INDUSTRY BRIEFS

Bob Kirkman has been named manager of the Strand Garage Door Division of Detroit Steel Products Company of Detroit, Mich. This announcement comes from E. C. Hodges, vice president in charge of sales. Kirkman for some time has been representing the Strand Division in the southwest area. Previously, he was associated with Hunter Fan & Ventilating Co. of Memphis, Tenn.



Kirkman

The election of J. B. Faegre as president and C. T. McMurray executive vice president of Minnesota and Ontario Paper Co., Minneapolis, has been announced by the board of directors. Faegre, who has been associated with the company since 1930, succeeds the late Donald D. Davis. McMurray, who was also elected to the board of directors, will be in charge of all sales and production operations.

The appointment of Sidney J. Smith as product manager of wallboard and

accessory sales of Kaiser Gypsum Division of Kaiser Industries, Inc., Oakland, Calif., has been announced by Gil Richards, general sales manager. Smith, whose new duties will make him responsible for sales of these products throughout the company's entire market area, has been with the company since 1948.

The appointment of Philip R. Strand as advertising manager of the Zonolite Co., Chicago, was recently announced by Andrew T. Kearney, president. Strand succeeds Daniel J. Boone, now manager of Zonolite's general merchandising division.



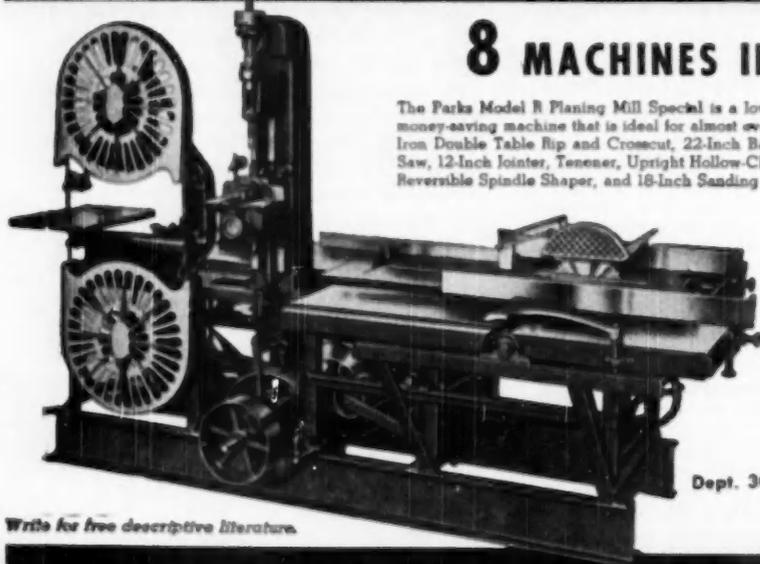
Strand

Announcement was recently made that S. B. Fullerton has succeeded his brother, the late R. W. Fullerton, as president of the Bradley Lumber Co. of Arkansas. Warren Ark Fullerton, is the son of the late S. H. Fullerton, a pioneer in the South's lumber industry, and has been actively associated and equal owner with his brother in the Bradley Lumber Co. since its inception in 1916.

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Write for free descriptive literature.

MANUFACTURERS OF QUALITY WOODWORKING MACHINES Since 1887

Air Conditioning ...

(Continued from page 225)

outlets is necessary in order to compensate for the heating effect of the duct surface.

The object of air distribution within a space is to create within the space the proper combination of room temperature, humidity and air motion. In comfort air conditioning installations it is necessary to obtain comfort conditions within the occupied zone, that is to say, from floor to six feet above floor level. In order to obtain comfort conditions within this zone, standard limits have been set up as acceptable effective temperatures. This term comprises air temperature, motion and humidity and their physiological effect on the surface of the human body. Any variation from accepted standards of one of those elements may result in discomfort to the occupants. The same effect may be caused by lack of uniformity of conditions within the space or by excessive fluctuation of conditions in the same part of the space.

Such discomfort may arise due to excessive room air temperature variations, horizontally, vertically, or both, excessive air motion (draft), disproportionate delivery of air with respect to the locations of highest or lowest load requirements, or on the other hand, too rapid fluctuation of room temperature or air motion.

In addition the noise level created by the introduction of supply air should be kept within acceptable limits and streaking or smudging of walls or ceilings should be prevented.

With reference to permissible air motion, it is not possible to establish a specific standard covering the entire complex of air distribution. Velocities less than 15 fpm generally cause a feeling of air stagnation, whereas velocities higher than 65 fpm will disturb loose paper sheets on desks and may result in the sensation of draft. With respect to comfort, air velocities of 25 to 35 fpm in the occupied zone are most satisfactory, but air motion of 20 to 50 fpm will usually be acceptable, particularly when the lower velocity range is used in cooling applications and the higher velocities on heating jobs. In any case, it is certain that the effect of room air motion on comfort or discomfort depends on air temperature and direction, as well as on mere velocity.

From the foregoing it follows that air distribution is a complicated affair and it is to be regretted that not even today all the lessons learned during the last twenty years are taken to heart in providing the proper system of air distribution. Architectural desires may sometimes play a role in the selection of a certain type of system of air distribution, but they should never lead to forgetting that the quality of performance of an air conditioning system is judged more by air circulation and air distribution than by any other feature of the system. Architect and air conditioning engineer will have to cooperate intelligently to find a proper solution for their common problems.

In the mechanics of air distribution two major problems are involved: 1) complete mixing of primary air and induced air outside of the zone of occupancy in order to reduce temperature difference and air motion to acceptable limits before the air enters the occupied zone; and 2) counteraction of the natural convection and radiation effects within the room. The problem is so difficult because the forces involved are extremely small, and because the air currents are often erratic and unpredictable. There exists as yet no general theory concerning the distribution of conditioned air within an enclosure and no general law governing outlet performance has been formulated. The various existing types of outlets must therefore be judged solely on performance. Many different methods of introducing air in an enclosure have been developed, but only an air outlet which

(Continued on page 223)

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STANDARDIZED



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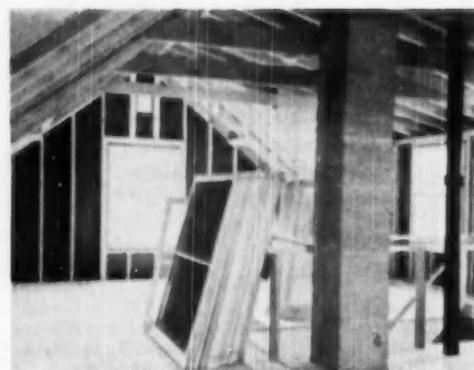
Roland J. Teske,
Milwaukee, Wis.

THE basic model 'A' shown at left is currently selling for \$11,250. Model 'B' shown below is the same house with dormers added. Price \$11,700



THE CONVENTIONAL home builder using standardized house plans and volume construction, can compete favorably with the prefabricated housing industry. This is the opinion of Roland J. Teske, builder of Milwaukee, Wis., who is currently building a series of four room houses containing 780 square feet of living area with a large expandable attic, and a complete basement.

Working from a basic floor plan, Teske has started con-



LARGE area in second floor of model 'B' provides space for expansion. This house has large shed dormer at rear construction on 50 houses, of which 40 have been completed. His program for the balance of 1950 contemplates the erection of 38 additional houses. Unlike most operators, this builder does not confine his work to one specific area but builds wherever he can find suitable ground within the

Use of Basic Plan Is the Answer

corporate limits of the city of Milwaukee. Some houses are built singly on individual lots, and others in groups of five or more. The general exterior profile of the houses remains the same. Location of windows and doors on the main floor likewise remains fixed. The change in the respective houses occurs in the roof treatment. The pitch varies depending on the type of house. The position and character of dormers and gables are also subject to change.

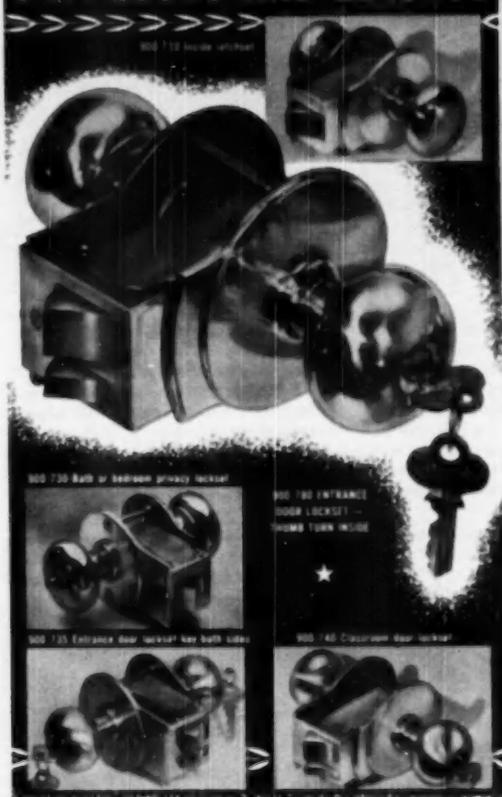
This builder identifies his houses by letter. Model 'A' has a steep gable roof and sells for \$11,250; model 'B' with same type roof, but with either shed or individual type dormers



BASIC plan for all houses. Stair area is converted to closet in house without attic

sells for \$11,500. Each house contains four rooms which include two bedrooms, living room, kitchen, bath, five closets, a basement which extends under the entire house, and to unfinished attic space where two additional rooms can be built later. Each house is placed on a 40-foot lot which is
(Continued on page 231)

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 900 Series
 Unit Locks and Latches



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 DOOR LOCKSET —
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900 740 Entrance door lockset key both sides

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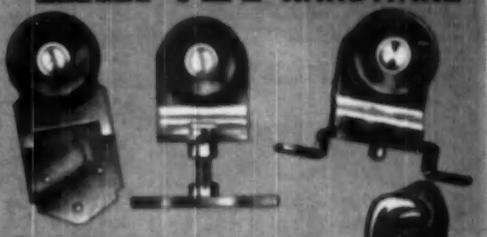
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Be sure to consider the space saving, cost-cutting feature advantages of the Norman horizontal gas furnace in your new home plans. Your first installation of a Norman Southerner will prove its many space and money-saving advantages.

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Please send me illustrated folder containing complete data and specifications on the Norman Southerner.

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Power Tool Cuts Drilling And Tapping Labor Costs

Use of one electric Impactool for drilling and tapping has cut labor costs for these operations by two-thirds in the construction of the \$2,000,000 New Lincoln High School in East St. Louis, Ill., according to Ferd Ganschmietz, general contractor, who declared that the savings on the job were five times the cost of the tool.

The functional brick and steel structure has window sections running virtually the entire length of the building with only the structural steel I-beams as mullions. Aluminum mullion covers are screwed to both the inside and the outside of each beam. The covers come with six holes already drilled but in order to install them, it is necessary to drill and tap an equal number of matching holes on each side of the I-beams.

Ganschmietz said he ran an actual time test on this drilling and tapping operation with a crew of two men and a helper, first using a hand drill and hand-turned tap, then with an Ingersoll-Rand electric Impactool. By hand, drilling and tapping six holes for one mullion cover took an average of 60 minutes. With the Impactool, fitted alternately with drill and tap, the same

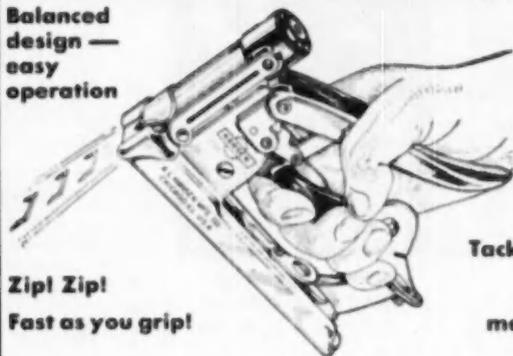


FACTORY-drilled mullion cover is held in place on a template while electric Impactool drills 5/8-inch into the steel I-beam

job averaged 20 minutes.

The procedure at the high school building was the use of the mullion cover as a template in drilling the holes. One man held the aluminum cover in place while the second, using the Impactool fitted with a standard drill, drilled a hole 3/4-inches deep into the steel I-beam, deep enough to accommodate the 1/2-inch 10-24 aluminum machine screw. The Impactool was then fitted with a 10-24 tap and the holes quickly tapped.

Balanced design — easy operation



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Fast as you grip!

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C EILING TILE, with flanges, can be fastened to furring strips easily, speedily with HANSEN. You hold the tile with one hand—tack with the other. Zip! Zip! fast as you grip—single-leg, 1/4" T-head Tacks are driven thru the flanges of the ceiling tile. No denting hammer blows to damage, mar or break tile while being applied. T-head Tacks hold securely without being visible.



Many other uses for Hansens—tacking insulation, metal lath, screens, building paper, etc. REQUEST BOOKLET T-40.

A. L. HANSEN MFG. CO.

3059 Ravenswood Ave.
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Use of Basic Plan

(Continued from page 229)

rough graded and has service walks installed. All rooms are decorated and windows are provided with full screens and storm sash. A gas heat blower unit and automatic gas hot water heater are located in the basement. In both models heat ducts are extended to attic space and capped. Wiring is also installed. An 18-inch-square heat distributing duct extends from top of gas furnace to second floor. This is located in the center of the house, with short branch supply ducts extending to the bedrooms and bath in furred ceiling



VARIAION of model 'A' house with reduced roof pitch

of the hall. Heat for living room is direct from main duct. Teske who started building houses in 1945, originally studied law to prepare for service in that field; instead he entered into the operation of a real estate, and building and loan business. It seemed a natural step from there into the field of building. Teske has been, and is successful as a builder because he is aware of the financial pitfalls that overtake the unwary builder and is therefore constantly on the alert to keep his operation in a fluid condition.

This builder sublets all of his work. He keeps his schedule moving along far enough in advance, so that his subs are continually working. All millwork, lumber and other sup-



ANOTHER variation of roof line for model 'B' house with gable

plies are purchased in quantities sufficient to build ten houses. In this way keeping an account of his inventory is simplified. He leaves it up to the subs to establish their own method of operation, whether it be site assembly or conventional. Because Teske holds to a standard plan and exterior, he knows to a penny what each phase of a job will cost; for example, he knows that it takes 430 carpenter hours to complete one all-frame house; therefore any great variation from that figure is cause for a check-up.

Materials used in the Teske houses include 1/2-inch-thick Gypsum sheathing; U. S. Gypsum Rocklath; 210# Birdseye asphalt shingles; Mueller Climastrol gas fired warm air furnaces; Kohler plumbing fixtures; Gosen weather stripping; Rockwool batt insulation on ceiling; Esser paints; Libby-Owens-Ford glass, and Schlage hardware.

SEPTEMBER 1950

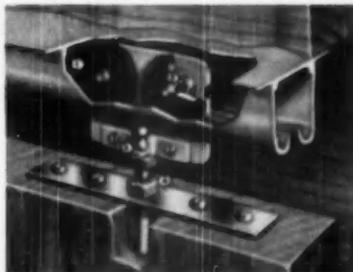


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- Not 2, not 4 but EIGHT noiseless, oversize wheels with neoprene tires. (Arrow 1)
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- No grooves or floor track whatsoever. Small floor guide hidden in pocket.
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A NEW bathroom product which is proving to have a number of practical uses in an adjustable combination tub and shower fixture. Called the "Adjusto" it is manufactured by the Milwaukee Flush Valve Co. The fixture has simple installation requirements and is adaptable for service as a full-height shower, a full stream for filling tub, a shower for small children as well as a number of other uses.

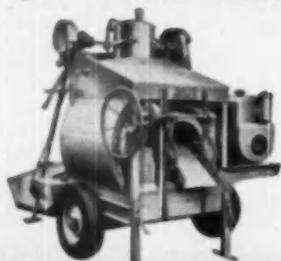
Northern Hardwood Floorings Still Available

Shipments of Northern Hard Maple, Beech and Birch Flooring for the first half of 1950 amounted to 30,600,000 feet, an increase of 29 per cent compared with the same period last year, according to L. M. Clady, secretary-manager of the Maple Flooring Manufacturers Association. New orders booked of 37,675,000 feet increased 66 per cent during the six-month period of 1950, while production, amounting to 27,875,000 feet, increased only 5 per cent. Stocks and unfilled orders, as of June 30, amounted to 7,000,000 feet and 12,475,000 feet respectively.

"Production started to climb in May and June, however, and current rough lumber purchases indicate that from now on, the Northern manufacturers will produce enough flooring to keep up with the extraordinary demand," Mr. Clady said. "If the building situation remains normal, there is every reason to believe that 1950 shipments will equal the 1948 figure of 75,000,000 feet; a record for the Northern industry," Clady continued.

The statistical figures include regular reports of MFMA members and non-members, estimated at 90 per cent of industry.

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Leonard Caldwell Nelson, with
aliases A. J. Allen, J. A. Bradshaw,
Leonard Cowfil, Arthur Hayes, L. J.
Nash, Lewis C. Nelson, Arthur Sib-
bley, Leonard Wilson and others, who
has been convicted for grand larceny
and forgery, is presently a fugitive
from justice. He has in the past
worked in the building industry in
the capacity of bookkeeper and sales
manager, and is known to have de-
frauded two companies in the building
industry. On September 1, 1949, a
Federal Grand Jury, at Jackson, Mis-
sissippi, returned an indictment charging
Nelson with violating Section 415,
Title 18, U. S. Code, this violation
arising out of the passing of a fraudu-
lent check.

Description: Age 47, born August
20, 1903, Staten Island, New York;
Height, about 5' 8"; Weight, 125
pounds; Build, slender; Hair, brown,
graying; Eyes, blue or gray; Com-
plexion, medium; Race, white; Na-
tionality, American; Occupations,
timekeeper, salesman, insurance and
real estate broker; Scars and marks,
nose appears to have been broken and
is curved slightly to left side of face,
small scar on right temple, small cres-
cent shaped scar on second joint of left
index finger, large irregular brown
spot on right arm near elbow, may
have some gold teeth, previously had
two gold teeth upper left, one lower
left and one lower right.

Any person having information con-
cerning the location of this fugitive
should immediately notify the nearest
office of the Federal Bureau of Investi-
gation or his local law enforcement
agency.

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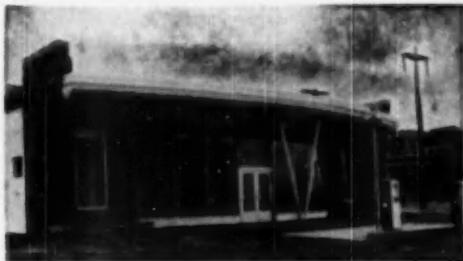
AMERICAN BUILDER

Crescent-Shaped Shopping Center...

(Continued from page 231)

The buildings are constructed of cinder block, finished on the outside with stucco. Full-vision plate glass fronts have cantilever overhangs 10 feet wide which serve as permanent awnings. The built-up roofs are flat.

Interior partitions of 2x4-inch studs are covered with



SERVICE station at end of semi-circle has same architectural motif

gypsum lath and plaster. Concrete floors are finished with asphalt tile. Two steam heating units, one on each side of the arcade, supply heat for the stores which are also equipped with air conditioning units for shoppers' comfort during hot summer months.

Air Conditioning...

(Continued from page 227)

makes use of certain physical considerations will be able to achieve the solution of the problems indicated above.

Air distribution in buildings offers, of course, the same problems as do similar spaces in other enclosures, different solutions have to be found for large auditoriums and assembly rooms on one hand, and offices and similar smaller rooms on the other hand.

"Aspirating" air diffusers are high velocity diffusers and can be used to advantage for the various applications which are encountered. Such a diffuser consists of a series of conical-shaped members of specific design and assembled in definite relationship to each other. Due to these features, the device breaks the supply air stream, into a multiplicity of planes traveling in all directions and at the same time creates an equal number of counter currents of room air up to as much as 35 per cent of the supply air to be sucked into the device and mixed with the supply air before it is discharged. This important effect which distinguishes the "aspirating" air diffuser from all other air outlets is known as "aspiration." Air discharged from an ordinary outlet into an enclosure travels in a mass which will cause drafts until its velocity energy is expended. This may well happen in the occupancy zone. Air traveling in a mass draws (entrains) room air into its periphery but this secondary air motion will not readily break up the original air stream and the entrained air will not readily mix with the air discharged from the air outlets.

There exist many satisfactory air conditioning installations in all types of buildings throughout this country. It cannot be denied however that there are installations which are not satisfactory. It seems obvious that proper air movement and air distribution, which plays such an important role in the air conditioning system, may well have more to do with these experiences than any other factor. To achieve a real success in air conditioning all types of buildings, the selection of the right air distribution system is therefore needed more than ever.

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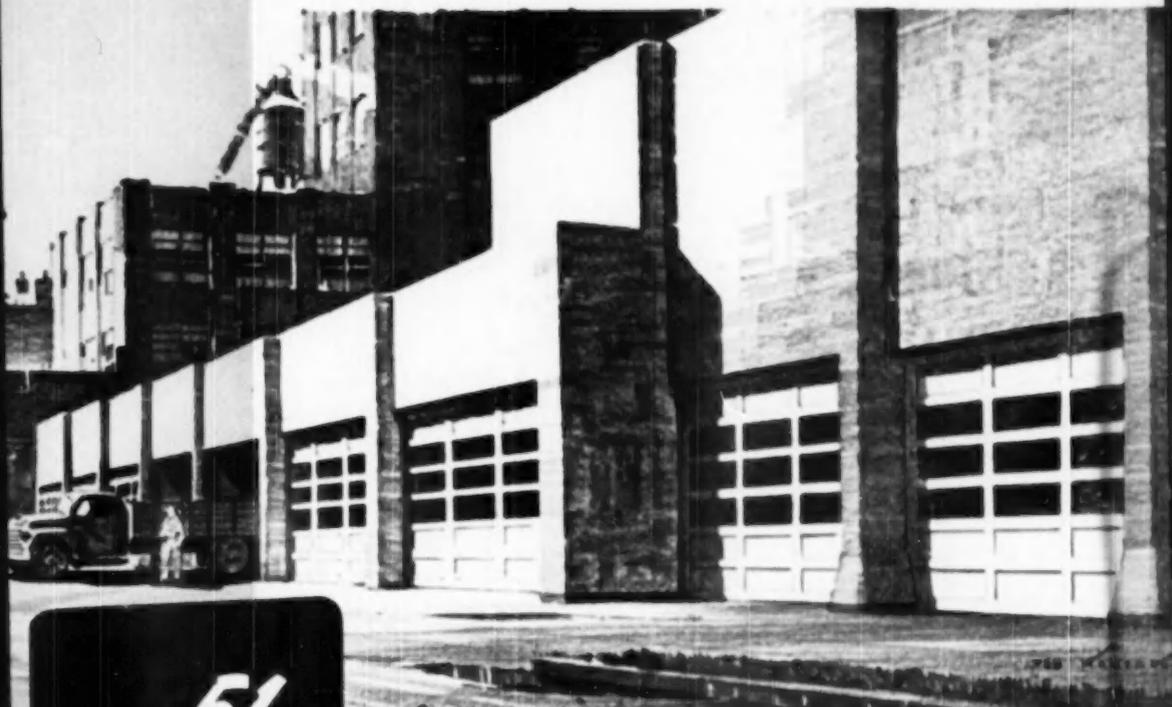
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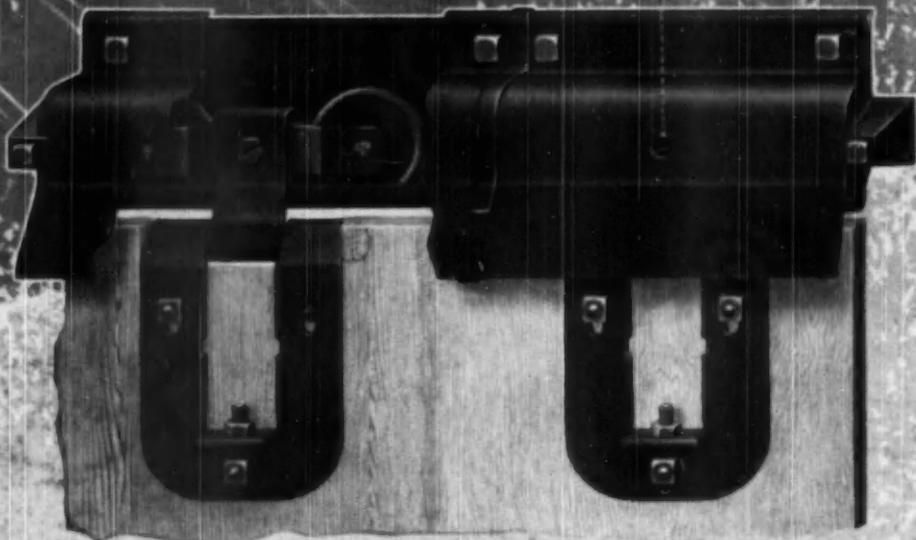
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LEWISTOWN, PENNSYLVANIA

CORLAND, NEW YORK
DALLAS, TEXAS

STORM-PROOF

No. 88 Adjustable Storm-Proof Door Hanger

HOLE TO ADJUST HANGER
AND OIL BEARINGS



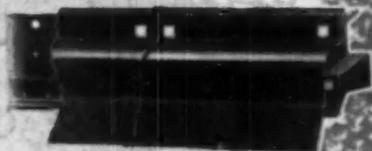
No. 88 Adjustable Storm-Proof Door Hanger

A Two-Way Success from the Beginning

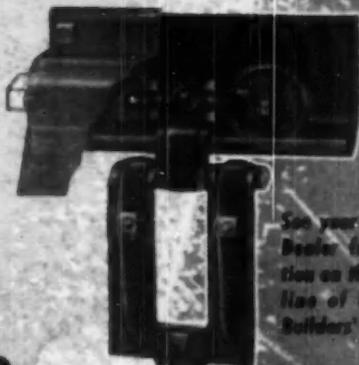
- (1) **For the Builder**—Easy installation with no further service calls.
- (2) **For the Owner**—Complete satisfaction with only one cost because it's good for a lifetime of service.

No. 88 Adjustable Storm-Proof Door Hanger with vertical and lateral adjustments carries the door closer to the rail than with any other adjustable hanger we know of. 350-pound carrying capacity. Packed one pair in a box, with bolts for attaching hangers to the door. Also lag screws and end caps for the rail. Furnished in Japan or Hot Galvanized Finish.

Storm-Proof Rail—Millions of feet of this rail are in use and giving satisfactory service in U.S. and Canada under every possible condition. Here are some of the advantages of National Storm-Proof Rail: It fits closely against the building, storm-proof and bird-proof, no brackets required, very strong, joints are dovetailed and require no splice covers. Cover can be removed at any time for painting inside of rail. Rail is made in two pieces, track and cover. This makes it easy to line up the rail and the carpenter has only half the weight to handle. The cover is put in place after the rail has been lined up. This is the practical, sensible, one-cost solution to storm-proof door problems.



National Storm-Proof Rail



See your NATIONAL Dealer for information on the complete line of NATIONAL Builders' Hardware.

NATIONAL MANUFACTURING CO. No. 77 Flexible Storm-Proof Door Hanger which is also used with National Storm-Proof Rail
STERLING, ILLINOIS