HONEYWELL MAKES NEWS that makes Business FOR YOU...

More than 3,500 Newspaper stories on modernization have appeared to date

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

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 sure should begin, by making a detailed floor plan of the house.

There are countless ways in which the floor plan may be improved, but the critical point is to reduce drafts and improve the air circulation throughout the house.

A new automatic garage door can save a lot of time, while the full automatic treatment dryers and garbage disposal unit would add another $500.

Newspaper stories on modernization have appeared to date.

MINNEAPOLIS Honeywell FIRST IN CONTROLS
SAVE ON-THE-SITE TIME and MONEY...

New Metal Window Unit installed in 2 simple steps!

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!

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Fenestra Steel Windows are cleaned and screened from inside. They operate smoothly, easily... always. And that's real sales appeal to the buyers of your homes!

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Call your Fenestra Representative today (he's listed in your Yellow Phone Book). Or mail the coupon.

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Dept. AB-9, 2260 E. Grand Blvd., Detroit 11, Mich.

Please send me complete information on the complete, new Fenestra Unit—Steel Casement with Combination Inside/Outside Metal Trim.

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Company ________________________
Address _________________________
NO OTHER MATERIAL IN THE WORLD
is so closely identified with fine ceiling repair
AS UPSON KUVER-KRAK PANELS

The superior and exclusive qualities of Upson Kuver-Krak Panels have
established them as the most practical of all materials for re-covering unsightly,
unsafe cracked plaster.

Upson Kuver-Krak Panels are scientifically processed to a special formula
—laminated—5 plys thick—crackproof—and pre-sized. A beautiful pebbled
pattern distinguishes the beauty of their surface.

Upson Kuver-Krak Panels can be applied with an unique
Upson Floating Fastener.

You can apply Upson Kuver-Krak Panels with confidence,
assured that their time-proved qualities will produce unusual
ceilings of enduring beauty—and steady jobs over the months and
years. For Instruction Sheets, mail the coupon!

You can apply Upson Kuver-Krak Panels with confidence,
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ceilings of enduring beauty—and steady jobs over the months and
years. For Instruction Sheets, mail the coupon!

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PANELS

Kindly identified by
the famous BLUE
center.

AMERICAN BUILDER
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 house design lends itself to construction in any climate. Several of these homes 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.


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

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Modine Institutional Convector pay off in two important ways. ONE, they permit you to take full advantage of the benefits inherent in steam or hot water heating systems. They maintain uniform temperatures from floor to ceiling, even in the coldest weather. TWO, Modine Institutional Convector serve to underline the soundness of your planning — with the economy of dependable, trouble-free service year in, year out.

These exceptional convector are available with standard heating unit for hot water or two-pipe steam ... or with the new Quiet-Heat heating unit for one-pipe steam.
FINISHED BLOCK, PRIME RED OAK

SPLINE CONSTRUCTION: HOLLOW BACK DESIGN

Yes, they're Bradley's!

STRIPS: Plus value No. One in Bradley Blocks is perfectly matched strips. They're cut from Bradley's famous straight-line strip flooring.

SPLINES: Blocks are bound firmly together by steel splines imbedded in the back. This construction prevents upward or lengthwise movement of blocks, yet allows expansion or contraction of individual strips.

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WOODS: Produced in Oak, Beech and Pecan, Bradley Unit Wood Blocks lend dignity to executive offices, smart decorative beauty for homes, eye-appeal plus low-cost maintenance for business buildings.

Available, finished or unfinished in standard sizes and grades, through local distributors from coast to coast. For data and specifications, write

BRADLEY LUMBER COMPANY of Arkansas

WARREN, ARKANSAS

SEPTEMBER 1950
Now Bruce Flooring
Is Branded In Color!

It's on the back of every strip!

Your customers will know they're getting the best.

Bruce HARDWOOD FLOORS

BLOCK • STRIP • PLANK

Products of E. L. Bruce Co., Memphis, Tenn.

*Now being advertised in these magazines
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 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.
Specify

NU-STYLE
WOOD CABINETS

Others do... why not You!

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.

1. Exclusive Nu-Style door with "the Famous Profile"... in perfect harmony with latest ranges and refrigerators.

2. Nu-Style... strongest cabinet made... dovetailed drawers. Solid (3/4" thick) standards and mortised frame.

3. Nu-Style Cabinets can be scribed or saun to join plastered surfaces.

4. Enamel any color or finish natural.

5. Produced by experts trained in latest scientific methods.

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.

Smooth Styling... Easy to Install... Fit any size or shape room... Sturdy... Rigid... Dovetailed Drawers... Extra Deep Drawers... Simple to Decorate or Redecorate... Can be finished any color or left natural.

CARR, ADAMS & COLLIER CO. Dubuque, Iowa
MAKE THIS SIMPLE MITER TEST!

Try all saws before you buy! It's easy... just follow this picture. Swing arm to right for right-hand miters... then swing arm to left for left-hand miters. The saw must cut miters and angle-dado from 0° to 90° both right and left, as shown, to be fully practical in today's construction. Don't take less — get the full range.

DELTA® MULTIPLEX

portable job shop!


There's no doubt about it—make the miter test and prove to yourself Delta Multiplex is your best buy!

Learn more about Delta Multiplex these 3 ways:

FREE MOVIE!

Sound—Action—Color! Ask your dealer to show you this film.

FREE DEMONSTRATION!

Ask your dealer to demonstrate Delta Multiplex in action.

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20 pages showing unlimited uses of Delta Multiplex Send coupon for your copy.

DELTA MULTIPLEX

DOUBLE RADIAL ACTION

Tear out coupon and mail today!
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CUT YOUR COSTS ON EVERY HAUL!

Chevrolet heavy-duty trucks with Loadmaster engine actually deliver more horsepower at the clutch... more net horsepower—proved by certified ratings on engines used as standard equipment in conventional models of the five most popular makes, 13,000 to 16,000 lbs. G.V.W.* Here, then, is power to move big payloads... in a truck with strength to carry big payloads... and these add up to outstanding, all-around efficiency. You save on gas, oil and upkeep, cutting your costs on every haul! See your Chevrolet dealer—get the full story of Chevrolet leadership. *Gross Vehicle Weight

PLUS—Chevrolet Advance-Design Truck Features!

TWO GREAT VALVE-IN-HEAD ENGINES: the new Loadmaster and the improved Thriftmaster—to give you greater power per gallon, lower cost per load • THE NEW POWER-JET CARBURETOR: smoother, quicker acceleration response • DIAPHRAGM SPRING CLUTCH for easy-action engagement • SYNCHRO-MESH TRANSMISSIONS for fast, smooth shifting • HYPOID REAR AXLES—5 times more durable than spiral bevel type • DOUBLE-ARTICULATED BRAKES—for complete driver control • WIDE-BASE WHEELS for increased tire mileage • ADVANCE-DESIGN STYLING with the "Cab that Breathes" • BALL-TYPE STEERING for easier handling • UNIT-DESIGN BODIES—precision built.
Nearly 1000 skilled plywood workers stand behind this trademark

A PRODUCT is judged by quality of materials, quality of manufacture, quality of the men who make, sell and service it.

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.

The plywood they make is grademarked and trademarked—double guarantee of quality on both exterior-type and interior-type panels manufactured by this company.

APMI plywood is available at sales warehouses situated in the nation’s important population and building areas. It is sold and serviced by men who know plywood uses, and who would be happy to receive your inquiries for general information, for prices, for delivery schedules.

Panels up to 60 inches in width and up to 144 inches in length.
Here's the new blanket that gives you...

Higher Insulation Value—thicker, yet cost less than some ordinary blankets. Won’t settle or sag, leaving thin spots that leak heat. A single length provides uniform, uninterrupted insulation from ceiling to floor.

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

CELOTEX HAND-POURING ROCK WOOL

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".
means less waste and thriftier, speedier installation. Flanged for quick, easy stapling or nailing.

- **Unbroken Vapor Barrier**—continuous from ceiling to floor—means more effective protection against condensation.
- **Permanent**—rock wool cannot rot, is fireproof, insulates efficiently for the life of the building.

**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**

**BUILDING PRODUCTS**

The Celotex Corporation, Chicago 3, Illinois
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 Disposall® Unit, G-E Steel Cabinets and G-E Texolite® Counter Tops. Yet, the complete house sold in the $10,000 class.
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 $1.80 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!


You can put your confidence in—

**GENERAL ELECTRIC**
142 GUNNISON. CHAMPION. HOMES
SOLD in 8 hours!

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

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. -S for complete information.

WHEREVER THERE’S BETTER LIVING...
"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.


DeWalt Inc.
A subsidiary of American Machine and Foundry Company
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.
85% of all prospective home owners want oak floors

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.”

National Oak Flooring Manufacturers' Association • Dept. 6-9, Sterick Bldg. • Memphis 3, Tenn.
PRIVATEx 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 nonfarm 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 advisable to reduce this pool of labor to that extent.
NEW 8" HEAVY-DUTY
LECTRO-SAW
Only $84.50

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.

LEKTRO-SAW

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

Easy to handle—Safe to use

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

A PROFESSIONAL SAW... AT A POPULAR PRICE!

SEPTEMBER 1950
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!
Extra Quality Tubular Locks and Latches by RUSSWIN

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.
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 rugged, 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
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 be 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 extended 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 218)

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 Aukern, convention and exposition director. Exhibit space, as usual, will be provided in both the Stevens and Congress hotels. Reason for change in dates, Van Aukern 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 Aukern 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 Aukern'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 Aukern 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 star throughout the month 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 Aukern 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 Washington Times-Herald, 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 overcrowding 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 homemaker, 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 pet 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 existing. 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.

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 aid and information medium, the book will be supported by advertising.

New Milwaukee Executive In First Half of ’50

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

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 equaled the total of 30,000 houses produced in all of 1949.

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 techniques 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.

American Builder
Arvid C. Peterson Appointed To HHFA Branch Committee

Arvid C. Peterson, Detroit builder, has been appointed to a committee for housing finance branches of the Housing and Finance Agency, by Raymond M. Foley, HHFA administrator.

Commenting on his appointment, 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 form 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 homebuilders, home buyers and leaders."

Peterson is a director and former chairman of the Building 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 service division of the organization, R. O. Dening, Jr., association president, announced recently.

Organization of the new division is recognition of the growing importance of accounting services for mortgage banking, Dening 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 Routsetter & Co., certified public accountants. He is a graduate of the University of Illinois and took graduate work at Northwestern and Loyola universities.

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 means—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 hoards 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 the story of the evils of public housing and the progress made by private housing.

Money for the Birds

Our government is the world's largest publisher, spending $5 million yearly for printing. It distributes such works as "Interaction of Sex, Shape, and Weight Genes in Watermelons," "Mist Netting For Birds in Japan," and "Habits, Food, and Economic Status of the Band-tailed Pigeon."

—John I. Hennessy
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

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 394
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 Products are made only by SKILSAW, INC.
3033 State Avenue, Chicago 50, Ill.  
Factory Branches in Principal Cities 
In Canada: SKILTOOLS LTD., 40 Portland St., Toronto, Ont.
Mack says... Check the Weather

Numetal WEATHER STRIP

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 sizes available. 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, wash plugs, nails and instructions. Individually packaged — ready to hand to your customers — ready to install.

FOR DOORS
Conveniently packaged in sets for almost all standard doors. Available with regular brass and felt door bottom strips or with thresholds 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 size opening, lock keeper strip, screws, nails and instructions for installing. Perfect for over-the-counter sales!

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!

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

MACKLANBURG-DUNCAN CO.
OKLAHOMA CITY, OKLAHOMA

QUALITY PRODUCTS

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

MACKLANBURG-DUNCAN CO.
OKLAHOMA CITY, OKLAHOMA

QUALITY PRODUCTS
THE MOST INSULATING EFFICIENCY IN THE SMALLEST PACKAGE!

Reynolds Aluminum
Reflective Insulation

With just a 13-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 93% 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.

Check and Mail this Coupon NOW

REYNOLDS ALUMINUM
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.

(Continued on following page)

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-
ADVERTIES

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. HOMASOTE DRY WALL CONSTRUCTION
HOMASOTE COMPANY

SURFACING MATERIALS
a) Walls & Ceilings
40. BLUE RIDGE PATTERNED GLASS
BLUE RIDGE SALES DIV.
LIBBY, OWENS, FORD GLASS CO.
For charming 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 to House Beautiful readers in October. It's so simple you can use to put extra sales appeal into homes you build.

41. IMPERIAL WASHABLE WALLPAPERS
IMPERIAL PAPER & COLOR CORP.
42. PITTSBURGH CABRARA GLASS,
STRUCTURAL MIRRORS
PITTSBURGH PLATE GLASS CO.
Pittsburgh Plate Glass Company offers a complete line of glass products for residential and commercial use. It includes Pittsburgh Plate Glass—"the window with built-in insulation"—Pennsylvania Window Glass, Currano Material—Glass, Mirrors, Pittsburgh Doorways, Huribilt Doors, Pittco Screen, Flat Metal, K.C. 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. Daily 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. STRANAH WALLPAPERS
THOMAS STRANAH COMPANY
45. SUNTILE
CAMBRIDGE TILE MFG. CO.
46. "TREND-OF-THE-TIMES" WALLPAPER
C. W. STOCKWELL CO.
"MasturTone" is another appealing wallpaper design in Blackwell's collection of "Trend of the Times Wallpapers" and is featured in the October issue of House Beautiful. These "California Lined" wallpapers are noted for their versatility in both contemporary and traditional homes, and for setting color schemes that are fresh and livable.

47. WALLPAPERS
UNITED WALLPAPER

b) Flooring
50. AMTICO RUBBER TILE
AMERICAN TILE & RUBBER CO.
Pearl Gray is 25% AMTICO COLOR
AMERICAN TILE & RUBBER CO. Most complete line of decorator-styled colors available in rubber floor tile is offered by AMTICO—product of specialists in rubber flooring exclusively. The

51. FLOR-EVER FLOOR COVERING
MADE OF RUBBER
VYNILE PLASTIC
BALLETTI DIVISION,
UNION CARBIDE & CARBON CORP.

52. RUBBER TILE
DAVID E. KENNEDY, INC.
Rubber Tile, by the makers of Emsite, provides quiet, luxurious floors of "auspicious beauty" that won't wear out through years of use. No other Rubber Tile offers all its beautiful colors and exclusive ThermoTone and Feature Tone. 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 composition throughout they cut cleaner and easier. Available in several colors, Smoothigrain Asbestos Siding Shingles are used on new buildings or for remodeling old houses.

54. BURROWS HEALTH-GUARD COMB. WINDOWS
THE BURROWS 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 steel are available for this. In October Beautiful, Libby, Owens, Ford shows how easily Thermopane can be used in steel structures.

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 Assn. continues its national advertising emphasizing the advantages of shellac as a finish for floors, primer for wall treatments, sealer for plaster walls, finish for unpainted furniture. See "Shellac" used so popular today in new construction and modernizing rooms of old homes.

AMERICAN BUILDER
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, 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.

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 builder 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 ZONITE 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

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.

Now to stay within a building budget without "taking a smaller house" is a problem plaguing home builders today. Heating contractors can benefit from this cost problem by showing new heating through Dunham Baseboard—a practical, conventional radiator—that actually increases room size. Tie in with Dunham's national promotional campaign, pitched to this sales-producing plant.

77. FITZGIBBONS STEEL BOILER

FITZGIBBONS BOILER CO., INC.

Fitzgibbons Steel Boilers for residential and small home heating are particularly noted in the heating trade for extremely high efficiency and fuel economy. In addition they provide your 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

MORRISON 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. 1. 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. O-X AUTOMATIC DISHWASHER
GENERAL ELECTRIC COMPANY

84. GENERAL T-12 FLOOR CONDITIONER
GENERAL FLOORCRAFT, INC.

Only General T-12 Floor Conditioner gives - longer, perfectly balanced precision-built machine, covers over 12" paths, larger, more fully packed brushes, longer life; complete line of attachments for every floor care task handles - right, extra cost - replaces long handles for polishing furniture, table tops, etc. Cooperative and national advertising.

85. PHILCO HOME FREEZER
PHILCO CORP.

86. THERMADOR BILT-IN ELECTRIC RANGE
THERMADOR ELECTRICAL MFG. CO.

The Thermador Bilt-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 3" cooer.

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 fix-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.

There is a new profit line for you now available in the shiny new Lustre-Brite finish in all the standard or solid types. The streamlined type is especially adapted for use with pulleys. NEVER-STAIN Aluminum Clotheslines is economical, lasts a lifetime, won't rust, rot, or rot, and holds all types of clothespins.

94. RAINDRO GUTTER TUBE
WYNMCO PRODUCTS CORP.

Rain-L-Flo Gutter Tubing, amazing new product of Wynmco Products Corporation, 344 Luckie Street, Atlanta, Georgia, prevents gutter overflow. Three inch mesh tube simply laid in gutter keeps out leaves, etc. Proven 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

AMERICAN BUILDER
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!

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.

POWERS... 9 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!

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.

Balsam-Wool
SEAL INSULATION
BALSAM-WOOL • Products of Weyerhaeuser • NU-WOOD*

*REG. U.S. PAT. OFF.

September 1950
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"
   Widely 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 only small 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 steadiest, 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 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 to complete boiler-burner units (such as More Stoker, Electric-Furnace, 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.
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 1/10 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!
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.

**SPECIFICATIONS**

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**COLORS**

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<td>Slategrain</td>
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<tr>
<td></td>
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</tr>
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THE BARRETT DIVISION

Allied Chemical & Dye Corporation
45 Radio Street, New York 4, N. Y.
2606 S. Grey's Ferry Ave.
Philadelphia 4b, Pa.
1327 Erie Street
Birmingham 2, Alabama
220 W. Wacker Drive
Chicago 6, Ill.

AMERICAN BUILDER
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 houses. 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 Douglass 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 mortised 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 craftsmanship: 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 $58.00 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 out-smart less acute competitors.

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

Just use the handy coupon.

sell more
tower

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 26 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-port 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.


Homelite Corporation
509 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 3/8" 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.)

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.

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

Discover MICARTA® today!
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 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-beat 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.

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, damp-proofing, 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

THE SISALKRAFT CO., CHICAGO 9 • NEW YORK 17 • SAN FRANCISCO 8

AMERICAN BUILDER
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.

CONSENSUS—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 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.

FOR DRY BASEMENTS USE

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

KAY-TITE COMPANY
Box 550
West Orange, New Jersey
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.


Every type of concrete construction needs American Welded Wire Fabric reinforcement.
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.

Concrete Costs Less!
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.

Water-Handling Cheaper!
You'll move more water — faster, farther, easier with a Blue Brute Self-Priming Centrifugal Pump. Ragged 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 100' to 500'.

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.
Work Dimensions for Sink and Dishwasher Installations

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 combina-

(Continued on page 52)

Roughing-In dimensions for installation of Hotpoint sink, dishwasher and Disposal are shown on left. A & C — 1/2 inch sink hot and cold water line openings. D — 1 1/2 inch sink drain line opening. E — Standard electrical connection box. H — Dishwasher hot water line opening; must be reduced to 3/4 inch before entering dishwasher. D — 1 1/2 inch dishwasher drain line opening.
Give 1" Space
2" DRY Insulation
Value!
FOR LESS THAN *7½c SQ. FT.,
MATERIAL WITH LABOR
*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 3½" 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.

INFRA INSULATION TYPE 4 JR.
Thermal Factors in 1" Space
Down Heat  C.097, R10.30, equals 3½" Dry Rockwool
Wall Heat  C.150, R 6.66 equals 2½" Dry Rockwool
Up Heat  C.194, R 5.15 equals 1½" Dry Rockwool
Vapor Permeability Equals ZERO

FREE: Send coupon for FREE COPY of 44-page, just-printed, Third Edition of “Simplified Physics of Thermal Insulation”, a simple, clear and concise handbook on Heat Transfer, Vapor Flow, Condensation, Radiant Heating, etc., with famous complete and documented MASTER CHART of k, C, R and U factors of all insulations of all weights, thicknesses, densities, etc. Describes and tells how to install various kinds of multiple aluminum and also mass insulations. Check to get samples and price lists.

Multiple Accordion Aluminum and Triangular Reflective Air Cells
INFRA INSULATION, INC.
10 Murray Street New York, N. Y.
Telephone: COrtlandt 7-3833

SEPTEMBER 1950

INFRA INSULATION, INC.
10 Murray Street, New York, N. Y. Dept. B9
Please send “Simplified Physics of Thermal Insulation.”
Name: __________________________________________
Firm: __________________________________________
Address: _________________________________________
[ ] Send Price Lists of Insulations [ ] Send Free Sample

Price lists of less than, Send Free §
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 pipe or tubing, placed inside the walls, will carry telephone wires to the planned outlets. The slight additional cost is more than offset by customer satisfaction.

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.
DRY WALL CONSTRUCTION has proved satisfactory...

Says Carl G. Lane, Director, Technical Service Department, National Association of Home Builders.

“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.

Let us send you performance data and illustrated literature on Homasote and allied products.
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 stool.

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 backsplash 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 stud and rubber washer.
11. Connection to flow interlock switch.
12. Disposal dishwasher.
13. Disposal power supply.
15. Hot water line to dishwasher.
16. 1 1/2 inch "F" trap minimum.
17. Hand valve.
18. Solenoid operated water inlet valve and strainer. Note: Standard equipment with dishwashers. All pipes and fittings to be purchased locally.
19. Water inlet to dishwasher.
20. Ground wire to motor.
23. Motor plug.
25. Vent.
26. Water inlet to dishwasher.
27. 40 inches from floor to underside of window stool.
28. Electric outlet box for Disposal and dishwasher—Maximum load 1500W.
29. Impeller.
30. Drain outlet.
31. Pump drain hose.
32. Dispenser cup release cable.
33. Main switch and cover lock cable.
34. J.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 1/2 inch per foot minimum.
PORTABLE... WEIGHS ONLY 44 LBS.

...makes your Speedmatic Saw DO DOUBLE DUTY!

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 saw horses — or on set of Speedmatic Table Legs (extra). Working surface (26" x 26") 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 miters. Gauge with adjustable 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're mounted on this Saw Table cuts practically every material you're likely to use in carpentry operations. See your Porter-Cable distributor today.
The Swing to Crosley increases every day

Here's what precision-engineered Crosley products offer you:

- Beautifully styled products that enhance your plans and please your clients
- Easy installation features to simplify your planning and lower your costs
- A wide selection of sizes and styles to meet almost any requirements
- Compact design that conserves floor space, provides greater utility, and saves steps
- The Crosley Builders' Plan—whereby a single qualified specialist contacts you to discuss all the Crosley products at the same time

With Crosley, you offer products that are versatile, modern, space-saving, and beautiful—that help you build your business and develop your reputation.

Complete Crosley Kitchens can easily be planned to fit whatever specifications you lay out.
Walker Homes, Inc., Samuel H. Walker III, General Manager, have erected and sold more than 100 of these manufactured Gunnison 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!
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 demolish 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)

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 . . . 3/4 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 when pipe is firmly in place even 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.

BERMICO® 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,"

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

"Plastic as butter." Butterly, 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.


* 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.

OFFICES: Albany • Birmingham • Boston • Chicago • Dayton • Kansas City
Minneapolis • New York • Philadelphia • Pittsburgh • St. Louis • Warren.

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
“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 saving this gives me. Joe: windows that always work right... windows with no ropes to break, no pulleys to rust. But that isn’t all! Those 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 balance 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. Those 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 Sears’ 1950

(Continued from page 57)

HOUSING, early in World War II, became a political football, and regulations and controls deprived 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 preludes 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 needs. 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)
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.

TUBULAR SETS HADIAN DESIGN
Brass. For doors of either hand.

THE YALE & TOWNE MANUFACTURING COMPANY
Stamford, Conn., U. S. A.
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, 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 trade. 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 employee's 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, although 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 millions 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.
Your customers—and prospects—know they can rely fully on this famous name

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

PORT NECHES LOCKPORT PORT WENTWORTH
TEXAS ILLINOIS GEORGIA

EDGE MOOR MOBILE
DELWARE ALABAMA

THE TEXAS COMPANY
Butt Hinges by NATIONAL LOCK

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...
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...
to assure tightest weatherseal. Then, too, they are extra strong with sections 1 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
INTERNAL PIPE WRENCHES  AB95033
Reddick internal pipe wrenches are available in a new range of sizes. Addition of the 1/2-inch, 2 1/4-inch, 3-inch and 4-inch sizes brings the total number of sizes now available to twelve. 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 blade is not subject to warpage or set. Only one moving part, Reddick Tool Co., Dept. AB, 112 Rochester St., Costa Mesa, Calif.

FLEXIBLE DOOR  AB95021
Ro-Tex 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 lacquer enamel colors. Made of woven wood slats, air can circulate through door. Door is hung by suspending from ordinary traverse channel. Folds to either side of door frame. Made of Northern boxwood splints, 1/4 inches wide by 1/10 inches thick, which run vertically in the door. The Rough Shade Corp., Dept. AB, Janesville, 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 directly, at the touch of a button. To check wood, user inserts needle electrodes in sample, presses a button, and

CONVERSION GAS BURNER  AB95034
Min-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, automatic safety pilot, a simple removable pilot assembly, electric pilot shut-off valve, an accurate gas pressure regulator, adjustable air shutters, and a thermostatic. Finished in two-tone gray, the front panel is easily and quickly removed. Guaranteed for one year. Morrison Steel Products, Inc., Dept. AB, 601 Amherst St., Buffalo, N.Y.

UNIVERSAL PLANE  AB95012
The 13-inch Barton Universal plane, 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, wall ribbed, accurately planned and ground to smooth finish. It is 12 1/2 inches long, with slot for bottom head, 3x7/s inches. Case Corp., Dept. AB, Chrysler Bldg., 405 Lexington Ave., New York 17, N.Y.

NEW PRODUCTS
Offered by Manufacturers

PREMOLED 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 corrugated roofing and siding sheet. Strips seal openings by contact of the corrugations against curving. Roofs at corners, eaves, edge roll or cap, gutters, gables and around doors and windows. Called fibered, closures are made by Fabricated Products Co., Dept. AB, Box 5055, Pittsburgh 14, Pa.
You get more built-in builder benefits when you get DUO-THERM gas floor furnaces

CHECK THESE PERFORMANCE-PACKED FEATURES

Exclusive Equafame 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 suit 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 shutoff 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 joint need be cut on any installation.
- Designed so 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 23 1/2" 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.)

Fill out and mail coupon for descriptive literature.

Over 1,500,000 Warmly Satisfied Customers

DUO-THERM Always the Leader
PLASTIC PIPE
Flexible and rigid types of Corlan 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 sludge, and intake and exhaust piping. Has application in transmitting sludge, as low-pressure air lines, and in some installations, as both electrical conduit and electrical wiring conductor. 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. Center Products Div., Dept. A1, 10267 Main Ave., Cleveland 5, Ohio.

WINTER AIR CONDITIONER
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 Arcallume.

INSULATED BRICK SIDING CUTTER
Insulated brick siding cutter feeds siding into blades at rates of up to 200 pieces per hour. Baskets are made of three small teeth on each side of the blade. Cuts thicknesses of a little less than 1/4 inch. Blade is continuously cooled by fins and lubricated with oil or grease 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. A8, Lake Villa, Ill.

TEN MACHINES IN ONE
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. Reversed cabinet top permits quick and easy removal of saw unit, table and table saw motor, quiet in operation, and easily installed and serviced. Finished in Hammered baked enamel. Split-phase 1725 r.p.m. 1/2 H.P. motor has overload protection and a radio interference filter. Capacity for either C.S. No. 1 or No. 2 oil from 1/4 to 3 gallons. Width, 181/2 inches. Height, 14 inches. Weight, 36 pounds. The Coleman Company, Inc., Dept. A8, Wilkesbar, 1, N.Y.

DRAWER AND CABINET PULL
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. Alex Hardware Manufacturing Corp., Dept. A1, Los Angeles, Calif.

New products continued page 132

OIL CONVERSION BURNER
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 automatic model, quiet in operation, and easily installed and serviced. Finished in Hammered baked enamel. Split-phase 1725 r.p.m. 1/2 H.P. motor has overload protection and a radio interference filter. Capacity for either C.S. No. 1 or No. 2 oil from 1/4 to 3 gallons. Width, 181/2 inches. Height, 14 inches. Weight, 36 pounds. The Coleman Company, Inc., Dept. A8, Wilkesbar, 1, N.Y.

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Now products continued page 132
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
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.

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 four famous fixture colors—plus white

*10%, extra charge for colored wood ap-
Co-operating in National Home Week

September 10-17

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.

Kelvinator featured exclusively, nation-wide, in the Good Americans Home Program.
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 chicanery of World War III, were not only for the administrative and executive abilities of businessmen, but also for the paralysis of the country as a whole. 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.
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 newspaper interest by more parades, mayor’s proclamations, Home Week Queen, civic club luncheons, contests, and other events of local and national interest. Radio, 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. National 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

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’s 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 conductivity 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 1.80.

"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, 2 x 4 studs, gypsum lath and plaster is .82. If insulated with two inches of typical mass insulation, the "U" factor becomes .083.

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.
Insulation should be used

Why Insulation Should Be Used

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 certain types 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. Thus the first 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 man's own use, it has only been 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 selling 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 homes they produce. This, 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 building stock and 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 assuring improvement of conditions 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 shredded cotton 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 a base for the material, sheathing, interior or exterior finish for the walls, 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 out 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 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 and 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 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

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**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.

<table>
<thead>
<tr>
<th>Fuel Type of Apparatus</th>
<th>Method of Firing or Stoker-fried (residence)</th>
<th>Conversion Burner</th>
<th>Conversion Burner</th>
<th>Conversion Burner</th>
<th>Conversion Burner</th>
<th>Conversion Burner</th>
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</thead>
<tbody>
<tr>
<td>Assumed Calorific Value of Fuel</td>
<td>13,000 B.T.U. per pound</td>
<td>141,000 B.T.U. per gallon</td>
<td>535 B.T.U. per cu. ft.</td>
<td>1,000 B.T.U. per cu. ft.</td>
<td>1,000 B.T.U. per cu. ft.</td>
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<tr>
<td>Assumed Heating Efficiency</td>
<td>0.50</td>
<td>0.60</td>
<td>0.65</td>
<td>0.65</td>
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Courtesy Insulation Board Institute

SEPTEMBER 1950
### Thermal Properties of Residential Wood Frame Walls with Various Applications of Materials and Insulation

<table>
<thead>
<tr>
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<th>No Insulation</th>
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<th>2&quot; Insulation</th>
<th>3&quot; Insulation</th>
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<tr>
<td><strong>Heat transmission (U)</strong></td>
<td>.36</td>
<td>.13</td>
<td>.09</td>
<td>.07</td>
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<tr>
<td><strong>Heat loss</strong></td>
<td>18</td>
<td>9</td>
<td>6</td>
<td>5</td>
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<tr>
<td><strong>Inside surface temp</strong></td>
<td>59.0°</td>
<td>64.5°</td>
<td>66.3°</td>
<td>67.0°</td>
</tr>
</tbody>
</table>

(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 figures (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

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<td>.37</td>
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<tr>
<td><strong>Heat loss</strong></td>
<td>19</td>
<td>10</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td><strong>Inside surface temp</strong></td>
<td>58.6°</td>
<td>64.1°</td>
<td>66.3°</td>
<td>67.1°</td>
</tr>
</tbody>
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### Thermal Properties of Stucco and Wood Frame Walls with Various Applications of Materials and Insulation

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<tr>
<td><strong>Heat loss</strong></td>
<td>22</td>
<td>10</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td><strong>Inside surface temp</strong></td>
<td>56.9°</td>
<td>62.8°</td>
<td>63.8°</td>
<td>67.0°</td>
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</tbody>
</table>
In round numbers these tell the relative amount of heat that passes through a square foot of these wall sections when the inside air is 70 degrees warmer than the outside. The data on ceilings and floors were prepared with the assumption that the unventilated attic and crawl space areas would be 15 degrees warmer than the outside air. Therefore, the temperature difference used in the computations is 55 degrees, which keeps all the figures comparable to the 70 degree differential between outside and inside air temperature.

### Table: Heat Transfer Through Wall Sections

<table>
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<th>No Insulation</th>
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<th>Insulation 2&quot;</th>
<th>Insulation 3&quot;</th>
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<tr>
<td>14</td>
<td>15</td>
<td>19</td>
<td>26</td>
</tr>
<tr>
<td>61.5³</td>
<td>65.3³</td>
<td>66.6³</td>
<td>67.5³</td>
</tr>
</tbody>
</table>

* R.T.U. per hour per square foot at 70 degree temperature difference, heat round figures.
* Inside air temperature at 70 degrees, outside air at 0.

### Diagram: Wall Sections

- **No Insulation**
- **Insulation**
- **Reflective Insulation**

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**Note:**

- boarding: board
- plaster: plaster
- sheathing: sheathing
- stud: stud
- gypsum: gypsum
- attic: attic
- crawl: crawl
- ceiling: ceiling
- floor: floor
thermal properties of masonry walls with various applications of materials and insulation

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 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-
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 from the money 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 insulat-

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 0.05 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.

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<td>.06</td>
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<tr>
<td>Heat loss</td>
<td>15</td>
<td>6</td>
<td>3</td>
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<tr>
<td>Inside surface temperature °F</td>
<td>68.8</td>
<td>66.7</td>
<td>68.8</td>
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* B.T.U. per hour per square foot at 50 degrees temperature difference, comparable to 70 degree outdoor temperature difference.

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.

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</tr>
<tr>
<td>Heat loss</td>
<td>15</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Inside surface temperature °F</td>
<td>68.8</td>
<td>66.7</td>
<td>68.8</td>
</tr>
</tbody>
</table>

* B.T.U. per hour per square foot at 50 degrees temperature difference, comparable to 70 degree outdoor temperature difference.
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 applies 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...
fell 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 processes of heat transmission.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 a low rate of heat transfer by conduction. 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 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 insulating value, however. The normal vertical air space of 3/4 inch is as good as 5/8 inch of an average bulk insulation. If a reflection material is applied to one side of the air space it is equivalent to another 3/4-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 3/4-inch in width. The visible brightness of the surface of a reflective insulation, or of any material, is no indication of its effective-ness to retard radiant 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 of 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-
WHERE TO INSULATE

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

OPEN porches are frequently converted into your 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.

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.

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 most or groups or combinations of the two most insulating which depend on bulk or thickness for heat resistance, and reflective insulations which depend on the character of surfaces for efficiency.

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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 curves to gable or ridge surfaces 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 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 of 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 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. Further, walls or floors 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 and top floor ceiling areas are enclosed the wall 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 year round rooms, adequate insulation will often eliminate the need for additional heating facilities.

How Insulation Works

(Continued from page 83)

The occupant can 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 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 inside surface temperature of a wall is to the surrounding air temperature, the more ideal the conditions will be. Usually a wall which has sufficient insulation to satisfy 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."
(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 stitched 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 flanges. Photos courtesy (1) Owens-Corning Fiberglas Corp.; (2) Wood Conversion Co.; (3) Kimberly-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 to 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 instructions, 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 completely 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 3/4-inch blanket insulation well installed in the central vertical plane of the stud section, gave a test coefficient of .12. This same wall, with 3/4-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
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 battered 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-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 fibers 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 expanding 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.

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 in 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 slightly with a rubber mallet or short 2 x 4 as the insulation is poured to insure a complete fill between ceiling clins 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

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**Commercial Building Insulations**

1. Loose Fill Insulations
   A. Fibrous
      1. Mineral wool
      2. Rock wool
      3. Glass wool
   B. Vermiculite
   C. Vegetable Fiber (wood)

2. Blanket Insulations
   A. Wood fiber or mineral fiber wrapped one or both sides with paper, one side woolly a vapor barrier
   B. Multiple layers of treated wood fibers attached to creped paper with a re-rolled aluminum foil cover on one side, vapor barrier on the other
   C. Cotton fiber lined or wrapped one or both sides with paper

3. Batt Insulations
   A. Placed one vapor barrier
   B. Vapor barrier one side, plain on the other
   C. Vapor barrier one side, retainer paper on the other

4. Structural Insulating Board
   A. Building board
   B. Shampooing
   C. Lath

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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 fiber, cotton and animal hair. The fibers are either naturally fire-resistant, moisture and vermin resistant or are treated to make them so.

Because of the variety of materials used for blanket insulations, the manufacturing processes vary a great deal. The felted or wool-like materials, 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.

**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.
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 tucked back and the barrier stapled to members. Some rule applies to blankets worked around bridging and fitted snugly at ends of joint 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 bottom of the joints. 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 over the insulation. Best results are achieved with this method, however, if furring strips are applied over the insulation to provide an air space between the interior or exterior finish and the insulation.

Blanket insulations may be applied to masonry walls if the furring strips are thick enough to prevent close contact of the insulation with any rain borne moisture which might be conducted through to the inside of the masonry. Wherever insulating blankets or batts are used with new masonry, an effective vapor barrier should be installed on the warm side of the insulation.

Some compensable types of blanket insulations can be run over the furring strips and compressed over them by the lath or other interior finish which is applied. This method is common with builders who prefabricate houses or wall panels.

**Batts**

A number of manufacturers who produce blanket insulations also make batts, using the same raw materials. Batt insulation is 48 inches or less in length and the same width as the blankets—15 inches to fit between studs 16 inches on center and 23 inches for the 24-inch O. C. studs. The most common thickness for batts is three inches, although they are also produced in one and two-inch thicknesses. They may be obtained with the insulation completely encased in paper, one side of which is a vapor barrier; with the vapor barrier only on the one side; or without the integral vapor barrier. Some manufacturers provide a nailing flange as part of the vapor barrier. Batt and blanket insulations, where the same materials are used in both, are interchangeable in all areas. The decision as to which type to use depends primarily on individual preference as to experience and local conditions.

**BLANKETS** are cut in continuous strips to required length for each stud space. In installing batts or blankets, large pipes in wells may require removal of part of the wool, 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 cutouts worked around bridging and fitted snugly at ends of joint 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 bottom of the joints. 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 over the insulation. Best results are achieved with this method, however, if furring strips are applied over the insulation to provide an air space between the interior or exterior finish and the insulation. Blanket insulations may be applied to masonry walls if the furring strips are thick enough to prevent close contact of the insulation with any rain borne moisture which might be conducted through to the inside of the masonry. Wherever insulating blankets or batts are used with new masonry, an effective vapor barrier should be installed on the warm side of the insulation.

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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 then 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, bath, wall, roof and floor 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 1/4-inch, although it is available in thicker sizes. 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 decorative 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. When nailing is exposed, 1 1/2-inch board should be fastened with 1 1/2-inch galvanized finishing nails, cadmium plated needle point No. 17 gauge with 1/16-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 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 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 sheathing on the market today are waterproofed either with 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—1/2 or 3/4-inch thick, four feet wide, in lengths from eight to 12 feet with square edges, two by eight-foot sheets, 3/4-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
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 1/4-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 16x24-inch sizes. All these decorative materials come to the job prefinished, 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 manufacturers 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, continuous, solid, sound backing 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 1/4-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 1/4-inch box, common or galvanized nails can be used, with the regular 5/8-inch boards.

When plank, which varies in width...
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 ⅛-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; 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 ¾-inch wide. Regardless of where it is used or how it is installed the minimum ½-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 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.

Wood fiber and cement slabs are made of wood fibers mixed with portland cement. A single mechanical operation sheds 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, ceilings, roofs 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.
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 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 airtight. 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, make the outside surfacing materials colder than those of uninsulated construction, it is especially important that the insulation be properly installed, along with whatever collartal 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 grams of water vapor per square foot, per hour, per inch of mercury vapor pressure differential 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...
comes in contact with a cold surface, the vapor may liquify 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-decorations 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 condensation, 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 three classifications: (1) 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 sew-
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 during 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 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 covering 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 living 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 used to dry the plaster when it 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
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 effects 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 a 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 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 humidifiers 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 permanence.

Unvented water or space heaters, whether oil or gas-fired, give off hydrodrene 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-

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![Diagram of condensation zones](image-url)
Insulation...

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 gap on the side wall plate, securely stepped to escape while the work is being done.

Batting, 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 located 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 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 prevent 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.

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 turned out to permit free flow of air from the eaves throughout roof.
ABOUT 10,000 people a day visited these houses on the "Avenue of American Homes" at the 1950 Chicago Fair. Builders, materials manufacturers and magazine sponsors reported the display a success.

Demonstration of Home Ideas

Eight display homes at 1950 Chicago Fair draw a record crowd of 10,000 visitors a day.

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 1950 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—intrigue. 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.

FLOOR plans of J. E. Merriton's duplex home at the Fair which drew favorable attention from housing authorities.

FEW builders doubt the construction economies possible with duplexes, but all are aware that one of the prime problems is the objection of home owners to lack of privacy. The J. E. Merriton and Company duplexes, left, obtain 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. Merriton 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 $250 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 houses, 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 gypstone 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 houses 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 units 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 both sides, permitting an easy, and in most cases, eager view.

A duplex built by J. E. Merson & Company of Chicago, was the only builder-sponsored house at the Fair.

### Structural Clay Products Home

Columns, angles and I-beams support roof of this home, where no ceiling joints 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 sub-floor, and cavity wall construction. Brick fireplace provides heat to both living room and bedroom. Ventilation is provided 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.

This company is now duplicating many of these houses in Chicago for two reasons: One, because Joseph E. Merson, 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
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" home, designed by Tsaroucka, Osborne, Martini and Mahun. 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 433 square feet of floor space. It could be built in Chicago for less than $8,000. Plans call for a 4-inch reinforced concrete slab floor with asphalt tile covering. Steel beam 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.
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 500 sq. ft. studs, 18 inches O.C., 1/4-inch sheathing is placed, then asbestos cement siding. On inside of studs, Rocklith plaster base, a Purlite 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 250-pound thick 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.

Television House

Designed so that a television set mounted on a turntable can be seen from almost every room, this house 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 pattem where vertical and horizontal joints are continuous. Bathroom and kitchen are of tile. Plans call for a basement.
Expressing Economy
in Line and Plan

American Builder
Blueprint House
Number 45

APARENT 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 1/2 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.
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 treliss 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.
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.

**Kitchen Redesigned to Harmonize with House**

The planning experts of the American Central Division-Aven 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 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
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 windows 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 above 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 each. This forms the typical U-arrangement, which is one of the preferred types. Cupboards adjoining the equipment are arranged for storage 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.
Charts Can Save You Money

By E. T. McMurray

E. T. McMurray devised his own system of keeping books several years ago. He simplified the system, and today believes other builders, particularly new ones in the field, can profit by it. He has completed more than a thousand homes in Des Moines, Iowa, where he is now completing Mesa Park addition, financed by Home Federal Savings and Loan Association.

Our simplified cost estimate method has enabled us to more easily co-ordinate the many phases involved in building group housing. We use it successfully, and feel that many other builders in the industry, particularly newcomers, may find it helpful.

Most important to us is that we have been able to reduce costs and avoid errors by using the method. We are automatically informed when costs exceed original estimates in sufficient time to make corrections before too much damage is done. And our system points out instances when costs can be reduced without reducing quality.

Charts are used. One chart shows day-by-day progress of each phase of construction. Another shows when FHA, VA and city inspections are ordered. The dates of these inspections, as well as the dates when various groups of materials are ordered, are entered on a chart (see illustration). Upon completion of an inspection or delivery of building materials, the date previously entered is circled. Thus we can tell where to place the blame for any slowdown.

Our cost estimating is done by these charts, and a chart in a 14-page book of forms. The book lists materials in groups. By supplying the lumber dealer with a copy of our lumber list by group numbers, we need not spend time in ordering long lists of materials on a group of jobs. We merely call for delivery of Group 1, 2, 3, or 3, etc., on Job No. 2 to 20, for example.

All delivery slips and invoices must be identical to our group estimates as ordered by number. If there is an invoice in addition to Groups 1 to 11 (see illustration), it is subject to scrutiny and requires explanation. If an error was made in estimating, the estimate is corrected immediately while that particular plan is being built for the first time, with the result that it cannot occur again. This also applies to masonry material and other items, as can be seen by studying the detailed breakdown in our estimating form which explains the method of arriving at an estimate.

Our job cost accounting is done as follows: First page in the 14-page book is the cost estimate chart. On this page, the estimated costs of each phase of the job are listed in one column. In the adjacent column, the actual cost for each phase is entered after a job is completed. If the actual or experienced cost differs, the amount is entered in the third or fourth column, and the difference between the increase or decrease and the estimated cost for each phase is listed in the last column on the page.

---

<table>
<thead>
<tr>
<th>Item</th>
<th>Est. Cost</th>
<th>Actual Cost</th>
<th>Diff.</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
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<tr>
<th></th>
<th></th>
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<tr>
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</tr>
<tr>
<td>Concrete</td>
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<td>$2900</td>
<td>$100</td>
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---

<table>
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<th>Est. Time</th>
<th>Actual Time</th>
<th>Diff.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Framing</td>
<td>10 days</td>
<td>9 days</td>
<td>1 day</td>
</tr>
<tr>
<td>Painting</td>
<td>5 days</td>
<td>6 days</td>
<td>1 day</td>
</tr>
</tbody>
</table>
Each phase of the job listed on page one of the book is broken down in detail on subsequent pages. For example, if on page one "building materials" show an increase in cost over the estimate in column one, you can turn to pages 2, 2A and 2B and see a complete cost breakdown for every item of material used on the job. That makes it simple to see what went wrong with the estimate.

Building materials are broken down into 11 groups. Group one, for instance, includes foundation plates, first floor joists, posts, bridging, box sill and sub-flooring. Group two includes studs, plates, door headers, window headers, door doubles, window doubles, beam materials, kitchen cupboards, bulkheads, second floor joists, ceiling joists, bridging and sheathing.

After each monthly audit, when a given group of houses has been completed, we spot check our costs by transferring our actual experienced cost to our cost estimate chart. We can then determine whether the estimate is off by referring to the columns "increase" and "decrease," and we locate the error and make adjustments accordingly.

We keep in our file a cost breakdown in percentages; these percentages are based on a one story frame house up to 1400 feet with basement, and show cost relationships of materials and labor that go into its completion:

<table>
<thead>
<tr>
<th>Category</th>
<th>Per Cent</th>
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<tbody>
<tr>
<td>Miscellaneous items*</td>
<td>2.50</td>
</tr>
<tr>
<td>Building material</td>
<td>27.66</td>
</tr>
<tr>
<td>Cement work</td>
<td>4.00</td>
</tr>
<tr>
<td>Carpenter labor</td>
<td>11.00</td>
</tr>
<tr>
<td>Common labor</td>
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</tr>
<tr>
<td>Electric wiring and fixtures</td>
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</tr>
<tr>
<td>Excavating</td>
<td>.90</td>
</tr>
<tr>
<td>Flooring material</td>
<td>.90</td>
</tr>
<tr>
<td>Floor sanding</td>
<td>.50</td>
</tr>
<tr>
<td>Furnace</td>
<td>5.25</td>
</tr>
<tr>
<td>Grading and landscape</td>
<td>3.10</td>
</tr>
<tr>
<td>Finish hardware</td>
<td>.98</td>
</tr>
<tr>
<td>Social security, compensation</td>
<td>1.25</td>
</tr>
<tr>
<td>and liability insurance</td>
<td></td>
</tr>
<tr>
<td>Linoleum</td>
<td>1.25</td>
</tr>
<tr>
<td>Loan expense, construction and interest</td>
<td>2.00</td>
</tr>
<tr>
<td>Mason material</td>
<td>4.50</td>
</tr>
<tr>
<td>Mason labor</td>
<td>3.10</td>
</tr>
<tr>
<td>Millwork</td>
<td>9.00</td>
</tr>
<tr>
<td>Plumbing</td>
<td>10.91</td>
</tr>
</tbody>
</table>

Painting and decorating          | 6.10     |
Sheet metal                      | .75      |
Tile bath                        | 1.50     |

100.00

*NOTE: Miscellaneous items include building permit.

(Continued on page 262)
**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

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 house 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 stages and changes were made by builders to make houses conform to new owners needs.
**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 inches 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 faceted 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 lomed oak. The surface in back of the triplecates mirrors in turquoise. The floor in the foreground is combination of green and white asphalt tile.
How to Make Forms for Concrete Posts

Stovepipe or air duct 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 Repair Low Hanging Gutter

A plywood template used in conjunction with a 5/8-inch base hinge butt rivet. 1/8-inch diameter cutter, can rout hinges for doors of either hand. Tack template to door jambs 1 1/4-inch down from top. Time of operation, two minutes for two hinges. Slide “A” or “B” to right or left on jambs as required.—J. G. Caldwell, San Mateo, Calif.

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 cornices 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 photo 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 10 1/2-inch total thickness including 2 1/2-inch air space for insulation. The plank wood frame for large fixed window openings is securely bolted to brick jamb, 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 joint and rafters, and also extend beyond the wall line to form framing for overhang. Batt insulation is placed between framing members.
NO D.70 - UNUSUAL WINDOWS IN TEXTURED WALLS

Detail of windows behind brick grill.

Sill, head jamb, mullion.

Living room window.

Exterior walls of stucco, split face brick, masonry exposed in living room.

2 x 4 stud, 1/2 "larson board. Grade wood sheathing.

Wood sill, cement sill, brick trim.

ENTRY WALL MAIN WALL

Built-up roof on 6" D.10 sheathing.

Metal gutter, 1" lip according to span, insulation.

Insulated glass.

SIDE JAMB
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-fill 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 workman on the job as shown in photo below.

(Continued from page 119) 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 drywall 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. Twindow; 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 Lennes gas-fired forced warm-air furnaces; 12x1-1/2-inch-thick doors; Gerity Co. medicine cabinet and bath accessories; Armstrong linoleum; Moresco paints; U. S. Gypsum sheetrock for partitions; Fibre glass insulation; Crane Co. gas water heater.
remodeling apartments or commercial buildings?

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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 post-war shortage of homes, which quite logically did not apply to homes alone, occurred while we were engaged in other highly essential activities. However, as severe as it was immediately following World War II, it wasn’t prolonged unduly or catastrophically as predicted by histrionic 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 now busy taking 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 horn-clash 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 be seen 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 heritage.

While Washington was making 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-seeing interests.

Fortunately for the nation at large, it took no long for the public houingers already ended the housing shortage in each 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 practically every worthwhile vacant lot in nearly every city and town in the country and had extended its efficient activities miles into the countryside 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 numbo-jumbo of the so-called expeditors who paid little heed to the way it had been done in the past. Not by the Lamentations of industry and 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 together on factory after factory after industry after industry after industry to produce a Utopia factory after factory after factory. Where were going to drop off the end of the production lines at a faster rate than the automobile industry ever achieved.

The catching up of this Herculean pen up demand task was an achievement for which the home building industry has a right to be proud and it was accomplished even while the over-busy bureaucrats were shooting to the house-tops that it was 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)
A hole in the lower tip! With a hammer and nail, you can drive out the hinge pin in seconds. Think of the time that's going to save on the job!

Ask your dealer for STANLEY Hinges. It will pay you—in two ways: you cut building costs, and you build client good will.

THE STANLEY WORKS, NEW BRITAIN, CONNECTICUT
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 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 floored 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 Nailsed 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 screws. Submitted by Geo. A. Heffelinger, 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 for your money, in 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 — profit 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 last costly to finish — easier to clean and longer-lived.

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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.

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Southern and Appalachian Hardwood lumber
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Catalogs

(Continued from page 126)

801—SCREWLOCK METAL FURRING CHANNEL—a title of four-page booklet describing metal furring channels for all suspended ceiling construction issued by Nadlock Steel Division, The Sanymetal Products Co., Inc., 1628 Urbana Road, Cleveland, Ohio. Contains diagrams showing installation of suspended ceilings with wire, wood joints, 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 10-page booklet published by The E. F. 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 Geneva 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.
NO CORNER BRACING

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.

Racking tests in accordance with F. H. A. specifications were recently conducted by an independent laboratory using 4 ft. BILDRITE in 8-x-8' 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 tests! 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!
NEW PRODUCTS
(Continued from page 68)

STEEL WINDOW CASING A995007
Capco steel casing for installation with steel windows, permits pint between pilasters at face of wall and the window casing to be concealed by a molding which is as an integral part of the casing. Satisfies problem of plaster trims around the window. Available for all standard residential size casements and multiple units. Copy Steel & Engineering Co., Dept. A8, 14593 Grand River, Detroit, Mich.

LOW-PRICED FAUCET A995005
New low-cost 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 lower it in. Body is one-piece, bronze coating. Assembly above sink level is heavy chrome-plated and polished to high luster. Bories Manufacturing Co., Dept. A8, Mansfield, Ohio.

CORNER ANGLE SHOWER UNIT A995019
Permanently shower unit is made up of three components, the Permafix one-piece stainless steel shower receptor, water interlocking O-MC stainless steel shower wall, and Epple-Lite showerproof translucent Fiberglas window.

Put into your houses what home "shoppers" want...and they'll buy!

Two out of three women prefer gas for cooking. Beyond the mains, this means PYROFAX Gas not only for cooking, but for refrigeration and water heating as well. It's the cleaner, faster, more economical, more dependable fuel...gives instant, even heat.

No matter where you build, you can install PYROFAX GAS...the low cost fuel for modern kitchens. Installation is quick and easy...no expensive wiring, no construction changes. PYROFAX Gas is piped in direct to range, refrigerator or water heater from twin cylinders outside the house.

Let us show you how PYROFAX GAS saves on building costs...makes sales easier for you!

Nationally Advertised Appliances
Magic Chef and Caloric ranges, Servel refrigerators, Ruud and Bryant water heaters, and other gas appliances are available for use with PYROFAX Gas—from distributors in 30 states east of the Rockies.

PYROFAX GAS DIVISION
Union Carbide and Carbon Corporation
30 East 42nd St. New York 17, N. Y.

"Pyrofax" is a registered trade-mark of Union Carbide and Carbon Corporation.

AMERICAN BUILDER
IN BASEMENTLESS HOUSES...AT LOW COST

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

Of Available through
5 National Distributors

SEPTEMBER 1950
Grasp these profitable

BUILDING CONTRACTS!

Your big-profit building contracts are right at your finger-tips when you use DODGE REPORTS. You are told WHERE to go. . . . WHO to see. . . . WHAT to talk about to get these jobs! And you can have this information for any area you specify, for any type of construction, for any stage of the construction work.

You get profit-making facts that show you the active prospects for building contracts such as:

- new apartment buildings
- banks, hospitals, schools
- churches, theatres, homes
- factories

In fact, every type of new construction offering you profitable job opportunities.

Thus, with DODGE REPORTS, you can be first in the right place—at the right time; you know what type of materials will be needed—who is involved in each project (name of owner, architect, engineer, contractor) when the plans will be ready for figuring and when bids must be submitted.

DODGE REPORTS save you time, save you "leg work." They enable you to base your estimates upon known facts—time your bidding—close deals at the proper moment for effective results.

Let us show you, without obligation, how DODGE REPORTS can help you grasp these profitable building contracts.

MAIL THIS COUPON

YES—I want to know about the profitable opportunities in New Construction. Without obligation, show me how I can use DODGE REPORTS in my business. (I do business East of The Rockies.)

Name

Firm

Address

F. W. DODGE CORPORATION

Construction News Division

119 West 40th Street, New York 18, N. Y.

NEW PRODUCTS

(Continued from page 152)

ORRIS SELECTOR SLIDE RULES ABR9105
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 estimation of a grille for any common application. Uni-Flow Sales Div., Dept. AB, Barber-Coleman Co., Rockford, Ill.

BACK LEDGE SINK ABR9114
New back ledge sink has an easy-to-clean stainless steel bowl. Colorful enameled tops are self-rising and durable. Sinking 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 water-tight seal. Legion Stainless Sink Corp., Dept. AB, 65th Ave. & 21st St., Long Island City 1, N.Y.

MAINTENANCE UNIT ABR9129
Occupying 18½ x 40 inches of floor space, the Shopsmith maintenance unit can be converted into an 8½-inch circular saw with extension table, 15-inch vertical drill press, 33-inch

MAIL THIS COUPON

AB—950

STEEL WINDOW WELL ABR9123
USF standard window well, made of corrosion-resistant galvanized steel, is intended to meet needs of lowest budget building projects. Plait, safety-guard edge. Produced in one opening width and in three standard depths. Dimensions are 37½ inches in a choice of 12, 18, and 24-inch depths. United Steel Fabricators, Inc., Dept. AB, Wooster, Ohio.

(Closed on page 136)
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. R. C. Seal Equipment Co., Inc., Tampa, Florida
- Aluminum Products Co., Mayaguez, Puerto Rico
- Aluminum Home Products Co., Knoxville, Tenn.
- AL-10 Metal Window Co., School, Pa.
- American Bronze Corp., Garden City, N. Y.
- Aluminum Corporation, Milwaukee, Wisc.
- Aluminum Co., New York, N. Y.
- Windowframe Corporation, West New York, N. J.
Dress up the bathroom...with a Fiat GLASS SHOWER DOOR

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 METAL MANUFACTURING COMPANY

NEW PRODUCTS
(Continued from page 134)

REMOTE CONTROL GATE OPERATOR A893000
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 8, 8, or 12 feet. Motors are either 1/2, 1/3, or 1/2 H.P. Robot Appliances, Inc., Dept. AB, 12165 Prospekt Ave., Dearborn, Mich.

SHOWER HEADS A893026
Variable shower head is completely adjustable to right or left for needle spray, normal spray, fixed spray, or any spray in between. No outer adjustments or setting of any kind have to be made to any part 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 A893003
Flexline 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 painting 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.

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 drywall 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.
NEW PRODUCTS

STEEL SCAFFOLDING A895010
Low-priced 'Safeway' 4x4-inch steel scaffold- ing for light duty construction is certified to
4,000 pounds uniform load and 16,000 pounds
roof load. Approved by Underwriters Labora-
tories, Inc. Frame members measure 4

feet wide by 4 feet high. These parts may be
assembled in scaffolds or towers to high as
40 feet, and for loads not exceeding 50
pounds per square foot. Made from high
carbon steel tubing, satisfactorily tested in a
study rigid design. May be rapidly assembled
or dismantled by unskilled help, without special
tools. Easily adapted to fit any size. Safeway
Steel Products, Inc., Dept AB, 8274 W. State
St., Milwaukee 13, Wis.

EMERGENCY EXIT LOCK A895031
New type emergency exit lock has approval
of Underwriters Laboratories and the Casu-
alty Insurance Underwriters Committee. Low-
ers risk on all types of insurance. Hotels and
restaurants claim the lock stops pilferage.
May be operated at the convenience of autho-
rized persons who possess keys. On in case of
fire emergency may be opened by any per-
son who strikes slapper which acts upon open
door and rings alarm. Hunter Lock Co., Dept
AB, 1105 S. Robertson Blvd., Los Angeles 35,
 Calif.

AUTOMATIC HOME INCINERATOR A895022
Triangular home incinerator features automatic
drafting, burner shut-off and automatic flame
protection. Measures 20 x 20 x 20, can be
left unattended. Installation is in the

wall, off the roof of 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.
Dries in thorough job of consuming garbage,
swepings, and paper, using only newspaper
as fuel. Automatic gas burner provides flame
necessary for burning exceptionally wet loads.
Incinerator Products Co., Dept AB, 667 Post
Ave., South, Detroit 17, Mich.

(Continued on page 140)
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.

MANSIONS REQUIRE THEM

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
NEW PRODUCTS
(Continued from page 138)

MAGNET CLEAN-UP UNIT A895032
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 furnish materials must be removed from floors or alleys. 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. F. W. Sheden Co., Dept. AB, 5788 Washington Blvd., Culver City, Calif.

FAST HEATING ELEMENT A895008
Boil eggs 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 large of current in its initial operation that brings unit to heat in 30 seconds. The 1950 Commander range, besides the Corax heating unit, has a unit that indicates heat positions on a color band. Double oven model accommodates a 25-pound turkey. Washhouse Electric Corp., Dept. AB, 240 E. Fourth St., Mansfield, Ohio.

IN-A-WALL FURNACE A895037
Econ Temp self-contained furnace is installed in a wall partition or cabinet. 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-
A low-cost furnace with all these outstanding values!

1. All-welded steel heat-exchanger and radiator — cleanable through convenient front access panels; updated design.
2. Durable cast-iron drilled-port burner — with large single-port, non-clipping 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, 26" deep. (Available with pin-type burner.)
6. Shipped completely assembled — arrives in two packages: one for burner and tray, the other for assembled heat-exchanger and cabinet.
7. Approved by American Gas Association — for all uses and high-altitude installation with full rating.

Type 111 Gas Gravity Furnace
Fuel-thrifty 90,000 Btu Steel Furnace — shipped pre-assembled to cut installation costs

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 93 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.
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 Three-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 holesaws. 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

New Products
(Continued from page 140)

RECESS ADI HATING SYSTEM A895016
Gas-fired Empire recessed heating system provides low-cost, safe controlled heat. "Spill Chamber" prevents products of combustion from discharging into attic. 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, or walls ranging in thickness from 4 1/2 inches to 7 1/2 inches without facing. 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 A895017
For accurate end-of-day accounting, the UARCO Portable Register weighs 2 1/2 pounds, holds three-point business forms. It measures 13 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 N. Jackson Blvd., Chicago 4, Ill.

LEVERAGE TOOL A895004
Flor-Tite, a new leverag tool for tightening tongue and groove flooring boards instantly into a nailing position, has a series of steel pins or teeth that provide a gripping base. A simple movement of a hand lever inserts quick, accurate nailing. Provision is made in facing for a chargeable insert to cover a wide variety of tightening or separating operations, such as floorings, studding, sheathing, siding, roofing, floor-blocks, etc. R. M. Products, Dept. AB, P. O. Box 171, Rochester, Mich.
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.

(A General Electric Affiliate)

8600 West Taylor Street, Chicago 44, Illinois
CHORD LONG SPAN JOISTS

18° to 54° deep
Up to 106 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
39 feet to 120 feet long

Send your inquiries or your plans to us for complete Engineering Service.

HAVEN-BUSCH COMPANY
561 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 organized 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 answers to requests and in the 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

(ThePATENTED)

• Only Two Moving Parts — Uses 110-120 v. A.C.
• Easy To Use — No Bearing Down—Continuous Use Doesn’t Fat Operator.
• Weight Less than 5 lbs...
• Over-all Size: 3½" wide x 4½" x 11½
• Dust-Proof—Fast-Proof—Fully Guaranteed.
• 11 square inches of Sanding Surface.

NEW MODEL 2000 DREMEL Electric SANDER

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, putty, "like finish on doors, window frames, cabinets, etc. Rugged construction, trouble-free design—plus low initial purchase and operating cost—will demand your thorough investigation. Ask 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 $3.00 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 discount schedules. Prices with first order of 1½ gross or more. Ad ends on request.

ROCKFORD SASH HOLDER, INC.
307 EMPRE BUILDING • 203 S. MAIN STREET
ROCKFORD, ILLINOIS

AMERICAN BUILDER
Ford 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 5.

FORD F-5

First in sales!

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 5.

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:

1. Up to 1,720 lbs. more payload capacity.
2. Up to 1,300 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.

Mail this coupon today!

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!
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.

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 radiator 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-A
Baltimore, Md.
Baltimore, Mass.
Boise, Idaho
Chicago, Ill.
Columbus, Ga.
Detroit Lakes, Minn.
Des Moines, Iowa
Fayetteville, N. C.
Newark, N. J.
Portland, Ore.
Prescott, Ariz.
Reno, Nev.
Salt Lake City, Utah
Seattle, Wash.
St. Louis, Mo.
St. Petersburg, Fla.

San Rafael, Calif.

H.C. Little
Burner Company

(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 a mist might 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 tingly 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.
STRONGER, MORE RUGGED . . . Strand Garage Doors provide lifetime 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 held 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.
"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 F O R W A R D!

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 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 marauding marauders who would have to be removed and replaced, are vividly marked on the minds of many. With a little effort, 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 new all-important quality faux 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 been a building product that sells homes faster!

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 Indianapolis 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. Hired a publicity firm to handle publicity for the Week.

(Continued on page 75)
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.
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, tractor-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.

FREE! Garbage Disposer A.A-A. file folder sets.
Fill out coupon now! MAIL TODAY!

Waste King KITCHEN PULVERATOR CONTINUOUS-FEED

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 Morehouse, 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)
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...

NUTONE

NUTONE, INC., Dept. AB4
Cincinnati 27, Ohio

EASIEST TO CLEAN

You'll marvel at how beautifully, when you install a Nutone Ventilating Fan in your new home. Nutone's exclusive removable motor grille (U.S. Pat. Pending) provides an EASIER, QUICKER, SAFER way to clean the all-important “grease area” than any other ventilating fan in the world.

Give your customers this greater CONVENIENCE... sell your homes faster by including a Nutone Ventilating Fan in every home you build.
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' x 22'') 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" x 22" 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.

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.

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 Allix 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 Yahoo City Herald. Mayor has already issued proclamation at breaking of ground of a new model home. Are working with the Real Estate Board and the Mississippi Retail Furniture Dealers Association. Will have a HBA Model Home, six sub-divisions and various model homes 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 $895; 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
CONTRACTORS!

Here is the Greatest BARGAIN EVER OFFERED IN TOP QUALITY BUILDERS Exhaust Fans

Shovelaire

"BUILDERS SPECIAL" EXHAUST FANS

Here is a fan you will be proud to install. Features found in the highest priced fans—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. Positively the lowest priced fan of this quality found anywhere. Write for details today.

VERTICAL DISCHARGE 30”, 36”, 42”

As Low As $43 27

SKF Bearings

HORIZONTAL DISCHARGE, 30”, 36”, 43”

With Diamond-Bored Sleeve Bearings

As Low As $37 56

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 Shovelaire line for 1950, and names of nearest distributor.

C & H

AIR CONDITIONING FAN COMPANY, INC.

1939 DuVal 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, tieing 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 York

Niagara Frontier Builders Association: Matthew Flanagan 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. Will be contemplating 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...

Catalog and specifications sent on request

ONLY IN-SINK-ERATOR is American Builder

ONLY IN-SINK-ERATOR is American Builder

Only IN-SINK-ERATOR offers all these vital product advantages.

SEE SWEET'S 10-15 Builders 24x16 Architectural

IN-SINK-ERATOR MANUFACTURING CO., 1215 Fourteenth St., Racine, Wisconsin
TAPERTEX ... a massive, heavy weight, heavy duty siding of exceptional durability. Narrow courses facilitate installation. Embossed, textured design creates a truly beautiful sideway. Available in Rustic Brown, Leaf Green and Antique White.

ASHKAR 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.

SHINGLED 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.

BRICK 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.

SNAKE DESIGN ... the colonial beauty of cedar shake 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.

FLINTKOTE
the entire years of service cost 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!
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 for 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 hogs, hooves 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.
National Home Week
(Continued from page 154)
proclamation. Will have approximately 10 model homes on display.

Ohio
Home Builders Association of Greater Cleveland: Planning to have special sections of the Cleveland Press, Cleveland News, Cleveland Plain Dealer and the Cleveland Shopping News. Will have a mayor's proclamation. Working with the Cleveland Lumber Institute, Cleveland Real Estate Board, Cleveland Electric League and the East Ohio Gas Co. Hope to have about 300 homes on display.

Home Builders Association of Mahoning Valley: Cliff W. Springmeier, Program Chairman. Hoping to have special section in the Youngstown Vindicator. Planning to have a mayor's proclamation. Working with the Youngstown Real Estate Board.

Home Builders Association of Greater Cincinnati: Will have special sections of the Cincinnati Times- Star, Post and Enquirer. Will have mayor's proclamation. Working with the Real Estate Board and the Lumber and Millwork Association.

Home Builders Association of Stark County: Committee appointed. J. F. Dougherty, Chairman. Program details not available.

Columbus Home Builders Association: Committee appointed. William Elberfeld and Ernest Fritsche, co-chairman. Program details not available.

Toledo Association of Home Builders: Committee appointed. Paul J. Fuller, Chairman. Program details not available.

Oklahoma
Oklahoma City Home Builders Association: Committee appointed. Eddie Pennington, Chairman. Program details not available.

Oregon
Portland Home Builders Association: Will have special sections in the Oregon Journal and the Oregonian. Planning to have mayor's proclamation. Working with the Oregon Retail Merchants Association
(Continued on page 160)
Dozens of Uses —Inside and Out

Simpson
INSULATING BOARD PRODUCTS

Make Homes More Livable, Comfortable and Sell-able!

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-Imregnated 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 an 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 carpports 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.

Simpson FOREST PRODUCTS
INSULATING BOARD PRODUCTS

We conserve timber by converting mill and factory left-overs (not bark nor rejected wood) into the Insulating Board Products described at the right.

DOUGLAS FIR PLYWOOD
Two large plywood mills manufacture Simpson Douglas Fir Plywood, trademarked and DBFA graded.

DOUGLAS FIR AND HEMLOCK DOORS
Simpson Doors are manufactured from matur Douglas Fir and Western Hemlock in all designs and in all FDL 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.

ACCOUSTICAL TILE

Simpson Acoustical Tile, preferred throughout the industry for its high sound absorption and Hollower drilled perforations, is available through authorized acoustical contractors, and Simpson Noisemaster Acoustical Tile through regular distributors and dealers.
National Home Week
(Continued from page 168)
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 full page 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)
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 lb. per cu. ft.) — because it has a 11/2” 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 Battin Co., Lockport, N. Y.

GIVE IT THE BLOWTORCH TEST
You will find that it won’t flame—merely char 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.
SAVES TIME

Save shows how Symons System saves time in grading and stripping logs. Belt power through 2 x 4 studs and the logs. Wedge assures the assembly. This simple device cuts forming time 50%.

SAVES LABOR

Harry O. Dehnin, Foreman, Taylor Brothers, South Bend, Ind., states: 'Save men cut the homes for a 30' x 27' foundation in one hour and fifteen minutes.'

SAVES COST

With time and labor cut in two ... Plus savings in nails, spreaders, nails and bracing ... Plus far greater resale of homes ... Cash drop to a new low.

RENTED WITH PURCHASE OPTION

WRITE TODAY FOR FREE CATALOG

SYMONS CLAMP & MFG. CO.
4261 DIVERSEY AVENUE
CHICAGO 19, ILLINOIS

A GOOD HOME
WELL PRESERVED

The Home of
Mr. & Mrs. O. B. Stone, Dodge City, Kansas.
Herbert E. Duncan, Architect, Kansas City, Mo.
Emil Becker, Contractor, Dodge City, Kansas.

All wood in this attractive home was dip-treated in WOODLIFE—including roof and sidwall shingles, millwork, flooring and structural lumber.

See your lumber dealer or write for information.

Protection Products Mfg. Co.
Research Laboratory and Plant KALAMAZOO, MICH.

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: Texly 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 Deseret 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 Retailers' Association cooperating with the builders in National Home Week. (Continued on page 164)

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 hitherto available. This information will be of great interest to contractors, architects, engineers, plant operators and men in allied fields. For your copy, write to your company headquarters or address below for free copy. There is no obligation.

/ CUTS DELAYS
/ SPEEDS STRENGTH
/ ADDS EXTRA STRENGTH

SOLVAY SALES DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 Baxter Street, New York 4, N. Y.
These Long Island Home Buyers Will Always Thank Their Builder For Selecting **TITE-ON Shingles**

*proved on half-a-million applications*

Ruberoid Dubl-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 Ruberoid Co.

Building Materials for Home, Farm and Industry

Executive Offices: 300 Fifth Ave., New York 17, N.Y.
Sales Offices: Baltimore, Md. - Bound Brook, N.J. - Chicago, Ill. - Dallas, Texas - Erie, Penn. - Minneapolis, Minn.

September 1930
MORE
MEASUREMENT-
ABILITY

STANLEY
No. 227
Extension Rule
with the
"Green Ends"

STANLEY TOOLS
NEW BRITAIN, CONNECTICUT
THE TOOL BOX OF THE WORLD

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 Intelligence.

Tacoma Master Builders Association: Will have special section of the Tacoma News Tribune. Planning to have 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's 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.
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 Log Co., is laid in record time in new Fond du Lac school. Called "Laylite," it is tongue and grooved on sides and ends. Here, no lengths under four feet were used in constructing the gymnasium floor.

Mr., said his men were able to develop more speed on this job than any previously for two main reasons: (1) None of the Laylite Northern Hard Maple flooring used was less than four feet in length; and (2) it was applied over a diagonal subfloor. Laylite 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. Stepanski 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 Earl R. 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 found essentially 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
New BRADFORD
MODEL 160

- Only $59.50
- Complete with Bevel and Depth Adjustment.
- 2° straight cut, maximum; ¾° minimum
- Bevel cut at 45°, 11/8 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.

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National Home Week
(Continued from page 108)

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. Muscle (Ind.) Evening Press
10. Muscogee 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. Yuma City News
19. St. Louis Globe Democrat
20. St. Louis Post-Dispatch
21. St. Louis Star Telegram
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 Telegram
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. Beloit (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 108)
Westinghouse Laundromat

ONLY Westinghouse Laundromat

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

You can be sure...If it's Westinghouse

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 230 volts, a-c service. They're proved house sale makers.

... of course, it's electric!
6 REASONS WHY
Rittenhouse
DOOR CHIMES
ARE YOUR BEST BUY

1. UNEQUALLED, DISTINCTIVE TONE
The melodic, cathedral tones of Rittenhouse Door Chimes make them the finest
money can buy.

2. STYLED FOR CUSTOMER ACCEPTANCE
Stylish 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.

4. A MODEL FOR EVERY TYPE HOME
There's a model Rittenhouse Door Chime for every type home from cottage to mansion.

5. OVER A MILLION SATISFIED USERS
Wide popular acceptance of Rittenhouse Door Chimes assures added sales and profits.

6. POPULARLY PRICED
FROM $3.95 to $94.50
A complete line. Every model is crammed
with big value.

WRITE TODAY. Get the merchandising facts about the full line of Rittenhouse Door Chimes. Also our complete line of
doorbell and chime transformers.

THE RITTENHOUSE CO., INC.
12 Owen St., Honeoye Falls, N. Y.

National Home Week
(Continued from page 166)

72. Cincinnati Post
73. Cincinnati Times
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. Pravo Herald
82. Milwaukee Sentinel
83. Milwaukee Journal
84. Seattle Post-Intelligencer
85. Seattle Times
86. Atlanta Journal
87. Atlanta Constitution
88. Toyota State Journal
89. Toyota 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 show-
room of the American Radiator and
Standard Sanitary Corporation in
Pittsburgh, Pa., features a representa-
tive selection of American-Standard
plumbing fixtures (lavatories, water
closets, baths, kitchen sinks) and
heating units (furnaces, boilers and
water air conditioners) in a wide
price range.

Arranged in many different kinds
of realistic, colorful backgrounds that
semble bath and powder rooms, kitchens and washrooms, these fix-
tures and heating units are shown in
various shades and styles.

Chrome 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, mak-
ing 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 moods and
styles, particular attention has been
ded periodically to exhibit effec-
tively the latest in plumbing and
heating design.

Place Your Steel Problems
In Our Hands...

You will find the answer to your steel
problems here at International.

Large stocks of various steel shapes,
standardized methods of manufacture, and
a large, well-managed plant enable us to
make good delivery of your structural steel.

The variety and economy of our steel
building products give you one source of
supply, saving time and money.

Send your plans for our prices — or
write for assistance in working out your
steel problems.

New Show Room for
American-Standard
Opens in Pittsburgh

INTERNATIONAL STEEL CO.
1804 EDGAR ST. • EVANSVILLE 7, IND.

PRECISION
folding stairway

- No springs—Actuated
  by counterweights
- Easy to operate
- Safety treads on steps
- Insulated door panel
- Requires no attic space
- Shipped in one package

Write for full information

PRECISION PARTS CORP.
Nashville 7, Tennessee

AMERICAN BUILDER
new way to

Make Homes More Salable...yet Cut Costs!

"Custom-Flooring" with Texfloor

...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!
KEEP POSTED—read the American Builder every month.
The highly competitive building business demands that you
keep abreast of the times. Be informed on the latest techniques
of building—keep posted on the new and improved products,
materials and equipment—get the benefit of tried and proven
methods of selling homes, new ideas on financing and land
development.

Special information on small commercial and industrial
structures—stores—motels—shopping centers and farm build-
ings.

In addition you get the latest in home designs—pictures
and plans of the best sellers coast to coast.

AND EVERY MONTH a complete blueprint of a se-
lected home drawn to ½-inch scale, plans, elevations and
details.

Read the monthly review of the National Association of
Home Builders—items directly from local Association head-
quarters. Study the better detail plates and "How-To-Do-It"
features contained in every issue.

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file of this valuable building magazine NOW!

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make sure of receiving your issue each month. The coupon
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Please indicate your position in the above named firm:

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Kindly check your principal activity

Building and Contractors:
☐ Builders and Contractors specializing in Resident-
ial or Light Commercial or Light Industrial
Building.
☐ Contractors specializing in Heavy Building
Construction.
☐ Builders and Contractors engaged in both Resi-
dential or Light Commercial or Light Industrial
Building and Heavy Building Construc-
tion, not specializing in either.
☐ Contractors specializing in all types of Heavy
Construction other than Buildings.
☐ General Contractors engaged in Heavy Construc-
tion of both Buildings and other than
Buildings, not specializing in either.
☐ Special Trade Contractors contracting for
only such parts of Building Construction as
carpentry, masonry, plumbing, roofing, heat-
ing, ventilating, electrical, painting, concret-
ing and excavating.

Distributors:
☐ Retail Dealers—batter, building materials and
installed equipment.
☐ Wholesalers, jobbers and Manufacturers’
Agents of lumber, building materials and
installed equipment.
☐ Distributors of Construction equipment.

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 Senale 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.

CONSTRUCTION DETAILS
A Zonolite Acoustical Plastic used on library ceiling.
B Paper-backed, welded wire mesh for Zonolite concrete roof slabs.
C Applying metal bath for fireproofing girders with Zonolite Plaster.
D Installing radiant heating pipes over Zonolite concrete floors.
E Zonolite Plaster 3” solid partitions—first side.

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

ZONOLITE COMPANY, Dept. A2-90
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....................................................
City.............................................. Zone...... State......

*Zonolite is a registered trademark of Zonolite Company.
Here's how you can save $85.87 on every 10 squares...

Do this—use ES-nails

Low-cost gypsum sheathing—fiberglass sheathing—ordinary wooden sheathing—fiber sheathing—wood shingles fastened with long, easy-to-use ES-nails. (Similar savings with wood shingles.)

Not this

Expensive, slow-to-erect wood sheathing and building paper protected wood—fiberglass sheathing—long, easy-to-use ES-nails.

And here's why!

Old-fashioned wood-shingled, building-paper protected construction is expensive. Initial material costs are higher, and use of wood sheathing means 50% waste and doubles 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—you need to locate them 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, 2350 Vauxhall Road, Union, New Jersey.

Letters

(Continued from page 41)

Owner-Built Homes

Sir: 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 thoughts is this: If we want to consider the idea of building our 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 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. Of course, I would rather sell ten people $50 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 helping 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 that they cultivate this market properly.

Donald R. Brown
East-Bilt Pattern Co.
Pleasantville, N. J.

You can quickly locate an up-to-date book on all aspects of your business. If you subscribe if you have the Book List for Builders. Uniform in format, 8 1/2 x 11. 5 to 16 pages, it can be purchased for a small binder or filed for future reference.

1. HOUSE PLAN BOOKS. Describes 225 homes, summer homes, farms and other buildings of all publishers. Most complete list ever compiled.

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3. CARPENTRY AND BUILDING BOOKS. Describes 104 books on carpentry, steel square, rafter, blueprint reading, building construction and related subjects.

Free on Request

Book Service Department

AMERICAN BUILDER

30 Church St.
New York 17, N. Y.
New Levelock Switch Box Takes Job-site Abuse

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 in his rounds. Selective control of aisle lights, individual workouts, 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.

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 stud 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 studs. Extra side plate outlets provide for out-of-the-ordinary installations. All outlets are easily removed by a quick twist of a screwdriver.

A new single-screw ear adjusts from slightly above to 3/4 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.

New Hung Ceiling Box

For fast, easy installation and real savings on jobs using conduit, this new 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.

*Reg. Trade Mark of General Electric Company

New Levelock Switch Box

Safe, Dependable . . . Easy-to-install G-E BX<sup>®</sup> 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 proves safe, dependable, long-term operation.

And, best of all, a BX system is a cinch to wire. A few strokes of a hackaw and a quick twist of the wrist removes the armor and leaves the conductors ready for easy stripping. Each BX cable provides grounding protection. In AWG sizes 10 and 12 a metal bonding strip is included under and in contact with the armor to prevent 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 types. Specify it on top-quality jobs.

New Hung Ceiling Box

For fast, easy installation and real savings on jobs using conduit, this new 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.
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!

Members:

ALMELAL WEATHERSTRIP CO.
2241 M. Eads Ave., Chicago 39, Ill.

GARLAND WEATHERSTRIP MATERIAL CO.
1200 W. 28th St., Cleveland 2, Ohi

CECO STEEL PRODUCTS CO.
2701 W. 26th St., Chicago 20, Ill.

CENTRAL WEATHERSTRIP CO.
4324 W. Western Ave., Chicago 19, Ill.

CHAMBERLAIN CO. OF AMERICA
1121 S. Laramie St., Detroit 26, Mich.

DOMINICK & CO., W. J.
4444 W. Irving Park, Chicago 41, Ill.

DOMINION METAL STRIP INC.
2410 S. Cicero Ave., Chicago 50, Ill.

D. & T. TRACT, INC.
417 & Broadway, Albuquerque, N. M.

GARDNER Wire COMPANY
1329 S. Cicero Ave., Chicago 50, Ill.

MACLEOD-MURDOCH CO.
3815 S. Whipple Ave., Chicago 39, Ill.

MASON METAL STRIP SERVICE
1932 W. Adams Ave., Chicago 39, Ill.

MURRAY'S METAL WEATHERSTRIP CORP.
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NATIONAL METAL PRODUCTS CO.
1025 Chouteau St., St. Louis 17, Mo.

NICHOLS METAL STRIP SERVICE
706 S. Harrison Ave., Chicago 6, Ill.

WEATHERSTRIP RESEARCH INSTITUTE
OFFICE OF THE SECRETARY
1910 W. Roosevelt Rd., Chicago, Ill.

Weatherstrip—the original Fuel Conservator...

Saves Most Fuel in Proportion to Cost!

Demonstration of Home Ideas

(Continued from page 168)

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
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 the garage to the house. An unusual feature is that the entrance has no windows, and the entrance is screened by a long wall. The architects were Cliff May and Chris Choate.

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 Schwabkler & Etting 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 proper height. A wood roof is exposed in every room. All interior partitions and doors are Redwood.

(Continued on page 170)
"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 395 Servels cost only 15 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 silenced 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.
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 fibers 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 thaw 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

Demonstration of Home Ideas
(Continued from page 174)

Floor and bathtub of the bathroom are of standard size 3 1/4 x8x21/4-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 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

FREE BOOKLET WORTH READING

TELEVISION home features television set on turntable that may be seen from any spot in living room, bedroom and kitchen

(Continued on page 178)
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!

Fir Door Institute
Tacoma 2, Washington

The simple construction makes for easy installation and operation. Craw-Fir-Dor is very light in weight. Requires only 2 inches head and side room.

Auto-type lock—the high-quality automobile-type lock furnished with Craw-Fir-Dor hardware. This lock is convenient to use, positive in action and adds beauty as well as safety.
Distinctively Styled
in long-lived wood

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.

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 skin 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 channelled strips, corner angles and hook nails are used to obtain deep shadow lines and distinct corners.

wall covering was Glutex, a cement siding, over 1½-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 Gyleeck of Elgin, IIl., was called the "Television Home." It was

DOUBLE layers of gypsum wallboard are used in Parents' magazine's Eighth Expandable 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 MENGELO 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
Manufactured and distributed by
UNITED STATES PLYWOOD CORPORATION
New York 18, N. Y.

Branches in Principal Cities * Warehouses in Chief Trading Areas * Dealers Everywhere
Choose
the exact instrument
you need from these three
LOW PRICE MODELS

1

Finest 12" Dumpy Level available anywhere — gives you more 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 clearer distortion-free, sharper images.

Model
No. 8014
Price $130.00
complete with tripod

2

Here's the standard convertible level for the country for the past 30 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 — it gives 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., 311 W. Court Street, Milwaukee 3, Wisconsin.

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 Gyleeck, 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

Morrison Hometown Ranch House
Pierce Corporation—Kitchen Equipment
American Kitchen Cabinet Co.—Cabinets
Norge Appliance Co.—Freezers
Schlitz Hardware Co.—Hardware
Maurer Hardware Co.—Irrigation System
Kearsarge Insulation Co.—Insulation
Cramer Company—Plumbing
Johnson-Manville Corp.—Roofing
Weathermaker Distributors, Inc.—Screeds & Storm Windows
Dixie Steel Products Co.—Steeel Siding
Marsch Wall Products—Wall Tile
Morrison Heating Co.—Furnaces
Servel, Inc.—Refrigeration & Refrigerator
Geo. D. Rogers—Stoves
Portland Cement Assoc.—HVAC Units
Adler Corp.—Kitchen Equipment
Griswold Michigan Corp.—Bath Cabinets
Thur Corp.—Dishwashers, Ironers and Dryer
Lighthouse Co.—Electric Fixtures
Calflex Glass Co.—Glass
Schlitz Hardware Co., Inc.—Hardware and Tools
Mankato-Honeywell Reg. Co.—Heat Regulators
Lauren Furnace Company—Heating
Bryant Co.—Refrigeration
Maurer Hardware Co.—Irrigation System
Overhead Door Corp.—Garage Door
Cramer Co.—Plumbing
Johnson-Manville Corp.—Roofing
Weathermaker Distributors, Inc.—Screeds & Storm Windows
Chicagio Steel Co.—Storm Windows
American Steel & Wire Co.—Steel for Concrete Slab
Structural Clay Products Institute Home
Thur Corp.—Dishwasher, Dryer and Ironer
Calflex Glass Co.—Glass
Schlitz Hardware Co., Inc.—Hardware and Tools
Iron Friezen Mfg. Co.—Heating Equipment
Mankato-Honeywell Reg. Co.—Heat Regulators
Bud Mfg. Co.—Heat Regulators
Crate Corp.—Heating Fixtures
Maurer Hardware Co.—Irrigation System
Cramer Co.—Plumbing
American Steel Co.—Stoves
Empire Roofing Co.—Roofing
American Steel & Wire Co.—Steel for Concrete Slab
American Lumber & Trading Co.—Treated Lumber
Better Homes & Gardens Home
Prudhomme Corp.—Kitchen and Laundry
Greely-Michigan Corp.—Bath Cabinets

180 AMERICAN BUILDER
This SELF-insulating window

Eliminates storm sash!

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 acts 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.

Window illustrated is made by Chicago and Riverside Lumber Company, Chicago 27, Illinois.

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

SEPTEMBER 1950
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 harrowing 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!

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Demonstration of Home Ideas
(Continued from page 180)

Cadillac Glass Co.—Glass
Schultze Hardware Co., Inc.—Hardware
Canco Engineering Works—Heating
Minnesota-Moneyway Reg. Co.—Regulators
Neoverco Products Co.—Modernized Doors
Minneapolis-Ironstone Co.—Irrigation System
Air Equipment Co.—Night Cool Fans
Raynor Mfg. Co.—Garage Doors
Crawford Company—Plumbing
Everhard Distributors—Bricklayers
American Lib. & Treating—Treated Lumbar
Town & Country Automatic Window Sash—Venetian Window
American Steel & Wire Co.—Steel for Concrete Slats

Living Magazine (Washington Electric Living) Home
Washington Electric Corp.—Appliances
Garver-Michigan Corp.—Both Cabinets
Cadillac Glass—Glass
Tomlinson Automatic Oil Heating Co.—Heating Equipment
Minnesota-Moneyway Reg. Co.—Heat Regulators
Marchant Bros.—Kitchen Cabinets
Minneapolis-Ironstone Co.—Irrigation System
Neoverco Products Co.—Modernized Doors
Crawford Co.—Plumbing
American Lib. & Treating—Treated Lumbar
American Steel & Wire—Steel for Concrete Slats

Pamphlets: Magazine Home
Garver-Michigan—Both Cabinets
Simpson Co.—Automatic Dryer
Cadillac Glass—Glass
Crawford—Heating Equipment, Kitchen Cabinets
Schaumberg—Hardware
Minnesota-Moneyway Reg. Co.—Heat Regulators
Minneapolis-Ironstone Co.—Irrigation System
Tip—Kitchen Fans
Neoverco Products Co.—Modernized Doors
Air Equipment Co., Inc.—Night Cool Fans
McFay Door Company—Garage Doors
Crawford Co.—Plumbing
Service—Refrigerator
Reynolds—Refrigerator
American Steel & Wire—Steel for Concrete Slats
Cribbin & Sweeney—Brick
1900 Corp.—Washing Machines
American Lib. & Treating—Treated Lumbar

Popular Home Magazine
Hot Point—Kitchen and Laundry Equipment
Garver-Michigan—Both Cabinets
Cadillac Glass—Glass
Crawford—Heating
Minnesota-Moneyway Reg. Co.—Heat Regulators
Minneapolis-Ironstone Co.—Irrigation System
Neoverco Products Co.—Modernized Doors
Air Equipment Co.—Night Cool Fans
Crawford Door Company—Garage Doors
Chicago Foundry Institute “Harmoney” House
Crawford—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 redevelopement 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 redevelopement 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. Ratcliff, 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.
...build with

SHEETROCK

Fireproof Gypsum Wallboard

Use regular 1/2 inch SHEETROCK with
recessed edges which take the POP-
A-APER Joint System, for dry-wall con-
struction. Together they build strong,
rigid walls and ceilings that are beau-
tifully 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 construc-
tion, build with laminated SHEETROCK,
a double wall system. Two layers of
1/4 inch SHEETROCK, job laminated,
produce dry-wall interiors offering all
the advantages of single layer con-
struction, plus extraordinary beauty,
strength, fire protection, and sound
resistance. Walls and ceilings worthy
of America's finest homes.

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 ad-
vantage of scientific research per-
formed in the famous United
States Gypsum laboratories.

No less important, when your
build with USG, you claim for your
customers the lasting benefits of
precision quality control that be-
gins at the point of raw material
selection and carries through to
the final rigid inspection.

...the greatest name in building
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, store fixtures, etc.

Mengelbord is a low-priced utility hardwood plywood available in standard stock panel sizes ½" thick, 4-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 Mengelbors.

Literature on request.

Plywood Division, The Mengel Co., Louisville, Ky.


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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 butted. 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.
7 OUT OF 10 WANT A FIRE-CHEX ROOF
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.

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 means spending a little more to get Fire-Chex, than for ordinary asphalt shingles. Naturally, we're 'Gold on Fire-Chex. They run true to size—go on faster, give us more profit per job and provide greater satisfaction for our customers."

The Philip Carey Mfg. Co.
Cincinnati 15, Ohio
In Canada: The Philip Carey Co., Ltd.
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Bathroom Cabinets and Accessories—Ceramic Asbestos Siding—Tri-Tone Asbestos Shingles—Rock Wool Butts—Other Famous Products for Home, Farm and Industry

SEPTEMBER 1950
THREE VIEWS IN ONE is the effect achieved by Architect Magnus Jemne’s interesting use of Andersen WINDOWWALLS around the corner of this lakeside Minnesota home.

These WINDOWWALLS 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 WINDOWWALLS. 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, WINDOWWALLS mean quick sales and satisfied customers.

See your local millwork dealer or write us for details and further information. Detail catalog of Andersen WINDOWWALLS is in Sweet’s Builders’ File.

Andersen Corporation - BAYPORT - MINNESOTA
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 archi-
etect, 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 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. Rather 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:

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

The subjective scientific floor tests prove this

SPECIFY

easy-to-apply • fast-drying

SHELLAC

The modern wood finish for the homes of tomorrow

Unequalled 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
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OF THE AMERICAN BLEACHED SHELLAC MANUFACTURERS ASSN., INC.
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Please send, without obligation, "Standard Specifications on the Use and Application of Shellac."

NAME

ADDRESS

CITY & ZONE

STATE

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 2½-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.
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.
PACEMAKER

is Going Places

The Boiler that Scooped the Market
is Making SALES HISTORY!

Burnham’s cast-iron PACEMAKER oil-fired boiler introduces less than a year ago 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, Kiln 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.

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 half a century of service.

Burnham Corporation

"PIONEERS OF RADIANT BASEBOARD HEATING"

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 handset can be raised three quarters of an inch when the bell rings. All recordings of both conversations are 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 94)
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 additional important feature. Write for Truscon Residential Interior Door catalog giving complete range of sizes and full details.
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 Zingrip, 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...

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 putting...
3. No on-the-job fitting...
4. Installed in less that 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-ABPO CLEVELAND 1, OHIO

Manufacturer of the famous Rusco all-metal, self-storing Combination Screen and Storm Sash

---

Gadgets Add to Efficiency

(Continued from page 882)

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 his 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)
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.

Specifications and performance data

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Deluxe Model 50, 5S</th>
<th>Round Jacket Model 55, 5W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat Surf. Sq. Ft.</td>
<td>480</td>
<td>480</td>
</tr>
<tr>
<td>Boiler Water Gals.</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>Fire Box Vol. Cu. Ft.</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Approx. Weight</td>
<td>775 811</td>
<td>705 745</td>
</tr>
</tbody>
</table>

**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.

Delco-Heat manufactures a complete line of automatic home heating products—for all types of fuels, all heating systems, and all sizes of homes. Ask manufacturers of oil and gas-fired water heaters and electric water systems. Let our engineering and sales departments serve you. Write to Delco Appliances Division, Dept. AB-5, General Motors Corporation, Rochester 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

Long Handle Trowels and Leveling Instruments shipped Express, transportation charges collect. Immediate delivery. Send money order or check with your order.

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 houses, 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 high enough 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 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

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.

LONG-BELL SALES OFFICES:

AMES, Ia., D. D. Schaeffer, P. O. Box 87
CEDAR RAPIDS, Ia., D. L. Coleman, 314 Dows Bldg.
CHICAGO 4, Ill., L. L. Gilman, S. E. Cummings, 180 Chicago Bldg.
COLUMBUS 15, 0., H. D. Jones, 16 East Broad St
DENVER 2, COLO., R. C. Hillman, 527 Exchange Bldg.
DALLAS 9, TEX., A. H. Sharp, 1417 Cedar Springs
EUGENE, ORE., The Long-Bell Lumber Co., P. O. Box 467
HOBOKEN, N. J., O. D. Smith, G. P. Picotte, 69 Hudson St.
HOUSTON 1, TEX., G. W. Hills, V. J. Hillman, 629 West Bldg.
JOPLIN, MO., G. H. Heilbein
KANSAS CITY 6, MO., L. R. Schefield, R. E. Woodard, G. L. McNichols, C. W. Francis, W. A. Talbot, 901 R. A. Long Bldg.
LONGVIEW, WASH., S. B. Scott
LOS ANGELES 14, CAL., H. P. Bowles, A. M. Bottinar, 1709 West 8th St.
MINNEAPOLIS 3, MINN., R. E. Wallace, J. R. Montgomery, 1105 Wesley Temple Bldg.
OKLAHOMA CITY 1, OKLA., W. A. Lyons, Leamhardt Bldg.
QUINTON, OKLA., The Long-Bell Lumber Co.
ST. LOUIS 1, MO., O. D. Harrington, 1617 Arcade Bldg.
SAN FRANCISCO 5, CAL., J. H. Moore, J. M. Myers, 604 Mission St.
SEATTLE 11, WASH., W. M. Bowles, 414 Vance Bldg.
SHERIDAN, ARK., The Long-Bell Lumber Co.
WASHINGTON 5, D.C., J. J. Wilson, R. S. McNaught, 822 Colorado Bldg.
WICHITA 1, KAN., R. E. Woodard, E. H. Steele, 404 Fourth National Bank Bldg.
WICHITA 1, KAN., R. E. Woodard, E. H. Steele, 404 Fourth National Bank Bldg.

SALES REPRESENTATIVES IN:

AMARILLO, TEX.
BILLINGS, MONT.
BUFFALO, N. Y.
CHICAGO, Ill.
CONCORD, N. C.
EL PASO, TEX.
FT. LAUDERDALE, FLA.
GRAND RAPIDS, MICH.
INDIANAPOLIS, IND.
LANSING, MICH.
LIMA, OH.
LOUISVILLE, KY.
MEMPHIS, TENN.
NEW CASTLE, PA.
NEW ORLEANS, LA.
PADUCAH, KY.
ROSEVILLE, M. I.
SALT LAKE CITY, UTAH
SAN ANTONIO, TEX.
SIOUX FALLS, S. D.
SAULT STE. MARIE, MICH.
SYRACUSE, N. Y.
TOLEDO, O.
TULSA, OKLA.

The Long Bell Lumber Company
ESTABLISHED 1875
KANSAS CITY 6, MISSOURI

DIVISIONAL SALES OFFICES: Eastern Division, Kansas City, Missouri; Western Division, Longview, Washington

SEPTEMBER 1930

197
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 Gate City'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, Kans., 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 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 homes 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 208)
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.

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."

Curtis Company Service Bureau
AB-6K Curtis Building
Clinton, Iowa

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 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 298)

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

(Continued on page 301)
New Pre-Finished Weldwood Plywood
Available in Low-Cost Narrow Panels

Easily installed "PLANKWELD" Panels, $\frac{3}{4} \times 16\frac{3}{4} \times 8'$
Enable you to include Wood-Paneled Walls in Every Home You Build

Here is beautiful $\frac{3}{4}$-inch hardwood 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 $16\frac{3}{4}$" wide, 8 feet long, and packaged 10 panels in a carton. The long edges of the panels are 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 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.

SEND FOR FULL DETAILS OF
PLANKWELD®

Manufactured and Distributed by
UNITED STATES PLYWOOD CORPORATION
55 West 44th Street, New York 18, N. Y.

and

U. S.—MENGEL PLYWOODS, INC.
Louisville, Ky.

Branches in Principal Cities
Warehouses in Chief Trading Areas * Dealers Everywhere

SEPTEMBER 1930

THIS EXCITING NEW PRODUCT

UNITED STATES PLYWOOD CORPORATION
55 West 44th Street, New York 18, N. Y.

Please send me full details on Plankweld.

NAME

COMPANY

ADDRESS
Sound Ideas...
(Continued from page 202)
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.


Charts Can Save You Money
(Continued from page 117)
caulking, engineering, electric power, gas service, general expense, lot survey, plans, water, bath accessories, waterproofing.

We use this percentage breakdown on building material:

<table>
<thead>
<tr>
<th>Material</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimension lumber</td>
<td>32.70</td>
</tr>
<tr>
<td>Roof sheathing</td>
<td>10.50</td>
</tr>
<tr>
<td>Boxing, gyp. shg.</td>
<td>3.25</td>
</tr>
<tr>
<td>Flooring—No. 1 PRO</td>
<td>9.50</td>
</tr>
<tr>
<td>3½x8 red cedar siding</td>
<td>19.10</td>
</tr>
<tr>
<td>Shingles</td>
<td>4.00</td>
</tr>
<tr>
<td>Drywall and tape</td>
<td>10.95</td>
</tr>
<tr>
<td>Finish and miscellaneous items</td>
<td>6.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

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 figuring the entire cost of building material or picking out the dimension items to retfigure, 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 Rodddiscraft"

Your Rodddiscraft Warehouse is a Supermarket for Dealers

(See the Warehouse Nearest You)

Your nearest Rodddiscraft 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.

Rodddiscraft
RODDIS PLYWOOD CORPORATION, Marshfield, Wis.
Herbert Lotz Awarded Training Course Certificate

In acknowledgment of his work as an instructor in the Retail Lumbermen’s Short Course, Herbert Lotz, of the John-Marville Company, was awarded a certificate of graduation 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 month.
CRANE
baseboard radiant heating

for any home, new or remodeled

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.
Association News, cont’d

Houston NRLDA Conventioners 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:

Conventioners 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, then 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 Xochimilco, the Floating Gardens, then to Cuernavaca, resort of Cortes . . . Thursday, to Toluca, 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. H. 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 54,000 persons, or 21 per cent of the population have been housed in new homes.

School of Modern Heating

(Continued from page 26)

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 in-
creased demand, we have now estab-
lished an additional modern one-floor
plant with tripled production capacity
especially equipped for the manufac-
ture 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.

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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°F!

- 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.

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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.

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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.  

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 F. Wischmeyer; Buffalo, N. Y., Walter Johnson and John N. Highland, Jr.; Fort Worth, Texas, Joe Driscoll and Hobert H. Crane.

Miami, Thomas P. Coogan and Alfred B. Parker; Philadelphia and Washington, D. C., Clark Daniel and Howell B. Pennial; Kansas City, Mo., John C. Taylor and David B. Runnels; Boston, Clark Sundin and Hugh A. Stubbins, Jr.

Seattle, Albert Balch and Lawrence Waldron; 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. Speigel, of Passaic, N. J.; Cy Williams, of Roslyn, L. I., N. Y.; Alan E. Brockbank, 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 tie 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 fire 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.

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The Superior Heat-Cramping Fireplace  
most efficient and durable of all

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Adds 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.

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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.

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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.
Association News, cont'd

Coogan

(Continued from page 37)

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 with gold pins in recognition of service. Acting President A. P. Nelson 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 R. Lee Bettsion.

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. Itley, 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. House, Berger Manufacturing Division, Republic Steel Corp., Canton, Ohio; and H. G. Knuth, Lyon Metal Products, Inc., Aurora, Ill.
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.

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4-SQUARE LUMBER AND SERVICES

WEYERHAEUSER SALES COMPANY, ST. PAUL 1, MINN.
A FINISHING SANDER
NOT ORBITAL OR CIRCULAR

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 swells, eye winkers or other hard to cover abrasive patterns. NO HAND CLEAN UP WHEN YOU USE AN EASY.

NEW MODEL DF:
- 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.

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45% MORE METAL HEAT-RADIATING SURFACES AT NO EXTRA COST with the exclusive Radiant Blades in Majestic CIRCULATOR FIREPLACES

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 Majestic Co.
300 E. Erie St., Huntington, Ind.

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 5/8-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, thus 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

(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 Glacecoat 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, 18-36A. Write Johns-Manville, Box 290, New York 16, N.Y.
Combination Heating...

(Continued from page 212)

this space is constantly occupied by warm air, the ceiling itself becomes a low temperature radiant heating panel. About 8,500 cubic feet of warm air per minute is forced by the heater into the ceiling area. The radiant heat of the ceiling keeps the terrazzo floor of the room pleasantly warm. The display area of the showroom contains 2,512 square feet of space while partitioned offices occupy another 1,000 square feet.

Air from the showroom is returned to the heater through another duct led from three gridded wall openings eight feet above the floor of the room. Through a lowered opening in the heater room wall, fresh air can be brought in, heated and fed the showroom to provide ventilation. The heater is equipped with stainless steel combustion chambers and controls that modulate the intensity of the flame according to the demand of a thermostat in the discharge air stream.

Three Dravo "Counterflow" heaters, each having a capacity of 1,500,000 B.T.U. per hour, are used to heat the service garage, which has a floor area of approximately 15,800 square feet. These heaters, also located in separate rooms cut off from the main portion of the structure, operate either on recirculated air, fresh air, or a combination of both.

Combined, the three heaters can handle a total of 51,000 cubic feet of air per minute. Gravity vents, with openings 19 inches above the floor, exhaust foul air from the garage.

One of the three heaters discharges warm air directly into the service area through its four nozzles. Two of the nozzles are aimed at the 12x9-foot entrance doorway and according to company officers, virtually block

(Continued on page 215)
Save HALF Your Time BUILDING STAIRCASES

In 10 seconds give you BOTH correct length and angle of stair treads, risers, closet shelves, etc., ready to mark board. Each end points 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. Circulator on request.

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$150 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 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.

APPLYING moldings to "Stylist" door

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 important 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.
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.

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This black bituminous elastic coating fills and seals the pores when applied to the exterior of foundation walls. Holds moisture back
proffects cellars and below-grade masonry from the weakening effects of water seepage. A coal-tar product . . . therefore repels termites. Inexpensive . . . easy to apply.

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I'd like to know more about
Cabot's Foundation Coating.
Please send me FREE sample and complete information.

SAMUEL CABOT, INC.
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 1/4" x .033 ga. State quantity when writing for prices to:

JOHN HASSALL, INC.
186 Clay Street
Brooklyn 22, N.Y.
Established 1850

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, tenon, bore, carve, rout, plane, shape dado, plunge, buff, sand, turn and many other woodworking jobs—all with only 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 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 1/2" With

Tufcrete Resurfacer

At Savings Up to 50%

Ideal for warehouse floors, loading docks, walkways, platforms—easily installed over wood, concrete or composition floors—not warps 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 use more business, mail coupon for detailed information and prices.

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ATTACH TO YOUR LETTERHEAD AND MAIL

Please send complete information about new Resurfacer proposition to Comatcheck.

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CLASSIFIED AD

SEPTEMBER 1950

217
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. Avoid last 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!

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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 25 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 homes 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 7,200 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 surfacemount 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.
Air Conditioning
And Building Design
By J. H. Hoerner
Chief Engineer, American 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 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.

Larch is one of the strongest and most durable of the soft woods. Its uses range from bridge timbers to paneling and fine cabinet work. All kinds of paints and stains can be successfully applied to Larch with pleasing results. You can stock and recommend Larch with confidence.

For more information about Larch send for the free illustrated 52-page book. Address WESTERN PINE ASSOCIATION Yeon Building • Portland 4, Oregon

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THOROUGHLY SEASONED
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SEPTEMBER 1950

219
No home is modern

... unless it's cool
in hot weather!

Hunter Package Fan gives cool comfort on hottest nights

Throughout the nation, home owners are finding that no modern convenience gives them as much comfort as a Hunter Attic Fan. It drives out stale, humid air and fills every room in the home with cool, invigorating breezes.

Installation of Hunter's new, compact Package Attic Fan is simple and inexpensive. Fan, motor, suction box and shutter furnished complete—requiring only a ceiling opening and less than 18" clearance in attic. Four models, ranging from 4750 CFM to 9500 CFM, to fit any home size and climate. Quiet, powerful, dependable.  Manufactured by Hunter, exclusive fan makers for over 64 years.


---

Sketch-plans of 30 Good Housekeeping Houses Available to Builders

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.

Bound together in a handsome 25" x 18" brochure, these sketch-plans are intended to serve as a sales kit for the builder to use in discussing home planning and building with his customers.

Each sketch-plan includes detailed 1/4-inch scale drawings of one of the 50 most popular Good Housekeeping 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 houses 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, expandible houses, contemporary designs, Cape Cod, etc. 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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The October American Builder

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NEW KAWNEER STOCK
INTERCHANGEABLE
MOULDINGS—
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Kawneer Stock Mouldings will solve almost any
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They can be applied horizontally or vertically,
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areas. Installations on existing structures can be
made without major alterations.

Write Dept. AB-57, 1105 N. Front St., Niles,
Mich., or 930 Dwight Way, Berkeley, Cal.

IDENTICAL TONGUE-AND-GROOVE JOINTS ENABLE
YOU TO ARRANGE THESE INTERCHANGEABLE
MOULDINGS INTO COUNTLESS COMBINATIONS.
A FEW EXAMPLES ARE SHOWN BELOW.

THE KAWNEER
COMPANY
ARCHITECTURAL METAL PRODUCTS
SEPTEMBER 1929
ROLY NEVER SOLD A HOUSE

. . . BUT HE SURE HELPS!

Original Cost and Installation Cost, Operation and Beauty of World’s Only All-Steel Four-Sectional Overhead Garage Door . . . . . the MORRISON Roly-Door . . . Solves Problem of Architects and Builders!

BECAUSE IT COSTS LESS TO BUY . . .

Because new design principles are applied by mass-production in one of the nation’s top steel stamping plants, the MORRISON Roly-Door costs you less—costs the homeowner less! It’s complete—no extras to buy!

BECAUSE IT COSTS LESS TO INSTALL . . .

Because everything that can be pre-determined is fixed to the Roly-Door at the factory (including welding or riveting of brackets and hinges) . . . because it is only necessary to install the tracks, drop the four sections in place, snap the pivot points, connect the springs . . . there are no holes to drill, no hinges to apply, no skilled workmen or special tools are necessary . . . the MORRISON Roly-Door is easily installed in a fraction of the time required for other doors!

BECAUSE IT’S INDIVIDUALLY PACKED . . .

Because every Morrison Roly-Door is individually packed in a single, compact sturdy shipping case—with all necessary parts—it takes less storage space, less shipping space, and less time to handle.

BECAUSE IT CONFORMS TO ALL ARCHITECTURE AND ALL BUILDING CODES . . .

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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, the direction each wall or window faces, and with the day or season of the year. In buildings with east and west exposure this heat load varies, of course, considerably in accordance with the movement of the sun 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-

ATTRACTION architectural effect is achieved in Pepsodent 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 sur-
face-type dehumidifiers. In spray-type dehumidifiers with
two banks of sprays, the air temperature leaving the appar-
utus is practically identical with the temperature of the leav-
ing 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)
For Homes that Stay Sold

This bright, cheerful house achieves its effect with a striking corner window arrangement. First impression — delightful. Lasting impression — satisfaction with a trim, modern home.

It’s the builder’s secret that the corner windows are standard Lupton Casements, which can be installed without adding to the cost of the “package.” Lupton Casements provide the ideal combination of beauty and economy for operation houses as well as for the custom-built house.

Lupton Metal Windows are delivered from warehouse stock—they save time on the job. Metal frames are precision built at every point—cannot warp, swell, shrink or rattle. Available in steel or aluminum. Metal frame screens and glass insulating panels easily attached on the inside of window.

For residential, industrial or commercial windows, use Lupton for lasting satisfaction. Catalog on request.

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hanging doors with a Stanley-
Carter HB8 Hinge Butt Router

You can cut out for butts on 6 doors with this precision power router in the time it would take you to mark and cut recesses by hand for just one door.

You get a perfect fit every time... each butt set solidly on a perfectly flat surface. Cuts for square or round cornered butts. Easily adjusted for any thickness of hinge by turning motor housing... 1/16" for each turn, 1/32" for a half turn, 1/64" for a quarter turn. Self-sharpening bit, aluminum alloy housing and base. Full sealed ball bearing construction. Universal motor, 1/2 h.p., 18,000 r.p.m., direct drive.

This trade mark on electric tools tells you the most important thing you need to know about tools

When you buy an electric tool you have to take somebody’s word about gears, motor, bearings, shafts, switches, power, etc. Whose word about tools could be more reliable than the word of “Stanley”... tool makers for over 100 years. On electric tools the name, Stanley, means the tools are quality built, thoroughly tested and honestly rated. Covered by a generous guarantee and serviced by a network of Stanley Service Stations. See your dealer or write for complete catalog. Stanley Electric Tools, 492 Myrtle St., New Britain, Connecticut.

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 a 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 proportional 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.
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 reheat 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-

MEIMA Mothers Mord Maple Mow w the teow we lohe More rewderme of Ari hitect George C. Schneider, Milwaukee, Wisc.

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NORTHERN HARD MAPLE

"America's Favorite Residential Floor"

Well-laid floors of beautiful, bright, lifetime-wearing Northern Hard Maple, help sell homes.

How about costs?

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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 35g-7; Engineering 41-21. 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, who has been representing the Strand Division in the southwest area, previously was associated with Hunter Fan & Ventilating Co. of Memphis, Tenn.

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.

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.

The PARKS PLANING MILL SPECIAL

8 MACHINES IN ONE

The Parks Model B Planing Mill Special is a low priced, multi-purpose, money-saving machine that is ideal for almost every shop. It offers a Cast Iron Double Table Rip and Crosscut, 22-Inch Band Saw, Swing Cut-Off Saw, 12-Inch Jointer, Tenoner, Upright Hollow-Chisel Mortiser and Borer, Reversible Spindle Shaper, and 18-Inch Sanding Disc.

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 fps generally cause a feeling of air stagnation, whereas velocities higher than 65 fps 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 fps in the occupied zone are most satisfactory, but air motion of 20 to 50 fps 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 room 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 225)
Use of Basic Plan
Is the Answer

THE CONVENTIONAL house 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 expansible attic, and a complete basement.

Working from a basic floor plan, Teske has started 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 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 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)
Pe and L Latches

A OLG Ser Ite

from Coast te Coast! Sa

"Ne complaints, ne returns, no adjustments" says the Albrecht Hardware Co., Springfield, Ohio. "Har-Vey's smooth, silent performance in the hundreds of installations for which we have sold Har-Vey sets has brought solid satisfaction to the architects, builders and owners who have used them," reports F. C. Frazier, V. President of the firm.

Check the winning qualities that make praise like this typical of nationwide reaction to Har-Vey's championship performance:

- 100% Rustproof
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*Get the facts today!* NORMAN PRODUCTS CO. Dept. 33 1943 Chicago Ave. Columbus 12, Ohio

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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 Fred Ganschietz, 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.

Ganschietz 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 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 1/4-inches deep into the steel I-beam, deep enough to accommodate the 1/4-inch 10-24 aluminum machine screw. The Impactool was then fitted with a 10-24 tap and the holes quickly tapped.

---

**Factory-drilled mullion cover is held in place on a template while electric Impactool drills 3/8-inch into the steel I-beam.**

---

**Balanced design — easy operation**

**Zip! Zip! Fast as you grip!**

**Ceiling 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, 1/2" T-head Tacks are driven thru the flanges of the ceiling tile. No denting hammer blow to damage, mar or break tile while being applied. T-head Tacks hold securely without being visible. Many other uses for HANSEN—tack insulation, metal lath, screens, building paper, etc. REQUEST BOOKLET T-49.**

A. L. HANSEN MFG. CO. 5059 Rutherford Ave. CHICAGO 40, ILL.
VARIATION 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 480 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 3/4-inch thick Gypsum sheathing; U. S. Gypsum Rocklath; 7/8 Birdseye asphalt shingles; Mueller Climatrol gas fired warm air furnaces; Kohler plumbing fixtures; Genesee weather stripping; Rockwood batt insulation on ceiling; Esser paints; Libby-Owens-Ford glass, and Seldage hardware.
"BUYERS LIKE the versatility of Engineered Houses. They provide good, livable housing of fine construction to this area at economical prices. Our projects are throughout western Kansas and eastern Colorado."—L. W. Harper, Pres., Harper Construction Co., Great Bend, Kansas.

"THE PRINCIPLE of Engineered Houses gives home buyers what they want at economical prices. We have sold over 1000 of them during the past year in Texas, Oklahoma, Kansas, Colorado and Louisiana."—Nathan L. Jones, and Nathan E. Jones, Town & Country Builders, Inc., Dallas.

TOP CONSTRUCTION MEN from STATE after STATE...find Engineered Houses the answer to fine, economical construction with buyer appeal! Not pre-fab, but precut and panelized by mass production methods for savings. Our 42-acre plant can produce almost any house you want. Your plan or ours.

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COLORADO: Pueblo, Las Animas
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OKLAHOMA: Pampa Valley, Stillwater, Holdrege
LOUISIANA: Shreveport.

Write for FREE booklet, "Engineered Houses"

Northern Hardwood
Floorings Still Available

Shipments of Northern Hard Maple, Beech and Birch Flooring for the first half of 1950 amounted to 30,000,000 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 27,857,000 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 25,000,000 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.

Adjustable Bath Fixture

A NEW bathroom product which is proving to be of great practical use is 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.

THE JAEGER MACHINE COMPANY
351 Dublin Avenue, Columbus 16, Ohio

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- LIGHT WEIGHT

The new KORK-PAK (Patents Pending) Closure Strips will give you tighter siding and roofing seals because KORK-PAK, the cork impregnated with asphalt material, will remain rigid and firmly in place under all weather conditions—won't sag, crack or shift. KORK-PAK is faster to apply—requires only fastening because it's rigid—weighs half as much as asphalt or rubber and reaches your job for less than 50 per cent of asphalt. KORK-PAK is made for horizontal, vertical or bevel closures on standard steel, aluminum or asbestos cement corrugated sheets.
Crescent-Shaped Shopping Center Added to Foster Village

SHOPPING center to include 26 stores and off-street parking for 400 automobiles was recently completed as part of the 636-unit Foster Village apartment project at Bergenfield, New Jersey. Both the shopping center and the apartments are projects of Carlton A. Hunt and Lillian Morrissey of the C. A. Hunt Engineering Company, Inc. Neil J. Convery and Alan Wood Fraser are the responsible architects.

The shopping center buildings are placed in a semi-circle with the parking area inside the crescent. At the rear of the buildings, a large parking lot has been allotted for the use of merchant-employees. In the center of the curve of buildings, an arcade permits access from the store fronts to the rear parking lot or to Hunt Walk which leads directly to the apartments in Foster Village.

FACT that most of area of Foster Village Shopping Center is devoted to parking space is shown by plot plan. Note employees parking space in rear of center.
Leonard Caldwell Nelson, with aliases A. J. Allen, J. A. Bradshaw, Leonard Cowhil, Arthur Hayes, L. J. Nash, Lewis C. Nelson, Arthur Sibley, 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 defrauded two companies in the building industry. On September 1, 1949, a Federal Grand Jury, at Jackson, Mississippi, returned an indictment charging Nelson with violating Section 415, Title 18, U. S. Code, this violation arising out of the passing of a fraudulent 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; complexion, medium; race, white; nationality, American; occupation, timekeeper, salesman, insurance and real estate broker; scars and marks, none appears to have been broken and is curved slightly to left side of face, small scar on right temple, small crescent-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 concerning the location of this fugitive should immediately notify the nearest office of the Federal Bureau of Investigation or his local law enforcement agency.

Renew Your Subscription
Crescent-Shaped Shopping Center...

(Continued from page 251)

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 stads are covered with 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 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 (entains) 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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Beauty that Blends —
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New Ease of Operation, Manual or Electric —
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No. 88 Adjustable Storm-Proof Door Hanger

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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 MANUFACTURING CO.
STERLING, ILLINOIS