Increased production from new modern plants assures prompt delivery on both Celotex Rock Wool Batts and Celotex Hand Pouring Rock Wool.

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Fenestra Residence Steel Casement Type 2414N has been specially designed to provide a high-quality window at lowest cost. It is sized for use in the popular 2' 10" x 4' 6" opening. Its single ventilator provides 50% opening, which is more than you get with ordinary windows—yet it costs much less than a steel casement with two ventilators.

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This window provides 16%/2 more glass area than ordinary windows of the same size. It always opens easily. Safely cleaned on the outside from within the room. Thus, it offers the same qualities that have made Fenestra Steel Casements preferred by both contractors and home buyers.

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Buy it and apply it at a fraction of the cost of either tile or pre-finished tile-like materials. Won’t crack, craze or loosen. Has been used for 10 years in tens of thousands of baths, kitchens.

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Legalizing Confiscation of Property

HOW largely American citizens are being, and may continue being, deprived of what until within recent years were held to be their constitutional rights is indicated by the recent decision of the U.S. Supreme Court sustaining postwar control of housing rentals. The court held that it is a proper exercise of the government’s war power for it to continue such control as long as the effects of war continue.

War has many effects. What effects did the court mean? And to what degree must these effects continue in order to justify continuance of rental and other controls? The court did not say.

Generations are sure to pass before some important effects of the last war—such, especially, as the huge increase in the national debt—will cease to be felt. Hence, a literal interpretation of the court’s decision apparently would be that control of rentals may constitutionally be made permanent or virtually so.

It seems most improbable that the court ever would have rendered any such decision before it was filled with New Dealers. Privately-owned housing, whether occupied by the owner or rented, is private property in the strictest sense. It always heretofore has been held in this country that unless privately-owned property is used in rendering a “public service”—as in the case of property of railroads and public utilities—its owner has a right in time of peace to charge for its use whatever he can get anybody to pay. What he can get for its use determines its value, and for him to be required to rent it for less than he could get in a free market is to deprive him of part of its value.

Rentals have declined when the supply of housing has exceeded the demand for it, to the advantage of tenants and often causing losses to the owners. If government prevents rentals from being increased proportionately when the demand for housing exceeds the supply, tenants will be subsidized both by the losses property-owners incur in periods of housing surpluses and by government control of rentals in periods of housing shortages. Under previous decisions of the Supreme Court since the foundation of the government, such requirement that citizens owning property shall let others use it for less than the owners could get in a free market has been held to be unconstitutional taking of private property.

The present housing shortage has been created principally by government control of rentals, because it has (1) encouraged increase in the average amount of housing space occupied per person and (2) discouraged ownership and building of housing for rent. The only remedy for the shortage is a large increase in housing built and owned for rent. The Supreme Court’s decision that the government has power to fix rentals for an indefinite period does not in the least alter the fact that the amount of rental housing provided will be determined by whether those who must be depended on to provide it can get rentals satisfactory to them. The New Deal Supreme Court, by its decision in this case, apparently has repealed the constitution to an extent that puts the rights of owners of most kinds of property in jeopardy. But even the Supreme Court cannot repeal human nature and the law of supply and demand which inexorably decree that the income that can be derived from any kind of private property will determine how much of it will be created. The surest way to keep people from being able to rent housing will be to keep rentals lower than those able and disposed to build housing are willing to accept.

[Signature]

Sen. O. Dunn.
Who Are Your Best Clients?

People who appreciate your best ideas about houses. People whose big interest lies in a home, and who are ready to put a good bit of money into it. People who have the money to spend. That happens to be a picture of the people for whom Better Homes & Gardens is written, cover to cover, ads and all. Here’s a sample of the way we pre-sell them in the April issue: House Want them to accept in the April issue: House

These April advertisers have found BH&G a top medium for sales:

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The pictures below show an example of good workmanship — and of bad workmanship. They also explain why mortar such as Brixment makes it easier for the bricklayer to deliver good workmanship.

No. 2 OF A SERIES—

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When absorbent brick are used, especially in hot weather, mortar should be spread out over only a few brick at a time. The brick should be placed on this mortar immediately, before it can stiffen.

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LOUISVILLE CEMENT COMPANY
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The new plant in Macon, Georgia, is now running. It is producing both Temlok® Insulation Board and Temlok Sheathing. But like all big straight-line production setups, the machinery requires careful adjustment before it can open up to capacity. Quality comes first—volume, later. The new Temlok appears to have all the quality we planned for, and more.

The picture at right shows some of the first pieces of Armstrong’s new Temlok Sheathing being erected in a test panel. First tests show Temlok has a high margin of extra strength and ability to take rough handling.

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Temlok Sheathing is made in both the 4’ x 8’ and the 2’ x 8’ sizes. Ask your Armstrong wholesaler for samples and full details. Armstrong Cork Company, Lumber Dealer Products Department, 1604 Ross Street, Lancaster, Pa.
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Further K&M research soon yields America's first Asbestos textiles in commercial quantities, America's first Asbestos-cement roofing shingles, and the first Asbestos Corrugated Sheets.

This year marks the 75th anniversary of the founding of Keasbey & Mattison Company—the pharmaceutical firm that branched out into one of America's primary producers of Asbestos and Magnesia products.

Today, K&M "Featherweight" 85% Magnesia insulation is still one of the Company's basic products. But in addition, K&M also makes a complete line of asbestos-cement materials including shingles, pipe for water mains, corrugated and flat lumber, sheet packings, paper and millboard, textiles.

In celebration of the anniversary, K&M has prepared a brief, interesting history of the Company. We will be glad to send you a copy with our compliments.

Nature made Asbestos...
Keasbey & Mattison has made it serve mankind since 1873

KEASBEY & MATTISON
COMPANY • AMBLER • PENNSYLVANIA
QUESTION: How strong is Double-duty INSULITE?

ANSWER: Insulite (Bildrite) Sheathing provides more than twice the bracing strength of wood sheathing horizontally applied. Quick and easy to put on. Jobs go up fast. All this plus insulation to make a tighter, warmer wall. That means you can cut costs, build better competitive houses, sell them faster—profit better.
6 common conditions

where **WOLMANIZED PRESSURE TREATED LUMBER**

protects against DECAY and TERMITES

1. Wherever moisture is condensed because of concrete or masonry.
2. Ground moisture and rain held in joints, etc., of outdoor structures.
3. Wood used in or near the ground open to attack by termites.
4. Where steam and vapor from industrial processes are prevalent.
5. Walls, floors, ceilings subject to condensation from refrigeration.
6. Stock barns, silos and other farm structures subject to high humidity.

**ITS LONG LIFE MAKES LASTING CUSTOMERS**

Industrial work is steady and profitable. It is even more so when you are able to deliver a value in lumber, such as resistance to wood-decay and termites.

When you recommend “Wolmanized” pressure-treated lumber, you can point out that the extra cost of this lumber is less than the cost of replacement labor alone. And you can also point out—with actual service records—to back you up—that Wolmanized lumber lasts 3 to 5 times as long as ordinary wood.

Customers are quick to see the advantage of economy like this. The long life of the Wolmanized lumber you put into a job will make lasting friends.

For full information and service records on Wolmanized pressure-treated lumber, see your local dealers or write to American Lumber & Treating Company.

**WOLMANIZED**

AMERICAN LUMBER & TREATING COMPANY

General Offices: 332 South Michigan Ave., Chicago 4, Illinois

Boston 9
New York 17
Washington 5
Jacksonville 2, Fla.
Los Angeles 15
San Francisco 5

141 Milk Street
420 Lexington Ave.
831 Southern Bldg.
719 Graham Bldg.
112 West 9th St.
604 Mission Street
YOUR INSTALLATION MAN WILL TELL YOU!

THE Inside STORY OF Cotton Insulation

TURN PROSPECTS INTO STRONG BOOSTER CUSTOMERS

Sell more insulation jobs at more profit per job—sell rings around competition—learn "The INSIDE Story of Cotton Insulation." Pass it on to employees—use it for increasing your insulation sales and profits.

WRITE for your copy now—IT'S FREE!

Ask the man on the job! He will tell you how much easier and quicker featherweight, flameproof Cotton Insulation can be installed. No short lengths—comes in one long blanket that unrolls like a rug. Sized to fit and lie flat in spaces between rafters and studdings—leaves no gaps.

Non-irritating to handle—nothing to sting or prickle the skin—no shedding or sifting over the house to annoy customers. Ask your installation man, or better still, go out on the job with him and learn first hand why your workmen, if given a choice, will take the Cotton Insulation job every time.

Get the complete story of the many more INSIDE advantages Cotton Insulation offers you and your customers. Send now for your free copy of "The INSIDE Story of Cotton Insulation."

NATIONAL COTTON COUNCIL OF AMERICA
COTTON INSULATION ASSOCIATION

National Cotton Council, Dept. B
Box 18, Memphis 1, Tennessee

Please send "The INSIDE Story of Cotton Insulation."

Name ____________________________
Address __________________________
City ____________________________ State __________________________
Here's double protection...

Against both wind and weather

- Winner or summer, Ruberoid Dubl-Coverage Tite-Ons give your house or barn twice the protection against every storm hazard.
- The combination gives you extra years of protection. From basement to roof, Tite-Ons make your house safer from driving snow, rain and ice. It's permanent, doesn't rust or erode. It doesn't require admittance, doesn't need attention.

This rugged, heavier weight shingles interlock to make your complete layers over the entire roof. That's like getting two roofs for the price of one.
- They interlock to make a roof that's virtually "one-piece." Tite-On Shingles can't curl up or blow off.
- They have a reasonable initial cost. They're fast, keeping application costs down. They save you expense on cost. For new roofs or reroofing, they'll give you more roof life.

A "one-piece" roof

This variety of the rubberoid shingles has been designed to make the shingles interlock with each other. They're pre-assembled to be applied to roofs at gable and other high points.

- They are completely windproof—will remain in place even without winds of hurricane force.
- They give extra protection against driving rain, sleet or snow because there are two thicknesses over the entire roof area.

TOWN OR COUNTRY

Ruberoid advertising reaches your best prospects!

Ruberoid national advertising covers both the farm and residential markets—a carefully selected audience of 14,000,000 families. Home owners, prospective home owners, farmers—all people with the need and the means to buy building materials!

What does this mean to your business? Just this. Month after month, 6 out of 10 of the best building prospects in your community read the story of exclusive feature Ruberoid products like the Dubl-Coverage Tite-Ons in the advertisements above.

This is advertising that pre-sells your prospects—helps you turn them into customers easier and faster!
Good design—whether for a modern apartment building or a NORGE appliance—has these attributes in common. The unit must utilize all available space efficiently. It must have all the beauty that symmetry permits. It must have all functional parts arranged for greatest convenience. That’s modern architecture... and that’s NORGE. Norge Division, Borg-Warner Corporation, Detroit 26, Michigan.
Install the **KRESKY Evenheat Oil Floor Furnace** in the new or remodeled homes of your customers and they’re sure to tell others that you certainly "did right by them." And that sort of thing, snow-balls, you know. The Kresky **Evenheat** is one of the most popular oil furnaces on the market today, and here are a few reasons why:

**Low initial and operating cost**

The famous patented Kresky burner, basic unit of **Evenheat**, is simplicity itself, allowing us to effect many savings in manufacturing costs—savings we pass on to you. Immediate heat from a fire that is *always* clean—soot free—and hot, assures warmth when you want it—and less oil consumption.

**Very easily installed**

A Kresky **Evenheat** floor furnace is almost a plug-in unit, it’s that easy to install. Requires only three feet of clearance under the floor—less than any other comparable heater.

**Always clean instant heat**

Air is mixed with the gases from the oil in the burner in just-right amounts by an electrically operated blower to give instantaneous clean heat, which is then forced through the home by a circulating fan.

**Safe as safe can be**

The Kresky **Evenheat** is completely enclosed in a double casing separated by adequate air space. This insulates the furnace, keeping the outside casing cool—an important safety feature.

**Automatic and really rugged**

Intake of oil and air induction are so synchronized that you get clean healthful heat in amounts you want when you want it without the slightest bother. The best of heavy gauge steel and the finest of materials, plus the famous Kresky workmanship is your guarantee of long life and complete customer satisfaction.

---

**Casing size of Evenheat**: 20½" x 36½" x 36" high.

**BTU output**: 72,800.

**Shipping weight**: 237 lbs. Also comes in dual register and super models. Write for our 1948 catalogue for information about our full line of commercial and domestic ranges and furnaces. Increased plant facilities allow us to make faster deliveries on all models.

---

**NOTE TO DEALERS**

If you are interested in a dealership, please let us know. There may be an opening in your locality.

**Listed by Underwriters’ Laboratories, Inc.**

**KRESKY MFG. CO., INC.**

Petaluma, California
TODAY, in their bathrooms, new home owners want the luxury of modern design in shower cabinets combined with utility and real durability. Now Tiletone, and only Tiletone, offers a shower cabinet that really graces any bathroom no matter how luxurious. It is Model 75. Here is a shower cabinet that is constructed to hold up better—is durable. Made of aluminum alloy, it is non-rusting and is protected by a Bonderized baked enamel finish. Model 75 has a new improved terrazzo receptor—shoulder height shower head, is lighter, yet rigid...solid! So it's easier to handle, easier to install.

**MODEL 75**

**TILETONE**

**Shower Cabinet**

**TILETONE COMPANY • 2323 WAYNE AVENUE • CHICAGO 14, ILLINOIS**
Daylighting on a large scale . . . or small?

1. A bright spot in Los Angeles is the new Broadway-Crenshaw department store. Extensive use of Insulux Glass Block adds daylight and distinction to this building. But Insulux pays big dividends in smaller installations, too.

2. In this large department store, Insulux Glass Block panels bring natural daylight deep indoors to highlight displays. But Insulux isn't only for big buildings. Do you see an idea here for some smaller shop you may be planning?

3. Merchandise looks better under natural daylight. Here in Broadway-Crenshaw's yard-goods section, Insulux Glass Block does its part. But, remember, soft lighting like this helps sell things in neighborhood stores, as well. Have any ideas?

4. Even the employees in this big store get a break with Insulux. On this rooftop sun deck, an Insulux Glass Block windscreen separates lunchroom and recreation areas. Sun screens and partitions are popular for home use, too.

5. Whether your line as a builder is commercial or residential construction, you will find it profitable to recommend Insulux. This remarkable building material has many functional and decorative uses which make it adaptable to both. Investigate!

Write today for complete information on the many interesting commercial uses for Insulux Glass Block. Clip the coupon and mail.

Send for free booklet

AMERICAN STRUCTURAL PRODUCTS COMPANY
P.O. Box 1035, Dept. E-52
Toledo 1, Ohio

Gentlemen:
Please send me your free booklet on Insulux Glass Block, "Ideas for Commercial Application."

Name ___________________________ Address ___________________________
Firm ______________________________________________________________
City ___________________________ Zone ___________________________ State

American Structural Products Company is a wholly owned subsidiary of the Owens-Illinois Glass Company. It has taken over the manufacture and sale of Insulux Glass Block and other Owens-Illinois structural products.
Boston's Bonwit Teller has

a distinctive decor pleasing to the most fastidious
customer . . . smart merchants everywhere know

the importance of clean, attractive powder

rooms and gentlemen's lounges. Here at Bonwit's,

the ladies' lounge is done in a modern color combination

of grey and Kelly green. The grey motif established in the walls and
carpets of the powder lounge is carried through in
the washroom with French grey genuine clay wall tile and
wainscotting. Used with pink fixtures, this real tile
background is both pleasing and distinctive. Sanitary
cleanliness is assured. The effect is one of beauty, smartness,
and color that will last year after year.
to defeat demon doodlers
in school corridors, gyms, and wherever else eager hands can reach, choose a permanent, mar-proof surface like genuine clay tile. Public officials appreciate it when real clay tile is specified because tile makes tax dollars go further. Cleaning and maintenance work is easier and less costly. Clay tile is washable and therefore doesn’t require waxing, varnishing, or painting to keep it always looking bright and doodle-free.

THE MODERN STYLE IS GENUINE CLAY
IN THE BEAUTIFUL BILTMORE

Even when you enter this world-famous New York hotel it is hard to realize it was built 34 years ago. Recently, an extensive modernization program was undertaken to further enhance its distinctive charm. Original Georgian furnishings are being replaced with “modern Georgian.”

Besides keeping beautiful, all hotels must also keep maintenance costs low. A guest in the Biltmore who steps into any one of the 550 modernized bathrooms appreciates the smart looking beauty and cleanliness of the walls which have 6' of newly added genuine clay tile. And behind scenes are the easily cleaned, sanitary, tile floors now installed in the 18th floor kitchen and Bowman Room pantry. Equally important to the Biltmore management is the money which will be saved over the coming years by the maintenance economies real tile assures. Keeping beauty bright, and maintenance costs low, in this case go hand in hand.
as an outstanding example of how private capital and management are providing a truly cooperative residential community at Forest Hills, New York, for World War II Veterans. When fully developed, 5,669 apartments of 3½ to 5½ rooms will cover a 55-acre tract in this New York City suburban development. Featured in these well-planned apartments are bathroom walls and floors of genuine clay tile in harmonious colors. The Veteran’s Administration, in appraising this and other housing projects, looks for the long-range value, economy, and durability that real clay tile provides. In both large-scale housing projects and individual custom-built homes, tile is preferred for bathroom walls and floors, kitchens, sun rooms, powder rooms, halls, stairs, and porches because it increases sales appeal. Experienced real estate people stress the presence of genuine clay tile since home buyers and renters recognize tile as the hallmark of quality and are willing to pay for its advantages.

when candy is cookin'
cleanliness counts. Naturally, candy and food factories need walls and floors that are easy to clean and keep clean. But, ease of cleaning is just one of the requirements. Spilled liquids can penetrate open floor joints and deteriorate rapidly, causing unsanitary conditions. So, dairies, bakeries, restaurant kitchens, other places where surfaces might be attacked by food acids or alkaline cleaning agents, rely on real clay tile floors and facings. Acid and stainproof, clay tile is hard and resistant to warping, chipping, and cracking. All these advantages help assure sanitary conditions.
Reflecting the increased use of genuine clay tile for all types of contemporary and traditional designs, the industry is today producing more and better tile than ever before in history.

To insure the continued increase of both quality and quantity, tile manufacturers have invested over 10 per cent of their gross sales income since the end of the war in new plants, equipment, and product research and development.

As a result, genuine clay tile can be specified for familiar—as well as for new and exciting—installations, with full confidence that every demand will be satisfied.
NEW "Quick-Saw"* ARM

Multiplies the Usefulness of
Powerful, Versatile Electric Saws!

Now—add Radial Saw features to your Portable Electric Saws—with a Black & Decker Quick-Saw Arm! The new Quick-Saw Arm gives you dual versatility: (1) A positive set-up for "pre-fab" cutting; (2) Flexibility of adjustment to make many kinds of cuts . . . in "on the job" sawing or production shop use. It helps you make more accurate cuts, increase speed, reduce fatigue. It does fast plunge cutting on moulding, fence pickets, etc.

All three Black & Decker Electric Quick-Saws (and most other portable electric saws) fit into the adjustable carriage of the Quick-Saw Arm in a jiffy. Entire unit clamps to saw horse or mounts on table. All adjustments quickly regulated on the column. And, however you use them, Black & Decker Quick-Saws beat hand sawing 10 to 1—in wood, metal, stone or composition sawing—with maximum safety. Ask your nearby Black & Decker Distributor for complete details. Write today for free catalog to: The Black & Decker Mfg. Co., 666 Pennsylvania Ave., Towson 4, Maryland.

LEADING DISTRIBUTORS EVERYWHERE SELL

Black & Decker
PORTABLE ELECTRIC TOOLS

8" QUICK-SAW
Cuts up to 3-5/8" depth
$135.00

7" QUICK-SAW
Cuts up to 3-5/8" depth
$115.00

6" QUICK-SAW
Cuts up to 3-1/8" depth
$150.00
Cold rolled steel can’t be beat for working parts that have to stand up and take it. That’s why every single interior part in a Dexter is made of steel (plated for rust protection). This is only one of the nine features which assures you of the very best when you use Dexter Tubulars.

**Only Dexter Tubulars** have all these 9 features of superiority

1. Stay-tite Set Screw
2. Two Big Coil Springs
3. All Steel Interior
4. Solid Brass Trim
5. Uniform Boring for Locks and Latches
6. Self-Adjusting Alignment
7. 25 Years Specialized Experience
8. Shallow Face Plate Mortise
9. Lifetime Guarantee

**National Brass Company**

Grand Rapids, Michigan

Makers of Builders, Cabinet, Screen Door and Shelf Hardware
Here it is...a top-quality, pre-tested CAREY product—the CAREY extra heavy Super Strip Shingle! Just check its outstanding features, listed below, and you'll see how you can do a better roofing job, obtain more satisfied customers and increase your sales...with this quality shingle that defies the weather!

more sales - more profits

HEAVIER WEIGHT—250 lbs. per square...40 lbs. more per square than most other shingles. No wonder they give extra years of weather protection!

SUPER STRIP IS DOUBLE THICK — Double coating of asphalt and mineral granules over the entire surface of the shingle serves as a protective blanket to add years of efficient roof covering.

HIGH WIND RESISTANCE—Because of extra weight, thickness and rigidity, Super Strip Shingles offer greatest resistance to wind. They're held securely with six nails. (In extreme high wind areas, cementing down the tabs is recommended.)

EXTRA BEAUTY AND COLOR HARMONY — Super Strip's extra thickness provides heavy shadow lines! And Super Strip comes in 10 shades to match any exterior color scheme of the home—Dixie Green, Harvest Blend, Blue-Black, Tile Red, Slate Blend, Slate Green, Green Blend, Azure Blend, Red Blend, Brown Blend.

Ask him for complete details about easy-to-install and easy-to-sell Super Strip Shingles—the beautiful, fire-resistant, long-life shingles that sell. Or write Dept. AB-4.
Sooner or later, "white elephants" crop up in every business. Big expensive jobs no one can afford to buy. Or—material purchased in time of shortages and high prices, which may require a severe price cut (and a severe financial beating) to sell.

To avoid many white elephants, make it easy for your customers to buy. Make a fast turnover possible. Make it possible to sell a big job, small job or anything you handle for nothing down and a small monthly payment. How? By using the nationwide instalment note services of Allied Building Credits, Inc., "exclusively for the building industry."

You get paid in cash and you tie up no money in accounts receivable. No collection worries, no overhead expense on credit facilities. Sell with ABC and avoid a lot of "white elephants."

ALLIED BUILDING CREDITS, INC.
DEPT. B, 3109 WILSHIRE BLVD. LOS ANGELES 5, CALIF.
Complete Installment Selling Services for the Building Industry.
NATIONWIDE SERVICES; OFFICES IN PRINCIPAL CITIES.
ECONOMICALLY PRICED!
COMPLETELY APPROVED!
MADE TO THE WIREMAN’S SPECIFICATIONS!

Available now through leading electrical wholesalers!

Fits sizes shown

<table>
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<tr>
<th>Cat. No.</th>
<th>Armored Cable</th>
<th>Armored Lead Cable</th>
<th>Lamp Cord Plain</th>
<th>Flexible Conduit</th>
<th>Overflex</th>
<th>Bare Armored Ground Wire</th>
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Wide, flat cable stops
Easily inspected Anti-Short
One-Piece Stamped Steel Body
Sure-Grip Bond
Electro-galvanized

National Electric Products Corporation
Pittsburgh 30, Pa.
House & Garden—trend setter

House & Garden sets trends by reaching people who materially influence the buying of others. This power of multiplying influence in ever widening circles is the golden touch of House & Garden. The Drexel Furniture Company promotion in House & Garden clearly demonstrated the effectiveness of the golden touch in action. The House & Garden advertisements touched off a series of store promotions across the country that told Precedent’s story to 22 million people.*

*These results at the lowest initial cost in the home service field.

House & Garden

House & Garden’s golden touch gets action at the point of sale.
In this new Feather-Touch valve, Salter engineers have perfected an amazingly simple valve. It's a removable barrel type with no complicated working parts... just a stem and outer barrel or bushing which also serves as the cap. Conventional metal valve seats and washers have been entirely eliminated. Its finger tip Feather-Touch opening and closing action is achieved by the hydraulic piston action of the stem sliding through two precision “O” rings. Working surfaces of these parts are precision finished to 3 thousandths of an inch tolerance and the stem is polished and plated to achieve the ultimate in smoothness. The above features make a valve which has operated on laboratory tests equal to over twenty years of drip proof service. See this new Feather-Touch line of fixtures at your plumbing wholesaler without further delay.
"I use Supertreated Pol-mer-ik because nothing can replace this 100% PURE LINSEED OIL for top-notch painting!"

That's what Verne Wallin, master painter, says as he welcomes back Supertreated Pol-mer-ik. Wallin remembers Pol-mer-ik's superior qualities...the faster covering, better glossing, finer leveling that saves him painting time and gives an all-round more satisfactory paint job.

So, use Pol-mer-ik and you can rest assured you are using the finest 100% pure linseed oil science has produced. It's Supertreated—given a special processing and blending that strengthens its molecular structure...speeds up painting...provides a tougher, more durable, better-looking paint film.

Your dealer has Supertreated Pol-mer-ik...ask for it!
EVERY CUT in home building GOES FASTER with a SKIL Saw

- SKIL Saw cuts brick, tile, slate and compositions ... reduces costs on home and commercial building.

You can't afford to saw by hand when you're competing with today's higher construction costs. You can afford an electric SKIL Saw ... it's a money-maker ... it's 10 times faster than a hand saw ... saves time and money on every cut from foundation forms to roofs. You have a choice of 9 compact lightweight, heavy-duty models that cut as deep as 4 3/8 inches in wood, score concrete, cut metal ... do more jobs than you ever thought a portable electric saw could do. See your SKIL Tool Distributor. He will show you why you need a SKIL Saw.

SKILSAW, INC., 5033 Elston Ave., Chicago 30, Ill.
Factory Branches in Principal Cities
In Canada: SKILTOOLS LTD., 66 Portland St., Toronto, Ont.
Certain keys are made for certain locks and you're not going to open that front door with just any key. The same thing applies to cements—there is a certain type of cement that just fits a certain job and not just any cement gives a good construction. Today, smart contractors look over the five Medusa Special Cements and select the one that will give them the best job. They know that ordinary gray cement has its place but so do the other Medusa Special Cements.

Suppose you are building a home and you want a basement that is going to be dry for years to come. Don't choose just any mortar nor any cement—instead, use Medusa Waterproofed Gray Portland Cement for laying up the units for monolithic concrete and for the basement floor. This cement has a waterproofing material ground in at the mill. It is thoroughly distributed throughout the cement; hence, throughout the concrete. This waterproofing material is locked in the concrete or mortar. It repels all water at the surface, guarding against moisture penetration. The further addition of a Medusa Waterproofed Gray Portland Cement as a plaster coat inside and out on the basement walls is an added promise of complete protection. For further information on Medusa Waterproofed Gray Portland Cement, send the coupon below for the booklet, "How to Waterproof Concrete, Stucco and Masonry."

*If not available, use Medusa Waterproofed Paste or Powder.

MEDUSA PORTLAND CEMENT COMPANY
1002-2 Midland Building Cleveland 15, Ohio
Gentlemen: Please send me a copy of the free booklet, "How to Waterproof Concrete, Stucco and Masonry."

Name 
Address 
City State

Mail this Coupon NOW!
NEW DOUBLE ACTION INSULATION...

Homeowners get double action from new, patented Cellulite-Silvercote—Reflective Cellulite. Up to 70 per cent greater efficiency than other types of insulations... far better fuel savings, much more summer comfort.

You, whether builder, dealer or both, get triple action: a sale that's a cinch to make, a sale that earns you the lasting good will of your customers... and a good, sound profit.

Cellulite-Silvercote combines a blanket up to 36 per cent more efficient in preventing heat transfer by conduction and convection PLUS two reflective membranes to block radiation of heat. Total — up to 70 per cent greater efficiency.

THE GILMAN BROTHERS COMPANY
Established 1897

GILMAN, CONNECTICUT
Sales Offices — New York, Chicago, Tacoma, Los Angeles, San Francisco

Here's something to shout about — the most efficient building insulation known to science! Permanent, non-settling, flameproof. Gilmanweld nailing flanges make it simple as all get-out to install. Rugged vapor barrier provides MODERN MOISTURE PROTECTION. Send us the coupon today for complete information about Cellulite-Silvercote.

WHOLESALE - A few choice territories now available.

THE GILMAN BROTHERS COMPANY
52 Richard Street, Gilmanton, Connecticut

Please send me full information about new, double action Cellulite-Silvercote.

Name__________________________Firm__________________________Street__________________________

City__________________________Zone__________________________State__________________________

Check one: [ ] Builder [ ] Wholesaler [ ] Dealer (Retail) [ ] Architect

HERE'S RADIANT HEATING
See those arrows coming from the Modine Convector Panel below the window? That's radiant heating — mild radiant heat in just enough quantity to offset heat loss from window area.

HERE'S CONVECTION HEATING
These arrows illustrate convection heating. Hot water or steam passes through copper heating unit which draws cooler, floor-line air into bottom of convector where it warmed, rises and passes out through grille.

Modine Convecto Radiator Radiation blends both for the greatest forward step in modern heating science.

Modern heating at its best — that's what engineers and architects are calling Modine Convecto Radiation. This blended combination of radiant heat and convection heating is the dependable new hot water and steam heating system for moderate cost homes and apartments . . . as well as commercial and institutional buildings.

Right now Modine Convecto Radiation costs less than any other form of radiation. Compare these outstanding features which it gives you: 1) individual room control. 2) instant response to automatic controls. 3) gentle air circulation without the use of moving parts that wear out. 4) distinctive room charm and cleanliness without unsightly radiators.

If you're planning to build or modernize, specify Modine Convecto Radiation. Call Modine's Representative listed in the "Where-to-Buy-it" section of your phone book. Or send for new, free Convecto Booklet! Modine Mfg. Co., 1501 Dekoven Ave., Racine, Wis.

Modine CONVECTOR RADIATION
The modern "proved by use" heating method.

Check these key Modine features!
- Control
- Adds to Living Space
- Modern Beauty
- Priced for Today's Homes and Apartments
- Easy to Install
- Easy to Clean
Take this low-cost Portable Saw Shop to your job!

This ever-popular, low-cost DeWalt is easy to carry from job to job. When you put it to work you actually have a "saw-shop" on the job, because every time you change the cutting tool, you have another machine!

To build more and better houses faster—builders use this portable, low-cost DeWalt. Because most of its working parts are now of light-weight, heat-treated aluminum, operators find it easier to handle—safer than ever before—and it does the fast, accurate work they want. It's a machine you can get quickly. Write for catalog. DeWalt, Inc., 14 Fountain Avenue, Lancaster, Penna.

DeWALT

THE SAW THAT'S FIRST WITH BUILDERS
Inexpensive! Beautiful! Enduring! Here's reason why Prestile is the popular tileboard for remodeling or new construction. It's panel-size — easy to install — easy to clean. Wide range of glistening pastel colors are baked-in by a special process for permanency — offers customers unlimited decorating effects!

Write today for details and prices.

**9 Color Combinations**

- WHITE with black or red score lines
- PEACH with white score lines
- BLUE with white score lines
- GREEN with white score lines
- IVORY with white or black score lines
- YELLOW with white or black score lines
- ORCHID with white score lines
- RED with white score lines
- BLACK with red score lines
- PLAIN — unscored in all colors.

**5 Popular Patterns**

- 4-inch square — Regular tileboard.
- 8-inch square — Large tileboard
- 4-inch Streamline — parallel lines
- 8-inch Streamline — parallel lines
- Plain — unscored colored panels

Prestile line also includes: Black Cap and Base Mouldings, Stainless Metal Mouldings, Prestile Waterproof Cement.

Quickly Installed Over New and Old Walls

Prestile is the Known Brand of National Prestige!

A $10 added investment in NICHOLS
"neverstain" ALUMINUM WOOD SIDING NAILS
on this 5-room house would have saved a $200 repaint job

No more rust streaks to ruin a nice paint job when you use Nichols "Neverstain" Aluminum Wood Siding Nails. They are the greatest improvement in nails since the wooden peg. Siding installed with NICHOLS "Neverstain" ALUMINUM NAILS can never become rust streaked or discolored as in the case of the steel-nailed siding shown in the photo below. Hammer blows on the heads of galvanized nails may chip off the zinc, exposing steel to rust. Copper nails may give off a dark hued oxidation.

ALUMINUM IS NOT A SUBSTITUTE!

RUST PROOF • EASY TO DRIVE • ETCHED TO HOLD

More Nails per Pound

Made of a special alloy, these aluminum nails are rust proof all the way through, as aluminum cannot rust. They are etched for added gripping power and drive easily and straight. You get about three times more aluminum nails per pound than steel nails of the same size.

Available in 50 lb. kegs in sizes 6d (2" long, 12 Ga., 17/64" head), 7d (21/4" long, 12 Ga., 17/64" head) and 8d (21/2" long, 11 Ga., 19/64" head).

AVAILABLE IN

SHINGLE — (Standard) — Length 11/4" and 13/4", Ga. 121/2, head 9/32".
ROOFING — Length 13/4" to 21/2", Ga. 10, head 7/16".
PLASTER BOARD — Length 13/4", Ga. 121/2, head 5/16".
ASBESTOS SHINGLE — Length 11/4" and 13/4", Ga. 111/2, head 10/32".

SPECIFY NICHOLS "neverstain" ALUMINUM NAILS ON YOUR BUILDINGS

Other Famous NICHOLS "neverstain" Products

Write today for circulars illustrating, describing and pricing Nichols products.
2 Reasons why you should recommend Gold Bond Rock Wool Batts

YOU and your customers both profit when you recommend Gold Bond Rock Wool Batts!

YOU PROFIT two ways. First, you'll be fulfilling your obligation to your customer by giving him the good, sound advice he expects from you. There's no finer home insulation than Gold Bond Rock Wool, made by National Gypsum Company. Second, you'll make as much or more actual profit than you would on inferior insulation.

YOUR CUSTOMERS PROFIT by having the finest home insulation in the world—at no extra cost! First, Gold Bond Rock Wool can't burn. It's as fireproof as the rock from which it's made. Second, only "Full Thick" insulation, which completely fills the wall, provides an effective fire stop, and top efficiency heat insulation, too!

The map below shows the six Gold Bond Rock Wool plants from coast-to-coast, ready to make fast shipments. Play it safe! Always give your customers the best!

NATIONAL GYPSUM COMPANY
BUFFALO 2, N. Y.
Program for Ten Million New Homes

CONSTRUCTION was begun on 50,000 new permanent non-farm dwelling units in January according to preliminary estimates of the Bureau of Labor Statistics. This was 12,000 under the estimate for December, but exceeded the number of dwelling units started in January 1947 by almost 10,000 (25 per cent). Severe winter weather seriously affected starts in northern areas. Marked decreases were noted in Oak- land, Calif., Chicago, Ill., Evansville and Fort Wayne, Ind., Minneapolis, Minn., Elizabeth, N. J., Columbus, Ohio, Philadelphia, Pa., and Richmond, Va. Substantial increases were reported for Phoenix, Ariz., Miami, Fla., Indianapolis, Ind., Baltimore, Md., and Austin, Tex. Precipitation was heavy in northern areas.

Financing Ten Million New Homes

Relatively high prices for new homes have proved no obstacle to prospective buyers as long as easy credit terms were available, but builders are now confronted with prospective buyers who have not more than $100 to $500 for a down payment whereas $2,500 is needed. It will not be the sales price of such housing, nor the total monthly payment necessary to authorize the mortgage. The plan would give FHA insured mortgages the security of a government bond, and make it the investment equivalent of a government bond at a 3% per cent interest rate. The sponsors believe that the plan will lower costs and increase production by permitting builders to achieve the economies of mass production and uninterrupted construction of long range building operations—two, three, five year projects.

Congress Urged to Formulate Ten-Year Plan of Building

Perhaps the President's special message to Congress on February 23, urging a long range program to produce one to one and a half million homes for the next ten years was timed to coincide with the opening of the NAHB Convention. Although this long range program would certainly be desirable, so far as builders are concerned, its implications have not been fully emphasized.

Such a program will not only house the anticipated increase in families as estimated by the Bureau of Census for the next ten to fifteen years, but will also provide for the replacement of one out of four existing dwellings. This would remove all slums and blighted areas and sub-standard dwellings in cities and towns as well as others which are still serviceable. After the present housing shortage has been eliminated, the problem of designating certain dwellings for destruction and replacement would arise. Many of these so called sub-standard dwellings are owner-occupied. Many owners would protest any compulsion to destroy their present dwellings and to replace them with new ones.

The President, in his address to Congress, called attention to the fact that less than 15 per cent of the 854,600 new homes built in 1947 were rental units. The chart shows how the present building boom differs from the twenties when two-family and multi-family units, the usual type of rental units, formed a substantial portion of total residential building.

In spite of higher prices, certain lines of retail trade are registering decreases in dollar sales volume as compared with last year, notably: Confectionery stores, bakeries, eating and drinking places, women's accessory stores, custom tailors, jewelry and book stores. In contrast, lumber and building material dealers, according to Department of Commerce data, registered an increase of 22 per cent in retail dollar volume in January.

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The chart shows the distribution of mortgage delinquencies nationwide. The chief reasons for mortgage delinquencies are divorce and break-up of families, the most difficult to handle.
NEGATIVE JUDGMENT—David S. Miller, president of the Producers' Council, recently scored a bull's-eye against negative judgment of the performance of the building industry when he said, "There has been a tendency to judge the building industry by what it has not been able to accomplish, rather than by the outstanding record it has made in the face of unprecedented handicaps."

MILLER SCORES AGAIN—The astute PC president, calling attention to the tremendous acceleration of building volume in the 30 months following the close of the war, added that "The amount of new construction would have been greater had it not been for the vast quantities of materials utilized to repair and improve existing housing and other buildings."

CICI—It means Construction Industry Information Committee. It is at work documenting evidence that all branches of the building industry have been working in the public interest.

PUBLIC RELATIONS—The documented evidence should be a genuine contribution to industry public relations. It is expected to show shortened building time, increased labor production, improved materials production, and to outline numerous programs designed to reduce building costs.

MUTUAL HOUSING—First veterans' mutual housing project under New York's limited dividend housing law has been announced, Will be in Queen, New York City, and include 800 apartments. Each unit, 4½ rooms for expected sale price of $9,200, down payment of $450, monthly charges about $70 to $75.

HOUSING IN BRITAIN—Between the beginning of Britain's re-building drive in 1945, and August, 1947, there were 124,013 permanent houses completed. On August 1, there were 248,914 permanent houses under construction.

SARGENT & COMPANY
NEW HAVEN, CONN.
NEW YORK CHICAGO
Because of their several outstanding features, their inherently fine qualities, their absolutely superior performance for owners everywhere, versatile Comets have soared to the top among radial power saws. New owners often say their first experience with Comets is one of extra satisfaction. They know they are buying the best but are more than agreeably surprised to discover how good the best can be. The position Comets hold today is due to the constantly increasing preference for the kind of service they give — service that saves — and makes money. See your Comet dealer or write direct.
People are really pleased when you give them what they want. In homes, the trend today is to Electric Ranges. Another million American families switched to Electric Cooking last year. Conservative estimates indicate that this year at least a million more Electric Ranges will be installed.

This is a definite trend that cannot be ignored. Progressive builders recognize this trend. Electricity is a "must" in any house, and it's simple and economical to include wiring for an Electric Range leading to a range outlet in the kitchen at the time of construction. This is assurance that the houses you build are not only modern today, but will stay modern for years to come!
Letters

Advice to the Ignorant

To the Editor: In order to be well informed on reason and cause effect on the very rotten conditions affecting the home construction industry, I happened a few days ago to read your periodical, in which I found a gem at the end of the article entitled, "Housing Facts Without Distortion."

In reference to Mr. Nathan Straus, an authority on housing whom I trust and respect more than all your writers and builders, the article concluded as follows:—"He should learn something about his subject, and then stick to the facts." In my estimation only a big-business lout and ignoramus could make such a statement. I am indeed the strong belief that it is you who should learn about your subject before writing and making stupid and derogatory statements about a distinguished research worker and author, which Mr. Nathan Straus is, and which you are not. It is you, my darling good fellows, who have much to learn in order to advocate for better conditions in the home construction industry, which I consider the most backward and most rotten affecting our American economy. —Benja-min Naubert, Chicago, Ill.

Endorsed Reply to Straus

To the Editor: I want to tell you what a fine article you have beginning on page 100 of your February issue, in which you reply to Nathan Straus. Would you grant us permission to use it as an advertisement, or as a news item if we give credit to the American Builder? It deserves the same public readership received by the original article by Straus.—Arthur Clifford, The A. W. Burritt Co., Bridgeport, Conn.

Another Endorsement

To the Editor: I have read with much interest the article, "Housing Facts Without Distortion—A Reply to Nathan Straus." in the February issue of American Builder. If reprints are not available, may we have permission to reproduce this article so that we can place it in the hands of our salesmen? —Ralston D. Scott, Council of Insured Savings Associations of New York State, New York, N.Y.

Not in Central New York

To the Editor: In your February issue you gave a comparison between amount of work done and wages paid in 1940 and 1947. You did not state in what part of the United States these figures applied.

I have been in the building trades (Continued to page 60)

It's in the bag!

Your sales are made and your houses stay sold when they have the features customers want. The trend of home-buyers' preference today is for automatic Electric Water Heaters.

How to reduce construction costs and add customer features...

Your sales are made and your houses stay sold when they have the features customers want. The trend of home-buyers' preference today is for automatic Electric Water Heaters.

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Your sales are made and your houses stay sold when they have the features customers want. The trend of home-buyers' preference today is for automatic Electric Water Heaters.
WARM FLOORS for BASEMENTLESS HOMES

with the NEW INTERNATIONAL

Warm Air

OIL FURNACE

Compact...Easily installed in a niche, closet or utility room PROVIDES WARMTH AT THE FLOOR—WHERE IT'S NEEDED MOST...

Especially designed for wood floors, cement slab or terrazzo floor basementless homes. Warm air is conducted underneath the floors and delivered at the base of walls to eliminate cold air washing down walls and windows. No condensation.

Maintain uniform temperatures from floor to ceilings...all the advantages of radiant heating without the lag. Complete quietness of operation with International's exclusive patented "floating blower"—entirely cradled in resilient springs. Fully automatic.

SEND FOR BULLETIN and SPECIFICATIONS.

INTERNATIONAL OIL BURNER CO., ST. LOUIS, MO.

LETTERS

(Continued from page 59)

for a quarter of a century in central eastern New York State, and can truthfully state that never have I known or heard of a bricklayer laying an average of 125 bricks per hour on an 8-inch wall (standard in this area for a story and a half house) including plumbing, at least two door openings, and from 7 to 14 windows, not to mention setting sills and possibly lintels in these openings.

Personally, I think you would do more to benefit the building industry by exposing to the public the various devices whereby materials necessary for construction have continued to soar higher and higher.

Why not publish the profit of manufacturers per unit in 1940 and 1947, also increased earnings of those same companies, including their excess profits? Carpenters' wages in this area increased in these years approximately 31 per cent ($1.37 in 1940 to $1.80 in 1947), other trades in proportion.—S. A. HURLEY, Carpenter Builder, Troy, N.Y.

Monolithic Concrete Houses

To the Editor: I have patented a system for mass producing houses by which the skeleton of the house is a monolithic, self-contained whole, through it is constructed from single elements, which are pre-cast in prestressed concrete. The skeleton also forms a thermal body which can either heat or cool all the rooms of the building. I am looking for contacts with big building firms in the United States. I need working arrangements with such builders, or opportunity to form a new company in the United States.—JOSEF SEDLAK, Revoluční 13, Praha 1, Czechoslovakia.

Problem in Denmark

To the Editor: We want to contact American firms manufacturing building materials. Our firm for many years has been working with artificial building materials, such as Duro-Eternit, which is made from cement and asbestos. We are very much interested in everything new in this line of business.—E. LISSAU, Aktieselskabet Martinit, Gysværksvej, 10, Copenhagen, Denmark.

Reply from Britain

To the Editor: I feel I must reply to your criticism of our housing policy, regarding private enterprise. It was based on the fact that of the members of the forces who wanted houses, only one in four wanted or was able to buy, and it appears to (Continued to page 62)
ALL THAT YOUR CUSTOMERS WANT IN HEATING

FORCED CIRCULATING THRUSH FLOW CONTROL
SUMMER — WINTER
HOT WATER HEAT!

EQUIP the hot water heating plants of your customers with the finest modern automatic controls for greater efficiency, lower fuel consumption and increased heating satisfaction. This means Thrush System, with forced circulation and a plentiful, automatic supply of hot water for kitchen, laundry, and bath from the same boiler, winter or summer. Get acquainted with Thrush Equipment now if you want to build a good reputation and increase your sales. See our catalog in Sweet's or address Dept. G-4.

WRITE FOR THIS NEW HOT WATER HEATING BOOKLET

A new sales aid that will help you sell more Thrush Systems.

H. A. THRUSH & COMPANY PERU, INDIANA
DO THESE

1. Measure from property lines
2. Stake out buildings
3. Lay out angles
4. Plumb vertical lines
5. Level up excavations for foundations
6. Set grades for thresholds, sills, lintels, etc.
7. Set slopes for drainage or sewage
8. Set stakes for grading
9. Determine amounts of cut and fill
10. Set concrete forms to line and grade

JOBS AT LOWER COST...WITH A

K&E BUILDERS' TRANSIT-LEVEL

YOU can do all of these jobs faster, more accurately and at lower cost with a K&E BUILDERS' TRANSIT-LEVEL. This easy-to-use instrument cuts out old fashioned, time-taking methods and streamlines the work. For instance, chalk line, line level, plumb bob and tape mean that your building mechanics must be constantly stopping. Time is lost from laying bricks, setting steel, carpentering—the jobs your men are hired to do.

So simple that any intelligent man can use them by following the instruction booklet, these instruments are built for years of rugged service, yet they retain their accuracy. Their quality is guaranteed by the K&E reputation and experience of 80 years of making equipment and materials for the engineers of America.

For details of the No. 5155 K&E BUILDERS' TRANSIT-LEVEL (a transit and a level in one instrument), the No. 5153 K&E BUILDERS' LEVEL or K&E Leveling Rods, write to your nearest K&E Distributor or to Keuffel & Esser Co., Hoboken, N. J.

Easy-to-follow instructions with each instrument.

LETTERS

(Continued from page 60)

me that only the government was interested in building for rent. All the rest were keen to get into a position where they could make money quick. All we could get after the first war were hovels, houses with no back way out, one tap for about eight houses, and the usual offices at the end of a terrace. They were still occupied by some people when this war started. I say that two-thirds of the housing demolished in Hull during the last war was slum clearance. The houses never should have been built, and except for the deaths caused, the bombing removed something very bad.


Building in Canada

To the Editor: Your January edition is at hand, and I want to heartily commend you on your wonderful publication. We in Canada are very much behind the times, and I am sorry to say that in general the Canadian public is slow to accept new standards or methods. Our building costs are very high chiefly on account of labor productivity, and the high waste in materials, largely lumber. You have to take what you can get at the mills, or else. It is very interesting to see that builders, architects and engineers realize that large savings of time and money can be had through the use of prefabricated floor, wall and roof panels, together with factory-built units such as cabinets, plumbing units, heating and electrical devices. This seems to me to have produced reductions in building costs of at least 25 per cent, and in places, 30 per cent.

We are fast approaching the time when the builder will be able to drive his truck, lorry or float up to the factory, pick up his bath and kitchen units, plus the number of suitable prefabricated panels for his house, and then have the house complete within a week or ten days, depending on the size of his staff.—E. W. BARNES, 191 Wolseley, Montreal West, Canada.

School to Office

To the Editor: I started taking the American Builder while in school, and it sure helped me in my studies. I am now in business as a small home designer and draftsman, and your magazine is invaluable to me in my work. I'll never regret the day I subscribed, and I recommend it to anyone in the building business.—M. R. WALLACE, 8898 Jackson St., Denver 5, Colorado.
"We have constructed over 45 homes in which we have installed many Chrysler Airtemp units," writes Mr. Philip E. Kare, president of Delaire Corporation. "We have found that home buyers look into the type of heating just as carefully as they check woodwork, wallpaper, utilities, and appliances. They know and trust the name Chrysler Airtemp—and that helps sell houses!" To thousands of persons in your community, Chrysler Airtemp means the finest in automatic home heating. It helps get buyers on the dotted line! And Chrysler Airtemp dependability through the years enhances your reputation and holds buyer good will. Design this "plus" factor into your houses—specify Chrysler Airtemp on all your jobs.

There is a Chrysler Airtemp dealer nearby to serve you. Depend on him for prompt delivery, expert installation...and for the speedy, efficient maintenance service that holds buyers' good will.

AIRTEMP DIVISION OF CHRYSLER CORPORATION
Dayton 1, Ohio

In Canada: Therm-O-Rite Products, Ltd., Toronto
High in quality, low in price, the attractive Eljer Vitreous China Crystal Fountain features gleaming chrome-plated fittings and a completely automatic regulator that maintains a steady stream height—regardless of variations in supply pressure. Water cannot be squirted by placing a finger over the nozzle. That's a real plus-value in schools, factories and public buildings.

When planning, building or remodeling most all types of structures, you can wisely recommend extra Eljer Crystal Fountains in convenient locations at small additional cost. No other fountain in a comparative price range offers the features of the Eljer Crystal ... and it's a money-maker, too. For complete information, see your Eljer Distributor or write Eljer Co., Ford City, Pennsylvania.
Seattle's First Home Show in Seven Years Is Sold Out Two Months Ahead

The first home show to be held in Seattle in seven years opened March 27 to run through April 4 to an expected 100,000 visitors from all parts of the Northwest. Sponsored jointly by the Seattle Master Builders Association and the Post-Intelligencer newspaper, the show sold out its exhibit space two months in advance.

Exhibits are a cross-section of everything in the modern home field—building, remodeling, decorating, furnishing and landscaping, with the latest developments in appliances, equipment and push-button living.

It is estimated that 12,000 dwelling units will have to be constructed in Seattle in the next three years to meet the existing demand for homes in that city. A study by the mayor's committee of Seattle revealed this, and also showed the need for more homes in the medium and lower price brackets.

V. O. Stringfellow, new president of the Seattle association, states that members will try to develop an economical home this year through the use of new designs, materials and labor techniques. Working along this line, the Seattle Master Builders, in conjunction with the Small Home Plans Bureau, is sponsoring a contest with prizes totaling $1,000 to be awarded at the home show for the best plans for a small house.

Serving on the home show committee, in addition to President Stringfellow, were Ed Groseclose and Harold Raber, builders; Harry Gerster, electrical suppliers; Verne Brice, mortgage bankers, and Sam Hale, building material firms. The show is under the direction of McDonald Brothers.

Hartford Builders Association Has New Executive Officers

Carl B. Liljedahl was named executive vice president of the Home Builders Association of Hartford County at Hartford, Conn., on February 19. He succeeds Shiple D. Burton.

Mr. Liljedahl comes from a family of builders. His father is a builder in West Hartford, and he is associated with his brother in another West Hartford building firm of Cliff & Bert Liljedahl. Before coming with the association, he was a sales representative for the Doall Co. and also had been employed in the mortgage department of a Hartford bank for a short period.

At present, the association is striving to increase its membership in Hartford County, and later will attempt to take in the rest of Connecticut. New members have been coming in rapidly, Mr. Liljedahl reports, with 19 admitted at the February meeting. Total membership of the chapter is now 68.

In cooperation with the Hartford Times, the association is staging a home show which opens April 3 at the West Hartford Armory. Exhibition space is virtually all sold out. Central feature of the association activity for the show is a six-room house which is being built in the armory and which will be furnished by a Hartford department store, G. Fox Co.

The show committee includes Joseph Howard, Ivar Liljedahl, Don Shively and Carl Liljedahl.

CARL B. LILJEDAHL
Hartford County Home Builders Association

Mid-South Home Show Turns Down Exhibitors

The Memphis and Mid-South Home Show, which will be held from April 11 to 18, was completely sold out in January so that additional requests for exhibit space had to be declined. The show is sponsored by the Home Builders Association of Memphis.

The entire exhibition has a central and uniform theme of lighting, design and color which is expected to make it outstanding among shows of this kind. A special exhibit of "on-site" tools and machinery for builders will be held in a separate section adjacent to the main exhibit.

Dallas Home Show Scheduled For May 8 to 16

Exhibit space for the Dallas National Home Show to be staged for nine days starting May 8 is being rapidly sold out. The show will be held in the General Exhibits Building at State Fair Park in Dallas.
Portland President Started with $5 Bill

Carlos Huntington, executive secretary of the Portland Home Builders Association, always gets the personal touch in items in his association publication, the "Portland Homebuilder". His biographies of the new 1948 officers in a recent issue are interesting and help make the individuals real persons to those in the industry who do not know them.

The biography of Herman S. Schmitt, new president, states, matter-of-factly: "Herman, being an ambitious lad, struck out on his own at the age of 17 with a suitcase, bicycle and a five dollar bill. He worked in a flour mill, harvest fields, and eventually saved sufficient money for a four-year course in a business college in Spokane. After a period of office work with the N.P. Railroad in Pendleton, noting his industry, offered a loan of $500 and told Herman to take a vacation, go to California and rest after his strenuous labors. He even offered to collect the rents, take care of the mortgage payments and look after things generally for him. When a banker does a thing like that, it shows that Herman truly was a hard-working ambitious and deserving individual.

"In Los Angeles, he couldn't stand loafing, built three houses, and headed back to Oregon. This was 22 years ago..."

Huntington reports that Mr. Schmitt was one of the first 10 members of the association.

Incidently, the association's new secretary-treasurer, Palmer Biggess, did a little missionary work for NAHB when on his vacation in Arizona and Mexico. He had a session with several contractors in Arizona and sold them the idea of a builder's organization. Perhaps his efforts may lead to a new chapter in Arizona in the future.

Home Builders Conference Held in San Francisco

The first Home Builders Conference sponsored by the Home Builders Council of California was held at the Palace Hotel in San Francisco, March 30. The event is expected to be staged annually.

The day was given over to panel discussions on FHA financing, labor practices, new building techniques and home design.

Rochester Unit Receives NAHB Convention Events

The entire monthly meeting in March of the Rochester, N.Y., Home Builders Association was given over to a review of the NAHB Convention in Chicago. Officers and members who attended the Chicago meetings reported on the various panels and gave particular attention to minimum cost housing, mortgage financing, the market outlook, land planning and radiant heating, and to discussing of conclusions reached by the panel.

Ohio State Association Names New Executive

A new, full time executive vice president, Ivor R. Jones, has been appointed by the Ohio Home Builders Association—the first full time executive the organization has had. Mr. Jones has had wide experience in sales promotion and industrial relations work.

One of the first projects the association will take under his direction is to supply advisory groups to veterans who may be planning cooperative building projects.

"We feel it is important," he states, "for veterans who may be planning such projects to have the benefit of advice from experienced builders so that they can avoid costly mistakes."

Portland Group Hears Talk By Expert on Heating

The Portland Association of Home Builders had as the featured speaker at one of their recent regular meetings, Thomas E. Taylor, of the American Society of Heating and Ventilating Engineers, who talked on "Trends in Heating."

NAHB Leaders Assemble in Committee Meeting

American Builder, April 1948.
Ohioan Meets Ohioan In Tucson, Goes Western

Earl Bailey, president of the Ohio Home Builders Association, promptly went west during his recent visit to Tucson, Arizona, where he and Mrs.

Earl Bailey
President, Ohio Home Builders Association

were guests of Mr. and Mrs. Charles M. Oliver of Westville, Ill., formerly was prominent in the Ohio association until he moved to Tucson in 1946.

Earl Smith New Head Of California Council

Earl Smith, outstanding East Bay home builder in San Francisco and president of the Associated Home Builders of California, is the new chairman of the Home Builders Council of California. He succeeds Frank Barrows of Bolingame.

One of the prime aims of the council this year has been to improve the public relations of the building industry, and Mr. Barrows report on the progress in 1947 underlines achievements in that respect. Emphasizing the council’s legislative program, he pointed out that members of the organization’s legislative committee took time from their work to appear before Senate and Assembly committees to tell the real story of housing in California. In two special meetings, the problem was discussed directly. Shortly thereafter, the governor and members of his staff held a five-hour conference with the Council committee.

On three occasions, the Council sent representatives to confer with veterans’ groups to study California housing problems. These meetings helped to clear away many misunderstandings and to provide the way for real progress in the production of veterans’ homes.

Barrows said the press and radio were utilized in a concerted drive on gray areas in building materials—a campaign which still continues.

The Council’s public relations and advertising program which is now under way is expected to bring increased recognition of the true picture in the building field this year.

Home builders are going all out for construction of hundreds of thousands of “economy homes” throughout the United States this year. This was clearly demonstrated at the recent Chicago Convention of the National Association of Home Builders, where builders jammed round table discussion sessions on the subject. That interest is at a high pitch is proved by the volume of inquiries received daily at National Headquarters. Local associations are receiving demands for information on expandable, lower cost, minimum, economy housing.

Starting now, the nation will see increasing amounts of true economy housing. Production will be limited only by codes, financing construction requirements, building material and labor costs. Designs and sales prices of homes produced from these designs will vary with geographical and climatic conditions, but there is assurance that they will all be sound, decent, moderate priced homes ranging in sales price from $4,500 to $8,000.

Home builders are determined to provide shelter which will be durable, livable, sturdy, healthful and safe at a price the average man can afford. Such housing will embody complete living units. Builders agree that the economy house will not be a stripped down shell. However, many fancy “gadget” and “luxury items” not essential to good living will be sacrificed in favor of economy and low monthly cost.

The economy house is a new concept in providing respectable, honest shelter for the prospective home owner who finds his ambitions to have a place of his own blocked by the housing shortage and the present high costs of material and labor. Into its construction will go all new methods and tested materials. On-site fabrication of many components will reduce costs and speed construction. The economy house will be so planned that additional rooms may be added or finished as needs of the owner increase.

One vital consideration should not be overlooked. The economy house is a direct answer to the planned campaign of public housing advocates who think only in terms of large scale projects to soak up the taxpayers dollars and subsidize the tenant. It is the very realistic, earnest answer of home builders to the immense and pressing problem of housing a youthful, vigorous, growing America!

To coordinate the job, the National Association of Home Builders has appointed a national committee on economy housing under the chairmanship of Nicholas F. Molnar, prominent Cleveland builder and member of the NAHB Executive Committee. This committee will consist of men in every city who are intensely interested in economy housing, and who are building, or planning to build this type of construction. Each of the committee members will select local committees and vigorously direct their activities.

NAHB is convinced that widespread construction of economy housing will not only block public housing, but will constitute an immense new field of profitable activity for the home building industry.

As an integral part of the campaign, NAHB is inviting architects and builders everywhere in the nation to submit plans and specifications for the economy house. As the best of these are selected, they will be reproduced and offered to members at cost.

Much progress has already been made in construction of this type. Pioneers include builders in Cleveland, who have produced a one-bedroom house, with space for two more bedrooms to be finished, at a sales price of $6,700 plus cost of land; those in Akron, who have produced a two-bedroom house for $6,550 and builders in Atlanta, who have built two bedroom houses for $6,500. Two-bedroom homes are also being produced in Indianapolis at $6,250; San Antonio, single bedroom with plans for extra bedroom at $5,250; Rochester, $6,400 and Los Angeles, $6,500.
Washington Chapter Plans Experiment In Low Cost Housing for Capitol

Losing no time in implementing the NAHB national convention resolution that builders must provide lower cost homes in 1948, the Home Builders Association of Metropolitan Washington has tentatively wrapped up a housing package which it hopes to sell the veterans, civic and federal officials in the national capital. Clarence Gosnell, who took over his duties as new president of the chapter in January, announced to the press last month that the association would erect a three-room expandable house which it is expected can sell for $6000. More rooms could be added later.

James W. Pearson, who was newly appointed executive director of the association, is seeking a site for the guinea-pig house which probably will be built in nearby Maryland or Virginia.

The test house was designed by Clarke Daniel, Washington architect-builder. Cost of construction will be borne by the association members if the plan is looked on with favor by government officials and veterans.

The floor plan measures 32 feet, 9 inches by 15 feet, 5 inches overall. It would have a combined living room and dining area, one bedroom, kitchen and bath. The buyer would pay monthly installments of $45 to $50, including interest, taxes, insurance and amortization. The association predicts the house will meet accepted standards of safety, sanitation and comfort.

The chapter also is considering a stripped-down minimum house. This would be a two-bedroom frame unit, minus many standard items such as closet doors, gutters and downspouts. Everything possible would be omitted to get the cost down, and the buyer could add these items later as he was able.

Chicago Secretary To Head Secretaries' Council in 1948

Martin C. Huggett, executive vice president of the Chicago Metropolitan Home Builders Association, who was elected chairman of the Secretaries' Council for 1948 at the recent NAHB convention and exposition in Chicago. The Chicago chapter was host to more than 70 secretaries of chapters from all parts of the United States at a luncheon during the National convention. The luncheon was held at the new Chicago-land Home Building Center.

Bi-Weekly Forum Meetings Are New Feature in Chicago

First in the series of bi-weekly forums on home building problems was conducted at the new Chicagoland Home Building Center by the Chicago Metropolitan Home Builders Association Wednesday noon, March 10.

James C. Downs, president of the Real Estate Research Corporation, Chicago, addressed the 50-odd members in attendance on the outlook for home finance money in the immediate future. After reviewing economic cycles for the last 25 years and giving reasons for changes in the cycle, Mr. Downs predicted a continued, lengthy period of prosperity for the home building industry. He explained that the present tendency to raise interest rates and tighten mortgage terms may be due to the activity of bankers and individuals to hold money with the hope that it will become more valuable. This type of thinking has been inspired by recent downward swings in the commodity and stock markets—a development which Mr. Downs does not feel carries any vital portent as to sizable changes in dollar value and in the current monetary situation.

Mr. Downs is of the firm opinion that present price levels will not drop appreciably, and may go slightly higher. He does not expect interest rates to go very high, primarily because of the huge government debt and the tremendous cost of maintaining that debt, even at today's interest levels.

The forum was presided over by Ed Garin, editor of the American Builder, who is chairman of the Chicago Metropolitan Home Builders Association Forum committee. Because all reservations for this luncheon meeting were sold out several days before the meeting, future forums will be conducted in larger quarters so that a larger audience may be accommodated. The meeting was formally opened by Nathan Manilow, president of the association.
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Public Relations

Each new home added to the inventory of dwelling units in any community has an effect on public attitude toward the local building industry. Thus, each new home stands as undeniable evidence of what private enterprise building can do and is doing, and thus becomes a public relations job. The sum and quality of all new homes being built in a community, together with the reasons for both, should constitute all of the factors that determine public attitude toward home builders. Unfortunately, that is not the case. If it were, the performance of the home building industry in the past several years would be a matter of public pride, rather than a matter of public doubt, if not public suspicion.

That these are not all of the factors, and in many cases, are only minor influences in determining public attitude, is the fault of the home building industry itself, and not the fault of the public. The reason is that most home builders, and the home building industry as an entity, have failed to recognize the power they have for influencing public opinion through full demonstration and intelligent merchandising of their homes.

It is true that a scattered few hundred demonstration homes are held open for public inspection by individual builders each year, and it cannot be denied that several dozen home shows have an influence on public thinking. But, the biggest influence on public attitude toward private building comes from organized minorities who use every means of publicity they can find to convince home buyers that new homes are overpriced, shoddily built, unimaginatively designed, and deficient in volume due to alleged horse-and-buggy production methods. They use a rifle, while the industry uses a shotgun.

Thus, although the opponents of private home building deal entirely in theory, and sometimes in deliberate misrepresentation of facts and statistics, they are alert, aggressive and organized, and they keep alive a clamor for public housing and government control of private building. On the other hand, the home building industry, presently delivering more and better homes than ever before, and at prices below the general commodity price index, fails to use its factsconcertedly, and fails to use effectively the physical evidences of its achievements for a dramatic and convincing refutation of the charges leveled against it.

The critical year is 1948. It is the year that should ease the housing shortages that still exist. It is the year that should call for heightened competitive selling of new homes. It is the year in which the exponents of public housing are marshaling every resource for an all-out attack of private building in 1949. It is the year in which a united home building industry, with all of its elements, including labor, must build a counter-offensive for the attack that surely will come in 1949. It is the year that demands a dramatic, compelling program of public education in the facts of private home building.
HOW TO PLAN BUILD and SELL

**Individual Houses**
**Housing Developments**
**Garden Apartments**
**Home Communities**
**Commercial Building**

The average successful home builder has a working knowledge of land planning, home financing, home design, labor relations, building materials, home equipment, correct application and installation of materials and equipment, selling techniques, local and national economics.

In the following pages the editors present a series of actual operations in the field as illustrations and examples of how many of the factors mentioned above are coordinated by builders to achieve success in the light construction industry. Five phases of home building operation are discussed including planning, building and selling individual houses, housing developments, garden-type apartments, home communities and light commercial construction.

Material in the following pages highlights the fact that today's home builder is no longer a mechanic. He is a man of many talents and, even if he is successful in surrounding himself with associates who have expert knowledge of the various phases of home building operation, he still must know the basic principles of all factors involved.

This issue is designed to not only give builders an insight into all the basic knowledge and experience they must use daily, but also to supply new ideas and suggestions on successful operation. In addition to the editorial material, many supplemental ideas on materials, equipment and construction will be found in the advertising pages of this and all issues.
PUBLIC acceptance determines the course to be followed by architects and builders in designing, constructing and selling houses.

Bearing in mind the fact that the architect's client is the builder, (this applies to the operative builder) then it is assumed that the builder's client is the salesman, and the salesman's client is the purchaser. When these three groups work together with a common objective in mind, which is to produce a good, sound, well-planned, and economical house, the ultimate sale is greatly simplified.

The architect needs to understand the builder's and salesman's problem. When a large number of new ideas and innovations are incorporated in a house, as a rule, it will require additional effort on the part of the builder or salesman to put across the sale. The buying public has a tendency to shy away from the unusual. They are guided to a great extent by the results their friends have had in buying a home. Builders know that the first house that a home seeker purchases is usually the biggest investment that he will ever make and consequently he is averse to pioneer a trend away from the accustomed procedure.

Rudolph A. Matern, architect, and his associate Herman H. York, of Jamaica, L. I., New York, have designed the houses on these and the following four pages. Mr. Matern has carried on an active practice in architecture for many years, specializing in homes, both for individual clients and operative builders in the Long Island area. Mr. Matern is well qualified to understand and interpret the builder's problems. He is a firm believer in the adage, that "a house well planned is half sold."

The house shown here, follows a pattern of design that has been successfully employed by these two architects. It contains 1,160 square feet, exclusive of garage and enclosed garden. The large attic space can be converted into two large bedrooms and bath, as indicated on the plan, when the need for expansion arises.

Following along traditional lines, yet modern in its concept, this house embodies many of the latest innovations.
The Group of rendered details, at left, apply in general to house on preceding page. The time-honored British custom of each home large or small, boasting an entrance yard for planting and a featured entrance, has been faithfully reproduced.

An unusual treatment of the roof area is afforded in the rendering of the breakfast porch. The designer recognized here the function of the rafters and bluntly exposed them beyond the line of the gable end.

The private garden is incorporated as an integral part of the house. The pattern of the railing above the wall adds to the effectiveness of the overall design.

A clear, unobstructed view is obtained through the large windows over the working area at the kitchen sink and counter.

In home comfort and design. These would tend to appeal to the discriminating buyer who is seeking the unusual in a home, yet he is reluctant to go overboard on the flat roof type of house that has the so-called "new look."

The National Home Show, to be held at the Grand Central Palace, New York City, April 17 to 24, has selected this design to be built and furnished as a model home dedicated to good living. The Home Builders Council of New York, New Jersey and Connecticut, is sponsoring the show.

Mr. Matern, who is architectural advisor for the council, estimates that this house could be built in the New York area for $12,000 to $14,000, exclusive of land. The building conditions prevailing in each respective area where the house could be built would have a bearing on the final cost.

The architects have produced on this page a house that follows in general one of the foregoing plans.

The floor plans leading to the front door are particularly significant. The first floor opens to the rear, and the living room, designed to be used as a den or recreation room, is separated from the formal living room by a large reception hall.

The second floor plans include three bedrooms, a bath and a second living room in the front part of the house. The third floor contains a master bedroom and bath.

The three floors measure approximately 2,500 square feet.
This house is a counterpart of the one shown on the preceding page—yet it differs in total square foot area, room arrangement and exterior treatment.

The basic change is in the simplification of both the plan and the exterior treatment. The first house has been designed to appeal to a limited group of potential buyers, who would be seeking the ultimate in conveniences. The house on this page is designed to appeal to a larger market where economy is stressed without sacrifice of design or planning.

The first house has 1,275 square feet exclusive of porch and garage. The plan is arranged for six rooms, including two large bedrooms and a smaller one. A convenient storage room adjoining the garage can be used for garden tools or other equipment. This room is accessible to both the front and rear yards. The entranceway garden is a feature of Mr. Matern's houses and is provided whenever the space is available. Ample closet space is assured, two being provided in each bedroom.

Exterior walls are a combination of brick veneer and frame, covered with vertical boards and batten, and wide siding on side walls and plywood in front gable ends. Copper decks cover the bays with wood shingles for the main roof. The simplicity of the Cape Cod cottage is manifested throughout.

In this house as well as in others, the architect has divided the glass surfaces of windows with wood muntins. He has observed in his many building operations that where large plate glass picture windows have been installed, that the salesmen encounter a great deal of sales resistance. This is due to the fact that the potential purchasers do not like, what they call, "store windows."

Mr. Matern has also discovered that a house with the first floor placed close to the ground will not sell nearly as quickly as the house where the floor is raised. The purchaser thinks he is getting more for his money because of the appearance of additional bulk in the house. The architect finds that concession to art sometimes needs to be made for the sake of sales.

The two extremes of this group of houses designed by these two New York architects are shown on these pages.
Two houses that follow the same basic plan arrangement are styled to meet divergent groups. Center entrance remains a fixed feature.

The smaller house contains a total of 950 square feet, exclusive of the porch, while the larger one has 1,500 square feet exclusive of garage and porches. In spite of the difference in size, both of these houses as well as the others, revolve around a center entrance and reception hall. In the case of the smaller house, the living room and kitchen have been reversed. Garage has been omitted.

The roof pitch on both houses has been increased, permitting expansion of additional rooms and bath in the future. A combination of field stone, brick and wood shakes on side walls and wood shingles on the roof are employed on both. A modern concept of the larger house is shown below.

On this page is shown the smallest of this group of houses. The porch feature has been retained, with the roof extending over it in an unbroken line. Dormers cut into front and rear roof surfaces to provide for future second floor expansion.
The largest of this group of houses is shown on this page. Three complete bedrooms with two baths, breakfast porch, and two-car garage, in addition to the other rooms comprise the layout. A portion of the private garden is roofed. An alternate sketch of the exterior is shown below. A modern touch is added in the unusual window, roof and wall treatment.
THIS $40,000 home is conservative, fits its exclusive suburb. Designed by Ian M. Horne, New Jersey architect.

**Special Techniques Required for Upper Sun DECK**

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**FLOOR plan for Horne design. Note number of baths**

**Exclusive suburban residences in the $40,000 to $60,000 price range are more carefully scrutinized by prospective buyers—a factor important to builders appealing to this particular market.**

When a builder puts up houses to sell between $40,000 and $60,000 on speculation, even during a period of high demand, he usually includes a number of added features to attract the discriminating purchaser. Springbrook, a subdivision in Short Hills, N.J., exclusive community for New York executives, is the type of project that caters to this class of prospective buyers. The development and building firm of Bremer & Kemp has worked out some novel ideas to make their high-priced homes more saleable.

Lloyd P. Bremer handles the construction for the firm and John A. Kemp, the real estate end of the business. Springbrook is a 45-acre tract of rugged terrain, subdivided into 78 lots of ½ acre minimum. Zoning laws require this much land. The builders install street improvements, sewers and utilities which require a considerable investment.

To insure individuality of homes, the firm works with designs from several New Jersey architects and employs its own interior decorator to work out the basic schemes for interiors. The house on this page, a traditional colonial priced at $40,000 was designed by Ian M. Horne, East Orange, N.J., architect. The large home on the opposite page, which sold at $60,000, is a design by Architect Emil Schmidlin, also of East Orange.

Bremer completely landscapes his homesites. Lawns are selected for beauty and form, and extensive plantings are made. A mature willow tree and evergreens are found in each lot. The designers of the homes are of the opinion that a tree added to the foliage of any home is of the utmost importance. A tall, graceful evergreen, for example, is instantly noticeable from a distance. Such trees do much to add to the value of a property. Bremer has a feeling that a tree is a perfect balance in his scheme for a home, and has a sound knowledge of the correct types of trees to place in each lot.
This elaborate home brought the builders a price of $60,000. Designed as a luxury home by Emil Schmidlin, architect.

Bracket Building

are seeded, plantings put in, permanent driveways laid. Special attention is paid to the interiors. In both the houses shown, painted walls for some rooms are designed and executed by Joan Rivers of the decorating firm of Rivers & Dexter, East Orange. Special uses of wall paper are found in bedrooms and baths. Light sliding doors separate dressing nooks and baths from bedrooms, making the room area more flexible.

No Bremer house has a white kitchen. Each is designed in soft colors. Counters are topped with formica. One kitchen, with the sink on an inside wall, uses a panel of glass blocks above it which permits light to enter from the garage and eliminates the blank-wall effect usually found in kitchens.

Glass, chrome and tile are used lavishly in baths and showers. Each such unit has its individual color scheme and design.

Large ventilating fans are installed in the attics to draw out hot air in summer. To avoid unsightly ceiling ventilators in the upper halls, Bremer installs a louvred door in the attic access which can be battened in winter and opened in summer. The fan draws the air through this door more effectively than it would through ceiling openings.

The home on this page has a library paneled in walnut veneer, painted living room walls and painted bathroom walls: 1½-inch flush gum interior doors; cove lighting in the dining room, Thermopane windows in the rear openings.

Springbrook homes are heated with forced warm air by gas-fired furnaces. Four inches of mineral wool insulation is used in sidewalls and roofs. Kitchen floors are covered with linoleum, and all cabinets are custom made. Laundries are located on the ground floor. Telephone conduit is installed throughout the houses. These extra touches are factors that appeal to this class of buyers and help hold sales and advertising costs down.
THE LOCATION and slope of the lot on which this house is built called for special planning to take advantage of view afforded

**Oriented for a View**

F. H. HILLIKER & SON, Seattle builders, and their architects, Lawrence and Hazen, also of Seattle, have produced a house of unusual design and layout to take the fullest possible advantage of a view afforded from a hillside lot overlooking Lake Washington and the Olympic mountain range in the distance.

The house is located about 25 feet above the street, which is an artificial ledge on the slope down to the lake shore. Perched high on the lot, at about the level of the roof tops below, the house affords a relatively unobstructed view of the lake.

Built for sale, the price of the house is $31,500. The Hillikers build eight to ten houses a year, most of them priced from $18,000 to $20,000, with one sold recently for $39,500. The builders handle their own advertising and selling.

A winding cement walk to reduce the grade leads from the street to a point in front of and at the side of the house. The remainder of the way to the covered front porch is a series of quarried rock steps and landings. The final steps are part of a rock terrace.

The exterior of the house is Roman brick, and the double front door, in Chinese modern, is painted green with maroon trim. All of the paint used on this and other jobs built by this father and son team is mixed by Bud, the younger Hilliker. The roof overhang extends 28 inches from the walls, and the soffits are painted dark green. The roof pitch is 1-3, and the roof is covered with 18-inch shingles, laid 4 inches to the weather.

The entry way, just inside the front door is unique. At the left is a spacious guest closet equipped with a Modernfold door in a coral tone. The entry way itself is formed with a counter and a glass panel. The counter is 32 inches high, 5 feet wide and 2 feet deep. The front and end of the counter are upholstered with the same material used in the Modernfold door. The dining room side of the counter is equipped with drawers and cabinets for the storage of silver and linen. The silver drawer is lined with felt. From the top of the counter to the ceiling, and extending almost the entire length of the counter top, is a panel of translucent, corrugated glass.

The floor of the entry way and living room is oak parquet, face-nailed, with the nails counter-sunk, and the holes plugged. The base shoe is oak. Ceiling height is 7 feet, 8 inches. Three round fixtures set in the ceiling supply the light in the entry way. There are six fixtures in the living room, and one in the dining room section. Each group is operated with its own switch.

Large plate glass windows, extending almost from floor to ceiling, are fixed. Ventilation is supplied by casement sash at the side. Between the studs adjacent to the sides of every window, is a 2x10 strip, furnishing a firm nailing base for drape fixtures.

The fireplace is built of sandstone, the hearth is slate flagstone, and the mantel is Chinese modern. Wherever possible, the corners were rounded for effect and to eliminate the use of wood trim, still a scarce item. Plaster reveals are used throughout for the same reason. The hall, near the center of the house, provides entrance to two bedrooms, the bath and the basement, and contains drawers and shelves for storage.

In both bedrooms, the windows are 4 feet above the floor to permit any desired arrangement of beds and furniture. Electrical outlets are provided on all bedroom walls, windows are arranged for cross-ventilation, and the master bedroom closet has a Modernfold door.

The bath tub recess is lined with baked enamel metal tile, and the shower rod is inside and above the soffit of the recess, so that the shower curtain hooks are not visible. The window is extra wide, and without

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BUILDING quality houses to sell makes work a pleasure for veteran Seattle builder and son who works with him as full-time partner.

The kitchen is exceptionally well laid out and engineered. Counters divide it into a breakfast nook, a cooking area, and a laundry. Here, again, recessed ceiling fixtures are used for lighting, with two in the breakfast nook, one over the sink, two for the cooking area, and one in the laundry. The floor is inlaid lino-leum.

The partition separating the cooking area from the laundry is 4 feet high, and sides, top and edges are faced with ceramic tile. The tile is carried around the range, which fits against the partition. A Westinghouse Laundromat is flanked by two wood cabinets built in the same shape as the Laundromat. The doors of these cabinets, as well as those on the wall above, are birch. The floor cabinets are for soiled clothes, soaps, and other laundry and cleaning accessories.

The cooking area is separated from the breakfast nook by another counter, 36 inches high, 24 inches wide, and extending about 5 feet from the wall. The top is ceramic tile in ivory, trimmed in brown. Doors of the trim. Artificial light is from a recessed ceiling fixture, and brackets on the medicine cabinet. The bathroom also contains a large storage cabinet for towels, soap and cleaners. Plumbing fixtures are the latest word in modern design.

Hardware throughout the house is of modern design, and especially dressy. Chromium door knobs, two inches in diameter, are particularly noticeable.

INTERIOR of front entrance. Note lighting fixtures recessed in ceiling. Modernfold door to guest closet, corrugated glass partition, and convenient, attractive hall storage closet.
VIEW from living room is over trees and neighboring roof tops to Lake Washington and the distant Olympic mountain range.

Wall cabinets are birch veneer, darkened to a gold-brown cast. Natural beauty of the wood is preserved by eliminating joints through the use of a single panel for each door. Knobs are chromium.

Cabinets under the sink are set back a few inches to provide knee space, and bases are further recessed for toe space. The arrangement of the refrigerator, sink and range reduces walking to a minimum. There is a built-in radio at the left of the sink. The right an exhaust fan turns on by opening the metal door.

The breakfast nook, on the front of the house, overlooking Lake Washington, is 6x10. The ceiling over the breakfast nook is furred down 10 inches below the ceiling over the cooking area. One wall is fitted with an oddly-shaped knick-knack shelf. Color scheme for the breakfast-cooking-laundry unit is peach walls and raspberry ceilings.

The basement, extending under the entire house, is divided into three fully plastered rooms with Kentile floors. The recreation room has steel casement windows across one entire side, and a fireplace of Roman brick extends to the ceiling. The raised hearth is slate flagstone, and light bowls are trimmed with miniature airplanes.

The maid's room is extra large, about 15x20. There is a large closet, and a private bath with a shower stall.

The elder Hilliker has been building houses in Seattle for 40 years. He was joined by his son a few years ago. The elder Hilliker has been building houses in Seattle for 40 years. He was joined by his son a few years ago.
LEFT: View of lake from kitchen and breakfast nook. Right: Laundromat and flanking cabinets beyond tile-covered partition.

American Builder, April 1948.

The Hillikers are exponents of quality building, and the incorporation of advanced ideas in design and construction. The detail drawings on the preceding page illustrate typical examples of quality construction methods. One of these shows the bracing above the living room ceiling, designed to eliminate all possibility of sagging and consequent plaster cracking.

Another drawing shows floor joist details. It will be noted that every second joist is either double or triple. On each side of the fireplace, six joists are nailed together to carry the added load. These are precautions against sagging and squeaking floors. Floor construction consists of laying shiplap over the joists, then heavy paper, then ¾ T&G fir, with oak parquet in 8-inch squares on top.

The Hillikers usually have two houses under construction at all times. In that way there are certain economies to be gained, and at the same time, there is not so much work that either or both members of the team cannot personally supervise all work. The Hillikers do all of their own carpentry work, and make all of their own cabinets, but sub-let all other trades. Present plans call for the construction of two or three more expensive houses, and then the Hillikers will enter the low-cost housing field for a while. They intend to build houses to sell for about $5,000. The concentration by the Hillikers on low-cost houses is not being made at the sacrifice of activity in the production of higher cost homes.
ABOVE and right are two views of the living room. Large window on opposite wall to fireplace produces an interesting pattern with its deep, sturdy muntins. These are used effectively for display purposes. Fireplace is of painted common brick. Entire end wall of living room is faced with plywood. Balance plaster.
Placed on ridge overlooking small lake, this house has been oriented to the approach, taking complete advantage of respective levels in its planning.

every room. Particularly interesting is the bookcase placed up high on the bed wall of the master bedroom. Wardrobe closets are provided in each bedroom. The low rail adjoining the stairs in the living room has been increased in depth to allow for storage and display areas.

This house was designed by the owner and completed late in 1940 by F. L. Hahn, St. Paul builder, for $11,000, exclusive of land. It represents an advance in design beyond the thinking of its day. Fear of going contrariwise to the general trend of home design at that time prevented Mr. Corwin from giving concrete expression to many other ideas that he would have liked to employ
LEFT: View of house at upper level of knoll. Door adjoining battery of windows in center of facade leads directly into living room. Vertical cedar siding and face brick provide pleasing variation to exterior walls.

LEFT below: Master bedroom with long horizontal windows placed high in north and south walls. Built-in bookcase on bed wall follows window. Wall below bookcases faced with plywood.

ROOMS in first floor, plan shown below and right, are arranged to meet a special site requirement. Rooms are grouped on both sides of living room. Entrance is by stair from lower level.

BASEMENT plan below. The walls are completely exposed on the approach side, providing for the entrance, service and recreation needs.
RIGHT: Detail view of approach side of house. Severe lines of brick wall are pierced with an interesting group of windows each sized according to its relation to the room rather than the exterior appearance.

RIGHT below: Small dining room table has two legs bolted to floor

CONSTRUCTION NOTES

Basement walls—Pattsco block, parged on outside
Basement floor—colored cement
"Master Builders"
First floor construction—precast concrete joists and 2½-inch slab
First floor—Tiletex asphalt tile
Insulation—4-inch rock wool bats
Exterior walls—brick veneer, vertical cedar siding, rock lath and plaster
Fireplace—painted brick
Roof—pitch and gravel
Windows—Anderson horizontal gliding
Heating—Superfex warm air
Plumbing—Standard Sanitary fixtures
Interior walls—rock lath and plaster with oak plywood
THE successful development of a large subdivision of homes costing as much as $40,000 requires planning, building and selling techniques of a high character. Each house is usually designed individually, and in many instances the future owner is on hand to work with the architect and builder in arranging plans and details to suit individual desires. Because of the deviance from routine, labor employed in finishing such jobs must be more highly trained and conscientious about fine workmanship if the ultimate buyer is to be satisfied with the house and with the price paid.

The Adams & Leonard organization, realtors, of Tulsa, Okla., is completing a subdivision of high quality homes priced up to $40,000. The development, known as Adams Estates, will consist of 129 houses, the majority of them one story ranch type with typical Southwestern lines, located on lots averaging 90 to 100 feet in width. In addition to the building crews employed by Adams & Leonard, the firm is working with six other builders, who are financed by the developers. More information on this phase of the operation and on other houses in the subdivision will be discussed in a future issue of American Builder.

The house illustrated and discussed on these pages is typical of the more expensive houses being built in Adams Estates. Now the home of Mr. and Mrs. A. L. Grubbs, it was designed by the Adams & Leonard organization and was constructed by the firm's own crews, under the direction of Oliver S. Black, who is in charge of construction and property management. Mr. Black is also the current president of the Tulsa Home Builders Association.

The house is located on a lot with 125-foot frontage on a curved street, with a cross street coming in at right angle to the house. It not only sets at the head of the cross street, but is at the apex of the convex street curve. This location permits an unobstructed view in three directions—to the front and both sides.

Although the house sets a few feet above street level, the long, low sweeping lines keep it close to the ground. Well balanced, effective breaks in the roof lines emphasize the styling and overall effectiveness of the attractive front elevation. The long, deep windows in the living room and master bedroom further emphasize the horizontal lines. Vertical lines, however, dominate the area around the front entrance.

The small porch above the front entrance not only protects that portion of the house from direct rays of the sun, but also adds a decorative note. The ornamental iron work on the porch was produced by the Weiman company. Copper gutters and downspouts, as well as other trim, are painted white. The garage is equipped with two upward-acting doors in a design which matches the overall appearance of the house.

Conventional wood joists are set on a reinforced poured concrete foundation. The exterior wall covering is red face brick over wood sheathing and studs. Cedar shingles cover the roof.

The floor plan provides for three large bedrooms and two and one-half baths, with a maid's living room, bath and closet storage space adjacent to the double garage.

Rooms in the house are floored with oak, covered with carpeting in the living room, dining room and master bedroom. Dry wall construction was used throughout with gypsum board on walls and ceilings. The front wall of the living room and the front wall of the master bedroom are largely glass. These and other windows in the house were supplied by Curtis. The living room wall opposite the large windows is...
Building and Selling Methods

highlighted by a large fireplace and a set of built-in bookshelves. This wall is covered with varied width wood boards applied vertically and painted to match the color of the rug and other walls in the room. A pair of louvered doors separates the dining room from the living room.

The small den opposite the entrance vestibule is paneled with lacquered Philippine mahogany and the floor is covered with asphalt tile. The powder room is opposite the vestibule clothes closet, near both the living room and the den.

Much of the large window area in the spacious master bedroom may be opened to bring a maximum amount of cool outdoor air inside during warm weather, which is prevalent in that area a large portion of the year. Adjoining the master bedroom, the master bathroom is equipped with oversize plumbing, a complete built-in shower stall and a vanity. The floor and walls are tiled. A large dressing room and clothes closet complete the master bedroom layout.

The second full bath also equipped with oversize plumbing is situated between the other two bedrooms, serving both of them and keeping hallway traffic at a minimum. The second corner bedroom has large
Glass areas and the walls are finished in bleached Philippine mahogany. This room is arranged as a child's bedroom and the floor is covered with linoleum. Closets in this bedroom and in the third bedroom are equipped with sliding doors.

Large glass doors open directly from the dining room to the large 16x16-foot screened rear porch. All screens here and on the other openings are copper. Finish hardware was supplied by the Schlage Co.

The large kitchen is equipped with an ample supply of high quality wood cabinets and built-in shelves. The floor and work counter are covered with linoleum. A ventilating fan is located in the ceiling above the range.

All rooms in the house are wired for an intercommunication system and for radio speakers. Light switches are the silent mercury type, and all light fixtures were specially designed and manufactured by the Smiley company.

Heat is supplied by a gas-fired forced warm air Security furnace located in a separate enclosed compartment just off the utility room. Heat from this plant is supplemented by electric heaters in each of the bathrooms. For protection against summer heat and to minimize heating costs in winter, ceilings are all insulated with mineral wool. Two large attic fans circulate air through the house during extremely warm weather.

At the rear of the large double garage, a special room was constructed to house a large home freezing
LIVING room looking toward vestibule and guest clothes closet. Louvered doors are between living and dining rooms.

The attic above the garage is also used as storage space and is reached by means of a Curtis disappearing stairway. There is no direct access from the maid's quarters to the main portion of the house. The quarters consist of a large combination living and bedroom, a full bath, clothes closet and storage area.

This house, although it is one of the finest in the Adams Estates subdivision, is typical, in design and quality, of other houses being built there by Adams & Leonard and other builders associated with them.

The wide curvilinear streets, good stand of timber and high quality of the homes being built will make this another fine addition to the excellent residential neighborhoods of Tulsa.
The production of good houses in the $10,000 price range in today's market is a definite challenge to the home builder. It not only calls for the exercise of special ingenuity in design and technique, but requires full use of mass production practices.

The floor plans of such houses must embody the basic principles of efficient layout including maximum livability and economy in a limited area. In conformity with efforts to achieve good exterior appearance of the houses as well as the entire development, elevations must be varied sufficiently to eliminate monotony. Land on which houses in the $10,000 price range are usually constructed cannot be extremely high-priced. Therefore, builders must exercise care in procurement of the land as well as in planning the subdivision. Since most individuals purchase a single-family dwelling to remove themselves from crowded conditions of apartment and other multi-family housing facilities, lots must be sufficiently large to offer a good degree of land area for appearance as well as living purposes.

Various mass production techniques have been tried by home builders catering to the low-price market. All of them involve the production line principle, whether it is in a work shop on or off the site, or arrangement of work so that the homesites themselves constitute the production line. Full use of preassembled house parts in varying degrees, is always a major factor in achieving low production costs. It is a foregone conclusion that the home builder catering to the low-price market must construct a large number of houses to reach maximum production efficiency and low costs.

The efficient builder of small houses must not only police every operation and the installation of every piece of equipment to hold lost motion and delay at a minimum, but must be especially adept at procuring materials at the best possible prices for delivery at the time they are needed. If the builder of quality small homes for sale to individuals with limited incomes is to deliver those houses at the lowest possible cost, he must also have the ability to acquire and properly organize his crews so that labor costs will not be out of balance in relation to other costs on the jobs. All of these responsibilities fall under the heading of good management—a prime requisite for success in the low-price mass home building market.

In addition to incorporating all the livability and quality possible in small houses, the successful mass builder usually includes a few "plus" features which appeal to the average small home buying prospect, especially to the housewife. The use of sensible salesmanship plus the special features are usually sufficient to assure satisfactory sale of the houses to the best of the clientele for which they were designed, thus holding defaults on mortgages to a minimum. These factors not only assure financial success for home builders catering to this market, but establish reputations which assure for them a maximum portion of whatever demand their particular home building markets develop.

Howard Grubb, working with the Daniel Addition Co., of Tulsa, Okla., is completing a project of 132 brick veneer two and three-bedroom houses designed to give that much desired "plus" value in the $10,000 price range. The land acquired for this project had laid idle for years while the residential area of Tulsa developed around it. By persistence and resourcefulness the plot was acquired but because all streets and improvements were in, it was impossible to
Successful builder in low-price range not only offers good design, quality materials and fine workmanship but provides "plus" features that add value and livability

Houses in the $10,000 price range in the Daniel Addition Company's project built by Howard Grubb in Tulsa, Okla. As indicated by sign at right, two of the many "plus" features in these houses include attic fans, automatic dishwashers.

Possible, materials and equipment were purchased in carload lots.

Six basic floor plans are used for the two-bedroom houses and three basic plans are used for three-bedroom.

House set on concrete foundations without basements.

Exterior wall covering is brick veneer in various shades and finishes over insulating board sheathing nailed to conventional studs. Wood siding in gable ends and on garages is used in combination with the brick to add variety. All roofs are covered with...
EFFICIENT mass building operation permitted the sale of these three-bedroom brick veneer houses for $10,400 to $10,800.

edge-grained cedar shingles. A concrete garage driveway and basic shrubbery are included in the sale price.

Floors are of conventional construction with subflooring and hardwood except in the bathrooms and kitchens, where linoleum is used. Interior walls and ceilings are covered with gypsum board and each bathroom is tiled around the tub. Double-hung aluminum window sash and aluminum screens are standard equipment on the 132-house project. Interior trim is eliminated around windows by plastering around the frames and up to the inside window stops. Wood stools are used for all windows.

Metal door jambs are installed for all interior doors and trim for the outside doors is run to a pattern to match that on the metal interior jambs so after decoration is completed there is no difference in appearance. All outside doors are completely weather stripped. One floor furnace and a wall bathroom heater, gas-fired, provide heat. All attics are insulated with mineral wool.

In addition to a 20-gallon automatic hot water heater, "plus" features in these houses include a 36-inch attic fan, a Kaiser dishwasher and a small fireplace in each living room equipped with a gas log. These "plus" features were added as standard equipment in each house to not only give greater value in conformity with Mr. Grubb's past policies and reputation as a home builder, but to hold sales costs to a minimum.

Although this two-bedroom plan is square, rooms are large and the compact service areas are concentrated at the rear.

THIS is typical of the three basic three-bedroom floor plans
This project is set up with each home building site as part of the mass production line. Crews assigned to the various jobs move along the blocks in sequence, with all building processes carried out in the conventional manner. Power tools are utilized in every manner possible in the hands of men trained to do certain special tasks such as cutting joists, studs, and rafters, or doing cabinet work. All kitchen cabinets in this project are built on the site with portable power tools being moved from job to job in orderly sequence. Two or three men are assigned to this job alone.

Mr. Grubb advertises this project as featuring “Tomorrow’s Home Today” by the Howard Grubb Development Co. The two-bedroom houses range in price from $9,650 to $10,200 and the three-bedroom houses from $10,400 to $10,600. The homes are all approved for loans by the Veterans Administration and the Federal Housing Administration. W. H. Wolaver, of Tulsa, is the architect.

Mr. Grubb is not building low cost houses that will “just get by” in his market. He stresses quality design, materials and workmanship throughout the entire operation. He is confident that home building is a good business and that by giving “plus” value in his houses, regardless of what market they are built to sell in, he is developing a following that will assure him a permanent and prosperous place in that industry as long as he wishes to remain active. His selling costs are at a minimum on this project because of the reputation for quality and fairness which has been established as work progresses and more and more people buy homes there and occupy them.

IN ADDITION to 36-inch attic fans and automatic dishwashers, standard equipment in these houses includes aluminum double-hung windows and screens, metal interior door jambs and a fireplace equipped with a gas log in each of the living rooms.

IN ADDITION to the first variation of the six basic two-bedroom floor layouts used by Howard Grubb in this 132-house development...
MANUFACTURERS of prefabricated housing may now obtain insured loans to finance the factory production of such housing under emergency provisions of Section 609, Title VI, of the National Housing Act. The new type of credit insurance is designed specifically to meet needs of the prefabricated housing industry.

The loans are to provide working capital with which manufacturers may pay for material, labor and other manufacturing costs of houses produced by industrialized processes. Loans may be for as much as 90 per cent of the FHA Commissioner's estimate of the necessary current manufacturing cost of those parts of the house prefabricated in the plant, exclusive of the manufacturer's profit. Loans do not include cost of site, nor the cost of completing those parts of the house not prefabricated in the plant, nor the cost of erection on the site.

Maximum maturity is one year, but the loans may be refinanced and extended for an additional term of a year. The FHA makes an insurance charge of one per cent of the original loan amount. The maximum interest rate on outstanding principal is four per cent.

The first insured loan under this plan was made to The Housemart, Inc., Cleveland, Ohio, of which Benton Lefton, well-known home builder, is president. The loan was made by the Trust Company of New Jersey, Jersey City, and is to finance the manufacture in the Housemart's Cleveland plant of the fabricated portions of 194 houses. Mr. Lefton plans to use the $423,000 loan as a revolving fund which will enable his firm to fabricate at least 1,000 houses this year.

The panelized houses to be produced in The Housemart plant are story and one-half frame construction containing two bedrooms, living room, kitchen and dining area, bathroom and utility room. When the houses are set on basements the utility room is eliminated and the extra space is added to the living room and kitchen.

A built-in stairway to the second floor permits easy access to the unfinished second floor which may be finished to include a half bath and two bedrooms if desired. These houses differ somewhat from ordinary factory prefabricated homes because the panels are unfinished. Plasterers, electricians, plumbers, bricklayers, and other craftsmen do their work on the site, rather than in the factory.

Mr. Lefton has announced his intention to ship these panelized houses to areas outside of Cleveland for erection by builders. Prices however, will vary with distance they are shipped, and with variations in design and equipment supplied. In the Cleveland area, the house packages include kitchen, heating and laundry equipment.

In executing this $423,000 loan under new setup went to Cleveland builder The Housemart, Inc., Cleveland, Ohio, of which Benton Lefton, well-known home builder, is president. The loan was made by the Trust Company of New Jersey, Jersey City, and is to finance the manufacture in the Housemart's Cleveland plant of the fabricated portions of 194 houses. Mr. Lefton plans to use the $423,000 loan as a revolving fund which will enable his firm to fabricate at least 1,000 houses this year.

These houses are being completed in the Cleveland area for from $8,000 to $9,000, not including the price of the lot. Mr. Lefton has announced his intention to ship these panelized houses to areas outside of Cleveland for erection by builders. Prices however, will vary with distance they are shipped, and with variations in design and equipment supplied. In the Cleveland area, the house packages include kitchen, heating and laundry equipment.

In executing this $423,000 loan un-
Section 609, Title VI, The Housemart supplied binding contracts for the sale of all 194 houses. The law stipulates that house manufacturers, before they may obtain these insured loans, must show that binding contracts have been executed for the delivery of the houses to be manufactured with the proceeds of the loan. Prior sale is a basic prerequisite for insurance of a Section 609 loan.

By writing this condition into the law, Congress eliminated the dangers of financing the production of houses for an unknown market. The law also strictly limits financing to the manufacture of houses in the interval between the time raw material enters the production line and the time it leaves it—the period during which the house "package" is neither raw material nor a finished house. Permanent financing of these houses for purchasers will be with mortgages insured under Section 603, Title VI.

Before qualifying for a 609 loan, the manufacturer must also demonstrate that he has adequate plant facilities, sufficient capital funds to go with the loan for which application is being made, a satisfactory credit rating and the necessary experience to produce the houses according to a prearranged schedule. The basic security for the loans is in the form of an assignment of the purchase contracts, and all sums payable under such contracts for houses which meet the requirements of sound quality, durability and safety as prescribed by the FHA.

Although Benton Lefton is only 30 years of age, he is no novice in the home building business. He was one of the largest builders of war housing in the Cleveland area, with more than 1,000 units to his credit. He pioneered the largest rental project in Cleveland, a project which has been cited many times as an example of what private enterprise can do in contrast to public housing.

During the war and immediate postwar months, when material shortages plagued his operations daily, Mr. Lefton established a system of buying lumber in carload quantities direct. This required a railroad siding and storage sheds. After establishing this setup he discovered he was in a position to supply other builders so eventually a full-scale retail business was developed. Today The Housemart is one of Cleveland's finest retail building material and home equipment stores, with lumber sheds and a house prefabricating plant adjacent to it. He not only supplies building materials and equipment of all kinds to himself and other large-scale builders, but he is doing a big volume in over-the-counter business to home owners and carpenter-contractors.

The Housemart is located in an older residential section of Cleveland but store traffic is good because the streets there are not crowded and Mr. Lefton has room to park 50 cars around the store. The display room is 125x140 feet, equipped with attractive fixtures and displays of all types. A completely furnished kitchen, bathroom and a utility room serve as display centers for major appliances. On the basis of present plans, Mr. Lefton will enlarge the store as well as his sales force to meet the current demand for these items.

TWENTY men working in this shop can precut and assemble panels and parts for three of these houses every day
THE TREND of new home building in Des Moines, Iowa, has always pointed toward the west end of the city. This fact was due in part to the excellent home sites available. Because of his close association with the east end of the city, Mr. Wiltsie, who has been prominent in the home building field for the past twenty years, saw the advantages of this untouched area a number of years ago, and proceeded to develop it with a group of high quality homes. His latest project of twenty-eight houses has been centered on and adjoining the 2800 block on Wisconsin Street. This is a high, rolling area on the east side of Des Moines that has a sweeping view of the downtown portion of the city. Having observed, through personal contact, the trend in home building in the far west, Mr. Wiltsie decided to produce a group of houses that would resemble the general appearance of the ranch type house, yet would be adaptable to the rigorous climate of Iowa. He saw in this site the possibility of designing houses with large glass areas, not just for the purpose of following the modern mode, but in order to capture the view that seemed made to order for houses of this type. The building lots vary from 60 to 120 feet in width and to 150 feet in depth, giving ample opportunity for outdoor living. Having started this project early in 1946, Mr. Wiltsie was compelled by restrictions to limit the houses to a definite cost figure. This accounts for the 60 foot lot

This house represents a mid-western version of the popular ranch type. While retaining cardinal features, it makes allowances for extremes in weather conditions with use of smaller glass areas.
While making use of Wisconsin area used on houses that were found down-warding in the area.

Personal planning in this was to be made to ensure that houses could be in the same area. It was possible that large houses would be found in the section. Mr. Wiltsie built that seemed to be a success in this type.

The houses all represent a variation of the popular ranch type. The "H" type plan, which was used success-fully by Mr. Wiltsie, is most successful in this house. Most of the houses have large paved terraces to make the most of outdoor living.

The houses shown on these pages vary in cost from $11,500 to $17,500. The best materials obtainable have been used in their construction. This can be checked by scanning the list of materials and equipment used.

<table>
<thead>
<tr>
<th>MATERIALS AND EQUIPMENT USED</th>
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<tbody>
<tr>
<td>Concrete block foundations</td>
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<tr>
<td>Wood and precast concrete joists</td>
</tr>
<tr>
<td>Steel beams and columns</td>
</tr>
<tr>
<td>Brick veneer and frame walls</td>
</tr>
<tr>
<td>U.S. Gypsum wall sheathing</td>
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<tr>
<td>Metal lath and three coat plaster on walls</td>
</tr>
<tr>
<td>Two and four inch Rockwool insulation on walls and ceiling</td>
</tr>
<tr>
<td>Exterior facing of cedar shingles and 10-inch beveled siding</td>
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<tr>
<td>Flintcote asphalt 210# roof shingles</td>
</tr>
<tr>
<td>Anderson Co. sliding casement windows</td>
</tr>
<tr>
<td>Curtis Co. B. H. windows, slab doors and millwork</td>
</tr>
<tr>
<td>Kitchen cabinets—job built</td>
</tr>
<tr>
<td>Floors—Kentile, asphalt tile, Armstrong linoleum and oak</td>
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<tr>
<td>Yale hardware</td>
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<tr>
<td>Sherwin-Williams paint</td>
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<tr>
<td>Overhead garage doors</td>
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<tr>
<td>Aluminum, Duratile and ceramic tile</td>
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<tr>
<td>Crane Co. plumbing fixtures</td>
</tr>
<tr>
<td>Heating-Trane Co. gas-fired hot water boiler; Colonial warm air furnace</td>
</tr>
<tr>
<td>General Electric and Westinghouse dish washers, disposal and electric range</td>
</tr>
<tr>
<td>Bendix and Laundrette washers</td>
</tr>
<tr>
<td>Chamberlain interlocking weatherstrips and door seals</td>
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BY TAKING advantage of the site, a large terrace is made available over garage, which is at basement level. Simple lines of the house are enriched through use of stone on center front motif. The large living room is a dominant feature of plan below.
Profitable Two Street

ROBERT UETZ and his superintendent of construction. Typical of the houses built on this street is the one shown at right. Simple in its contour and fenestration, this house has an appeal to the practical-minded individual. Plan of house is shown below.

Builder installs all public utilities and paving through private contract, thereby avoiding delays and waste. A generous saving in costs is reflected to purchaser.

NO attempt has been made by the builder in the house above, other than to provide a simple solution to a pressing need. Plan contains two bedrooms, kitchen and combination dinette and living room. Large basement contains all utilities.
The West Ridge subdivision located within the city limits of Des Moines, Iowa, was planned and built by the Robert P. Uetz Co., Inc. of that city.

This project contains 33 houses ranging in price from $9,000 to $14,000 each. The entire group of houses are placed on both sides of two dead-end streets with a landscaped turn-around at the extreme end.

The sanitary sewer, gas and water service and all pavement, curbs and sidewalks were contracted and installed by Mr. Uetz. This was done primarily for the purpose of expediting the work, rather than to wait until the city got around with their own crews. In this manner the builder was able to eliminate a ten per cent charge for supervision and overhead, and another ten per cent for default and deficiency assessment. All of the work was done according to city specifications. The amount thus saved was passed on to the eventual purchasers of the houses.

The houses are developed around variations of three basic floor plans, two of which are shown on these pages. They consist of one-story houses of two and three bedrooms and a one-and-one-half-story house of three bedrooms. By reversing the position of garage and other elements, a variety of exteriors was provided.

When Mr. Uetz turns a house over to a new purchaser, everything is provided except the furniture. Garage driveway, walks, complete grading, sodding and shrubs are all included in the original purchase price. Trees on the boulevard are planted by the builder.

A feature of this project is the wide variety of colors that have been employed on the exterior walls of the houses. Bold colors have been used freely, especially to offer contrast where the same design has been repeated. Two tone arrangements have been introduced on wall surfaces with marked success, throwing into bold relief certain walls where emphasis was desired.

**MATERIALS AND EQUIPMENT USED**

- **Foundation:** Concrete blocks
- **Walls:** Brick veneer, wood studs, double coursed shingles, bevelled siding, Rocklath and plaster
- **Sheathing:** Insulite
- **Insulation:** 1-inch Balsam wool on walls, 4-inch batts on ceilings
- **Roof:** Mulehide and Certainteed 210 lb. asphalt shingles
- **Windows:** Cupples aluminum and wood windows
- **Paint:** Sherwin Williams products
- **Garage Doors:** Raynor Manufacturing Co. sectional doors
- **Plumbing:** Elger fixtures, copper pipes
- **Heating:** Lennox and Von Dyck gas-fired warm air furnaces
- **Heater:** Rheem automatic gas hot water heater
- **Hardware:** Sargents hardware
- **Floors:** Bruce prefinished oak floors, Armstrong linoleum
- **Wainscot:** 4-foot aluminum tile in bathroom
- **Cabinet:** Miami-Carey steel medicine cabinet

_room top right:_ This house follows in its general contour the one shown at the top of opposite page. Plan provides for two bedrooms and attached garage in addition to the usual arrangement.

_right:_ Although reduced in size, this house has all the proportional qualities of the larger one. The plan is reversed with the rooms reduced in size and the dining room omitted entirely.
THE HOME seeker is constantly on the lookout for the type of house where he can receive the greatest value for the money that he has to expend.

The house designed by Rudolph A. Matern, architect, and his associate, Herman H. York of Jamaica, L. I., New York, shown on this page, meets this requirement.

As indicated, it is a rectangular planned house, with a simple gable roof. It has a sufficiently high pitch to enable the owner to provide additional rooms on the upper floor in case of future expansion.

The rooms are arranged on both sides of a center entrance, with a stair leading to second floor directly in front of the door. Dining room and kitchen are to the right of the stairs, within easy range of the front door. Rear hall provides excellent circulation to all rooms and the basement. A total of five rooms, bath and ample closet space are contained within a 924 square foot area.

The exterior walls are frame covered with brick veneer for the first floor, with either wood shingles or wide siding for the second floor gable. The large bay window and fireplace add a note of interest to the exterior treatment and the living room. A touch of brilliant color can be introduced through choice of flowers in the boxes.

This house can be nicely adapted to the requirements of the operative builder. Minor changes can be made in the roof line, dormers or the fenestration of openings on the exterior, as well as changes in the interior, to allow sufficient variations in design, and to make the house suitable to the mass market. Material changes, such as field stone, brick or stained shingles will also alter the appearance.
ELEVATIONS
SCALE 1/8"
SIGNIFICANT among the private building industry's response to the challenge to produce more rental housing is the Gross-Morton garden apartment project, Glen Oaks Village.

Located on a 175-acre tract in New York's Borough of Queens, it will house 3,800 families when complete. The $30,000,000 construction undertaking deserves the designation "garden apartments." Gross-Morton did some extensive land planning before ground ever was broken, with the result that four-fifths of the area has been allotted to garden and park areas, pleasantly winding streets and walks and outdoor recreation spaces. Landscaping alone will cost a half million dollars.

Fitting into this land plan is a complete, self-contained community. It will have its own 15-acre shopping arcade with stores, restaurants, a theater and ample parking space. While the tract is roughly rectangular in shape, the interior is elliptical to permit grouping of the apartment structures so that there will be no appearance of "row housing." How effectively this has been done can be seen in the air view at the top of the page. This is the first section of 376 apartments, over half of which already are occupied.

The building firm of Gross-Morton is well known in the New York City area. George M. Gross is president, and Alfred Gross and Laurence Morton are the other members of the firm. They retained Benjamin Brauneinstein, architect at Jamaica, L.I., to design the structures at Glen Oaks Village. William F. Hueg is general construction superintendent for the project.

All the buildings in Glen Oaks will be two stories high and will reflect early American architectural tradition in the use of red brick and white trim. Buildings are grouped around the main driveway which forms a large circle. The apartments will vary in the number of family units each will contain.

Apartments will consist of 3, 3½, 4½ and 5½ rooms each and will rent for from $76 to $108 monthly. Each apartment will have complete modern kitchen equipment with cabinets, electric refrigerator, gas range and
counter-top sink. Laundry facilities, with electric washers and gas driers will be provided in the basement of each structure. Those who desire individual garages can have them at moderate rental, and supplemental free parking areas are provided.

Of particular interest to builders is the heating system designed for Glen Oaks. There will be 40 boiler rooms to provide forced hot water to the complete project. Each boiler room will have two boilers and will heat from a minimum of 32 apartments to a maximum of 76.

The heating system was engineered by William H. Dusenbury of New York City. Hot water was chosen as the heating medium.

The system is a one-pipe design, and the forced circulation feature permits pipe of small diameter to be used. A 1½ inch pipe feeds each building, and ½ inch to ¾ inch pipes serve individual apartments. Narrow, thin-tube radiators, placed beneath windows, cut radiator space requirements to a minimum. The heating system is designed to carry water at 200 degrees F. when the outside temperature is zero. Average water temperature in the system will be 160 degrees. Circulation and heating is controlled by an outside weather thermostat.

An aquastat controls and operates a three-way motorized valve at the boiler. This makes it possible to bypass the boiler with the water in the system, or to pass it through the boiler.

Hot water heating circuits have been kept down to a maximum run of 500 feet from the circulating pump to the end of the circuit. Submerged hot water heaters furnish the hot water supply for apartments and laundries. The boilers are heated by oil burners.
which are fully automatic in operation.

Following a trend in apartment laundering facilities, the Glen Oaks project will have automatic electric washers and gas clothes dryers in the apartment basements. These will be provided by concessionaires, and tenants will pay a fee for their use. Basement storage space and baby carriage rooms are provided for use of tenants, the latter being made accessible by convenient ramps.

Both indoor and outdoor recreational facilities will be provided. Dozens of playgrounds will be placed in strategic areas throughout the village, equipped with swings, slides and sand boxes. It is estimated that there will be 25 square feet of playground area for each small child in the development.

Indoor recreation facilities will include branch libraries, workshop benches and photographic dark-rooms for hobbyists, and recreation rooms, with complete kitchen facilities, will be at the disposal of tenants who wish to entertain. The village is not far from Long Island ocean beaches and there are nearby golf clubs and public recreation areas to supplement the play opportunities provided in the village itself. Since it is bordered by four arterial highways, Glen Oaks residents can easily reach these other areas.

In addition to the main 15-acre shopping center an additional block of 14 stores for the convenience of the tenants in the apartment section is

APARTMENTS can be seen in all stages of construction as first section progresses
TYPICAL floor plans above show room arrangements of some of the various sized apartments in the Gross-Morton Glen Oaks project in New York City. Large living rooms predominate even in the three-room apartments. In the four-room apartment, one room may be used as either a bedroom or dining room, according to need. Ample closet space is provided in all apartments already underway on the Union Turnpike blockfront between 248th and 249th Streets. In this block, the Great Atlantic & Pacific Tea Co. has leased space for one of its supermarkets on a long term, taking space equivalent to three stores. Floor area for the market will measure 60x115 feet.

Leases also have been issued to a pharmacy, a gift shop, grill, dry cleaner, an independent meat market, a bakery and a retailer of women's and children's wearing apparel.

The landscaping program for Glen Oaks is a big project in itself, one of the most elaborate ever applied to apartment house construction.

PLEASANTLY curving streets permit grouping of building to avoid any appearance of row housing. Plantings will soften view.
This garden apartment community will have its own fifteen-acre shopping arcade with stores, restaurants, a theater and ample parking space. All buildings will be two stories high.

MATERIALS AND EQUIPMENT USED AT GLEN OAKS:

- National Gypsum Gold Bond Lath
- National Gypsum plaster
- Flintkote exterior sheathing
- Taylor cotton insulation
- J. S. Thom steel sash
- Acton Steel Co. door buck
- Pacific Steel boilers
- Capitol Thin-tube radiators
- J. P. Ward Foundry Co. malleable and steel pipe fittings
- Phelps Dodge Co. brass pipe
- Mercer Tube Co. steel pipe
- Central Foundry Co. cast iron pipe
- Morse-Boulger garbage incinerators
- Lightolier lighting fixtures
- Kohler & Kohler plumbing fixtures
- U. S. Quarry Tile Co. bathroom tile
- Sparto Ceramic floor tile
- Willett bathroom accessories
- Lockwood hardware
- Armstrong linoleum
- Welbilt gas ranges
- GE electric refrigerators
- Westinghouse Laundromats (on concession)
- Hamilton clothes dryers (on concession)
- Minneapolis-Honeywell Outside Weatherstat
- Bell & Gossett circulating pumps
- Bell & Gossett submerged water heaters
- Berry garage doors

FEATURE structure at end of the entrance mall. This building is completed, except for the front columns which were delayed.

AT RIGHT is the first floor plan for the largest apartment, a 3-bedroom unit with total of 5 rooms. In two of the bedrooms, twin beds can be accommodated: note closets

EXTERIORS are varied through different doorway and window treatment. Note bays
Builders and FHA officials work together to inaugurate construction of 1,003 garden-type 608 apartment units in Tulsa, Okla. Cost of this construction in city of 213,000 population is estimated at $8,775,000

To satisfy a large wartime growth in population which left the city sorely in need of all types of housing, garden-type apartment construction has hit a fast pace in Tulsa, Okla., as part of the answer to satisfying the needs of new residents. Home builders and FHA officials there realized soon after the war that the population growth was permanent and, consequently, they developed plans for constructing garden-type apartment accommodations to house those of the city's newcomers who desired such housing.

Home builders worked with Julian Rothbaum, Tulsa District FHA director and C. Ellis Hunt, assigned to process 608 applications, in procuring desirable sites, plans and financing. As a result of their efforts in the city of Tulsa, 1,003 garden-type apartment units in 31 separate projects are under way or planned, at a total cost of $8,775,000. Rentals will run from $55 up to $80. More than 300 units are now completed and occupied.

Tulsa has an estimated population of 213,000 exclusive of armed forces stationed there.

Because the city of Tulsa is comparatively new and has had the benefit of twentieth century city planning and land use practices in connection with its growth, there are no sections of the city which could be correctly classed as slum or blighted areas.

PHOTO at top left shows work under way on several buildings in Tulsa's big Osage Hills garden-type apartment project. Center photo is of Leemon Nix's Hillcrest apartments. Bottom photo is Edwin M. Kelly's 28-unit Kelly Apartments project.
Take the Spotlight

Therefore, reasonable land could be obtained adjacent to transportation, shopping, school and service facilities, in locations suitable for apartment dwelling, in a good variety of strategic city sections. Good land use, good planning, quality materials and high grade construction practices are resulting in the development of a fine group of garden-type apartments which rent at a moderate figure.

Home Builder Edwin M. Kelly is practically finished with his Kelly Apartments project of 28 units in a good location to rent for $75 per month. These structures are of frame construction covered with brick veneer. The two-bedroom apartments, planned by W. H. Calderwood, AIA, have hardwood floors, tiled bathroom walls and floors and compact, efficient kitchens. Heat for the first floor units is provided by floor furnaces and heat for second floor apartments is obtained with wall heaters. Laundry and storage facilities are being provided in a separate building. Garages to accommodate 12 automobiles are being constructed and on-site parking is provided for other automobiles. Large window areas, spacious hallways and plenty of ground area around the buildings are desirable features of this 608 job.

Leemon Nix is completing 24 units in his Hillcrest Apartments, also designed by W. H. Calderwood. These buildings are concrete block with brick trim over frame construction. All the units in these two-story buildings have two bedrooms, good-sized living room, dining area and efficient kitchen. Floor furnaces provide heat for the first floor units and wall panel...
heaters are used on the second floor. Laundry room and storage facilities are provided in the basement. All floors are hardwood except the kitchen and bathroom. Bathroom floors are covered with asphalt tile, and linoleum is used in the kitchens. All cars owned by residents will be parked on the site. These units are renting for $75 per month.

The largest single garden-type apartment development in Tulsa, however, is the Osage Hills project, which is being handled by a group of seven builders. The land for these 530 units was made available for development only recently. For years it had been tied up in an estate. The site is ideally located for apartment dwelling because of rapid transportation to the downtown area, good schools and good neighborhood. It is directly opposite a country club and golf course so that the entire project will face a wide expanse of open, wooded area. It is also on high ground, an important factor in that climate during warm summer months.

Robert W. Adams, of Adams and Leonard, Tulsa, has the largest single group of units under way in the Osage Hills development. He has two separate groups of 52 units each and another building of 26 units, a total of 130 apartments. W. H. Calderwood is the architect for Mr. Adams, and also for the following builders in Osage Hills: Dale Carter, two projects of 52 units each; K. M. Vaughn, two projects of 26 units each; Everett Johnson and Clyde Sears, two projects of 26 units each; Don Nix, one project of 32 units.

All of these buildings designed by Mr. Calderwood will have the living room, dining alcove and kitchen on the first floor and two bedrooms and bath on the second floor. Basements will provide laundry and storage facilities. Heat will be provided by Royal Jet Flow circulating air wall heaters, gas-fired. The majority of these apartment units will have ventilating fans, garbage disposal units and clothes dryers. Automatic washers will also be supplied in most of them.

Buildings will be of frame construction with brick veneer exterior. The buildings will cover only 18.6 per cent of the land area with 19.6 families per net acre. This is true of the entire Osage Hills project. All automobile parking will be on site.

Frederick V. Kershner, AIA, designed the garden-type apartment units which Leemon Nix, Max Campbell and King Dickason are building in Osage Hills. Mr. Nix is building a 24-unit job, Mr. Campbell, 24 units and Mr. Dickason, 100 units. All of these buildings will be of frame construction with brick veneer, with large window areas and efficient apartment layouts. A separate building is being designed by Mr. Kershner on each project to house laundry facilities.

Another large apartment project which will be in Osage Hills is being handled by A. C. Tyler, for the following builders: 52 units each, 72 and 26 units, 172 apartments.

One of the developers in the Osage Hills project is building, together, 26 units. J. L. Brown, of Enid, is handling the project.

Mr. Brown, who is an experienced builder, says that these buildings will all be handicapped-proof.

The garden-type units, which are being built in the Osage Hills project, are designed by Mr. Kershner and are of frame construction with brick veneer exterior. The buildings will cover only 18.6 per cent of the land area with 19.6 families per net acre. This is true of the entire Osage Hills project. All automobile parking will be on site.

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facilities, janitor quarters and storage accommodations. Heat in these units will be provided by Royal Jet Flow gas-fired circulating air wall heaters.

Another of the large 608 projects getting well under way in Tulsa is the Harvard Apartments project which will contain 172 five-room apartments in two-story frame and brick veneer buildings. This job is being constructed by Crane & Dohe, contractors, with Joe Frates and G. A. Chandler, the 608 sponsors. The buildings will be grouped around curvilinear streets with large play and recreational areas planned. Undercover parking will be provided for 172 automobiles and a small shopping center will be constructed.

One of the outstanding features of the Harvard Apartments project is the fact that each apartment unit will be heated by an individually controlled, General Electric, gas-fired, forced circulation, warm air furnace.

Much of the success of 608 development in Tulsa is due to the splendid teamwork between home builders there and the FHA office. Mr. Rothbaum, the local FHA District director and Mr. Hunt, FHA man in charge of 608 processing, have spent much time helping builders and architects plan quality jobs for permanent value high-quality residential apartments. The average processing time for all applications in the Tulsa FHA office from July 1, 1947 to Dec. 31, 1947, was 5.15 days.

The HILLCREST Apartments nearing completion in Tulsa will rent for $75 per month. Buildings are frame with concrete block exteriors. All automobile parking will be on the site. Floor plan for the 24 units is above.

RENDERING above and floor plans at right illustrate type of apartments designed by W. H. Calderwood for Osage Hills. F. V. Evershner also designed a number of buildings for this project.
BUILDINGS are entirely insulated, storm windows and screens provided

One Housing Unit Every Six Days
Completed in 608 Project

NEBRASKA'S first Title 608 rental housing project, nearing completion in Lincoln by the Sweeney-Solheim Co., was started in May, 1947. These units are a part of almost 300 homes this company has completed. Since the fall of 1943, when Sweeney-Solheim began construction of similar houses, the concern has produced approximately one housing unit every six days.

When Nebraska's FHA office approved the Sweeney-Solheim Company's commitment application for the Lincoln project, work was immediately started on it plus two other 608 projects and several Title 603 rental housing units in other sections of the city.

The Title 608 rental housing units in Lincoln are 4½ and 5 rooms, designed for two and three bedroom families. Intended for two and four family buildings, they were constructed in a natural apartment rental area near the state agricultural college.

To eliminate monotony of one design, plans of the buildings were varied. In accordance with FHA's plans for more attractive housing frontages, the buildings were arranged in staggered set-back positions from the street.

New streets were constructed in the area, as well as driveways and parking areas. Ornamental lighting will be installed along both sides of the street. The units are designed so that each tenant may have his own facilities for heating and lighting. Yard maintenance and water are to be furnished by the owner, and new General Electric stoves and refrigerators are provided for a charge.

Foundation walls are of concrete block; exterior wall construction above grade is either limestone or face brick. Interior walls are plastered; oak floors are used throughout except in kitchens and baths, which have linoleum.

Vertical partitions between apartments in the Nebraska Title 608 project are constructed with 2x4 studs, staggered, and a blanket type insulation used between them. Deadening felt is used between all sub-floors and finished floors.

All apartments in the project have two compartment sinks, and laundry facilities are provided in the basement for each tenant. Garages are equipped with sectional overhead door hardware.

Sweeney-Solheim Co. expects to complete three of their 608 projects in April of this year—to have a total of 74 rental units completed and occupied. Efficiency in planning building operations; efficiency in procurement of materials, have enabled them to establish this record.
New garden type units near completion by Sweeney-Solheim and Co. in Lincoln, Nebraska. Varied design eliminates monotony and makes attractive street.

TOP RIGHT shows interior of one house in Lincoln project. Wood used in interior construction is pine, either enameled or blond finish. Notice glass panel in partitions (above); oak floor in dining room. At right is shown variation of designs used throughout the structures. Houses are designed for two- and four-family units.

PLOT plan shows staggered set-back arrangement for attractive frontage.
LAND—A VALUABLE ASSET—Must Be

Imagination plus energy on the part of builders have produced a host of planned communities. Thus, from the idea to plans and now in reality, progress in land use is sweeping across the nation.

UNDER the impetus given to land planning principles, through the Country Club project of J. C. Nichols, in Kansas City, community development in all phases, has gone ahead with great strides.

That this type of planning is in a constant state of flux is due in great measure to the leaders in this field. Never satisfied with the results that have been obtained, they are always seeking to interpret the habits and requirements of the public, as they relate to housing, shopping, entertainment and education. Their desire to produce a better place in which people may live, spurs them to action.

An example of this was the Community Builders Council panel at the recent convention of the National Association of Home Builders, in Chicago. Leaders in the land planning field, spearheaded by J. C. Nichols and Seward Mott, analyzed and discussed projects that were submitted to them by the association members, in an all day session. The Association men were anxious that their project come under the scrutiny of this panel, in order that their particular community might benefit thereby.

Playgrounds, parks, shopping centers and their relation to the community have always been given major consideration in land planning. With changes taking place in the public's mode of living, it becomes mandatory for land planners to be mindful of the trend, and to seek to improve their layouts.

A definite movement toward an increase in the areas allotted to parks and playgrounds has been noted. A combination of these two units, placed into one large area...
Planned for Use

and centered around the school building, has been used with increasing favor. Six to twelve acres are generally allowed for this purpose, depending upon the size of the project. Dead-end streets and cul-de-sacs are becoming increasingly popular, primarily, because this type of construction costs less than through streets. Buyers prefer rights on cul-de-sacs since they provide a measure of protection for children. Objections to this type of road planning have often been raised by city authorities, because of inadequate turn-arounds, and difficulties in servicing fires.

Blocks of 1,800 to 2,000 feet in length permit savings up to 20 per cent. Excessive number of corners and side-street maintenance are eliminated. The trend now is to move setback lines for house location closer to the street. This was caused by the idea of orienting the house to garden areas in the rear. The popularity of the one-story house has caused an increase in lot widths. A minimum of 60 to 65 feet is usually established.

AT RIGHT: Plot plan of Bow-Mar, a community of suburban estates, laid out along shore of two lakes, located six miles from Denver. Above: View across Bowles Lake before construction.
ABOVE: Air view showing Madison Park development outlined in the foreground with the commercial area of Shreveport, La., clearly indicated at top of picture. Detailed plan of the shopping area of the development shown at left.
The cost of street improvements and utilities have had a tendency to prevent a wide-spread acceptance of this idea.

The use of an additional parallel service road has been successfully employed by developers where the project faces a through highway. An alternate arrangement of providing exceptionally deep lots with extensive landscaping, where the lots adjoin the highway has had a definite appeal, due to the economy involved.

Complete facilities for a self-contained housing and shopping area are provided in the Madison Park project located in Shreveport, La.

The relation of the shopping center to the development is all important. The distance separating these elements depends on the arrangement and the size of the project. A large developer in Oklahoma City, in a recent project, kept the center of the shopping area about 3/4 mile from the choice residential section with apartments in between, acting as a buffer. The grade school is one mile from the shopping area, and the high school is two miles. Churches are placed on the fringe of the project and provided with off-street parking. Ample parking facilities are an essential factor to the shopping section. It is the life line of the merchant and cannot be neglected. In determining the space to be allotted for this service, the builder needs to anticipate the future growth of the development.

Primary considerations should not be overlooked. This applies to a knowledge of the land on which building is contemplated. The drainage condition and the length and size of utilities should be thoroughly studied before any commitment is made. In addition, the topography of the land should be analyzed to anticipate the kind of layout that would best suit the site. Accessibility to main roads leading to an urban center is necessary.

The two developments shown on these pages are entirely different in character.

The Bow-Mar subdivision is a tract of land overlooking Marston and Bowles Lakes, near Denver, Colo. One parcel of land was acquired by Lloyd J. King in 1942, on which he then erected a home. The unusual site attracted so much attention from motorists, that Mr. King acquired four additional parcels that now make up the 250 plot subdivision containing 677 acres. Bowles Lake which lies directly in the shadow of Mt. Evans beautifies the south 100 acres of the site for the enjoyment of Bow-Mar residents.

Bow-Mar is to be developed into an ideal suburban community with an association having full control over design and construction of all homes to be built. Lots are not being offered to all comers, but are being handled on a personal basis, friend bringing friend.

Madison Park the other project shown, is located on the outskirts of Shreveport, La. This subdivision is being developed by the Frank J. Zuzak & Co., with construction already underway. The shopping, theatre and apartment house sections are still in the planning stage. The detailed layout of this portion of the project, as shown on the preceding page, was planned after Mr. Zuzak visited many of the large shopping centers throughout the country. The pattern used, follows in general the arrangement that has been successfully employed by Joseph Meyerhoff, in the layout of Edmondson Village, Baltimore, Md.

LEFT: Plot plan of Madison Park. This is the first large land planning project to be worked out in accordance with the new planning and commercial development principles enacted in Shreveport, La.
PRACTICALLY every type of soil and terrain presents special problems to be overcome by land developers before home building can be started with certainty that foundations will hold up and surface water will drain off. The problems confronting builders who operate in and near Seattle are among the most difficult to be found in any inhabited community. The reason is that the terrain is largely steep, rugged hills, studded with rocks and boulders, and covered with immense stumps, growing trees, and tangled underbrush.

Since some or all of these conditions are present in many other parts of the country, in some degree, the methods employed by Seattle builders and engineers to clear and develop land have wide interest.

Among the few builders in the Seattle area who deliberately look for rugged land to develop is Albert Balch. Seattle is growing rapidly, has been growing since the beginning of the war. Land values are high, and Balch, seeking to deliver houses at the lowest possible cost, reasoned that if he developed a technique for handling wild sites, he might be able to purchase the land at some advantage, and produce building lots below the cost of less favorable tracts.

Indispensable to Balch is an assembly of heavy equipment including two crawler-type tractor bulldozers, a power shovel and hoe for digging trenches, a road grader, and three five-yard dump trucks.

Once interested in a plot of hillside terrain, Balch usually defers any action until he has had a chance to cruise the land in several rainfalls. This he does to determine the flow of rain water from the ground, and to locate pockets that will have to be filled. These cruises also serve to establish in his mind a general pattern for a future subdivision. The pattern resolves around the location of trees, and the possibility of saving as many as desirable; the location and size of the large boulders; and the rough determination of street and sewer lines. If he finds conditions to be such that careful grading, good engineering and the use of equipment indicate that lots can be laid out economically, he proceeds to acquire the site, and call on his engineers, Gardner, Gardner & Hutchings, Inc., of Seattle.

One of the current Balch subdivisions in which building is under way is Wedgwood Rock, a ten-acre tract north of Seattle. The tract has a general slope of 10 to 20 per cent toward the west. The elevation at the east end is 345 feet. The fall is exactly 100 feet to the west line about 720 feet distant. Thus, the average slope is 14 per cent.

A large 20-foot boulder lies embedded in the middle of the tract. Rather than consider this particular rock a serious handicap, it was de-
This contour map of Wedgwood Rock subdivision shows drop of 100 feet from east line to west line 720 feet away. Irregular grade averages 14 per cent, poses real problems.

EVEN the flat spaces are studded with old stumps, small trees, rocks and boulders.
STUMP at left with man's hat hung on it affords an idea of the average size of numerous stumps that have to be removed then dynamited by licensed powder men. The smaller trees which have to be removed are pushed over with a bulldozer when possible, otherwise cut down. On one operation, Balch sawed some of the logs into dimension lumber and shingles, and sold the balance to a mill.

After stumps are cleared away, and streets laid out, Balch often leaves whole clumps of trees to lend the appearance of a park. In Wedgwood Rock and in other Balch subdivisions, sewers frequently lie 20 to 30 feet below grade. Balch does all of his own sewer work, and lays his own water lines. While the heavy equipment for this work is on the job, he grades roads behind and between the houses to permit pouring concrete directly from trucks, and to permit the unloading of material as near as possible to the foundations.

Soil in the Wedgwood Rock site is of such a character that it absorbs about 75 per cent of the water that falls on it. That condition eliminates the need of drains to carry the water from the streets. Also, by grading the lots up in the back, in some cases, the high absorption factor of the soil eliminates the need of any retaining walls.
In Parkwood, Balch’s latest subdivision, he has achieved what is reputed to be the latest word in subdivision planning in that area. Many native pine and fir trees border the streets, which are broad and curving. Streets, curbs, and driveways from the streets are concrete. All utility poles are in the rear of the lots. Corner lots invariably are larger than those inside the block, because it is Balch’s practice to build larger and more expensive houses on the corners in order to improve the approaches to the tracts. There are no through streets, and therefore, no fast traffic. The streets are thus made safer for small children.

Balch has developed 30 subdivisions, and makes a practice of buying land sufficiently ahead so that a developed tract is always ready to build on as soon as one project is completed. That enables him to keep his carpenters and other mechanics busy practically all of the time, and also makes maximum use of his heavy equipment and the crews which operate it. The Wedgewood Rock tract was turned down by many builders, because they could not see how it could be improved economically.

Undeveloped land conveniently located to employment and shopping centers in the Seattle area ranges from $600 to $800 a lot. The cost of complete improvements is about $1,000, making a total lot value of about $1,800. Without experience in laying out and developing raw land, and the equipment and crews with which to do the work, the cost likely would be prohibitive.

Houses on these hilly subdivisions are seldom placed square with the street. Each house is located on its lot with the idea of making the best use of the contour and the view. Lot shapes are determined with the same ideas in mind. Thus, the shape and size of each lot, and the kind of house, and its location, become an individual study. The color scheme is also an important part of the study. The result is a harmonious blending of colors and shapes, with no suggestion of monotony, in either the houses or the streets.

The choicest houses, of course, are built on the lots affording the most desirable views. Not infrequently, after a house has been designed for a given lot, the architects, Thomas, Grainger & Thomas, of Seattle, have better ideas than the builder, and it is not unusual to have a house completely redesigned in order to save a good tree, or to take better advantage of an outstanding view.

Because of the rough terrain, and the great variation in lot shapes, lot lines are marked at all corners with sections of pipe buried securely in the ground. By staking all of the lot corners, whether there be four or more, and staking the house corners, the risk of having workmen make a mistake is minimized.

A distinguishing feature of the houses is that they are not built from one or a few standard plans, with variations in appearance achieved by reversing them, or changing color schemes. Dozens of different plans are used in every subdivision, and many are never used twice, because they were drawn for a particular site that has no duplicate.

Balch’s subdivision expert is Louis Coglas, who for 20 years has conducted the right-of-way for the Northern Pacific Railroad. That experience is now stands Coglas in good stead. There is nothing standard about the siding materials used. Most of the houses are sided with wood, but Parkwood features eight-inch masonry walls of Insulston, with hand-split roof shakes. Exteriors of other houses are wood siding, shingle and brick. Radiant warm water heat with pipes built into the concrete floors has been adopted recently for some of the houses, and the results are considered to be entirely satisfactory by both the builder and the owners.

One of the remarkable things about the Balch subdivisions is that they appear to be located remotely from the city, whereas, all of them are within a few minutes drive or bus ride from the heart of downtown Seattle. The reason is that artistic use of the hillsides provides views that are either actually spacious, or give the illusion of great distances.

Currently, Balch is offering the buyers of his houses the opportunity to purchase cooking ranges, refrigerators and Bendix washers on a monthly payment plan included in the mortgage on the house.
COMMERCIAL INTERIORS

Profitable For This Dealer-BUILDER

From piloting bombers in the Army Air Corps during the war to piloting the operations of the Ebenreiter Lumber Co., Sheboygan, Wis., was the step taken by young Bob Ebenreiter in 1945. During the war, Bob's father died, leaving grandfather Ebenreiter, now 87 years old, to run the company.

When Bob returned from service, he immediately took over, and put into practice many of the ideas he had evolved before and during the war. In addition to being one of Wisconsin's largest retail yards, the company also operates a custom millwork plant. Both the mill, operated by grandfather, and the yard, are dedicated to serving home buyers and owners, local stores and factories, the counter trade, and at least of equal importance with these, the home builders and carpenter-contractors who do business with the company.

Service to builders and carpenter-contractors takes many forms. Principally, it is in the form of selling store remodeling, using the design and production facilities of the millwork plant, and selling prospects for new homes, using the company's architectural department and display of modern materials.

The staff of the millwork plant includes skilled engineers, designers and detail men, as well as craftsmen. Not infrequently when the capacity of the plant has been reached, the company, instead of allowing orders to pile up too far in advance, encourages its carpenter-contractors to install the products of another mill.

Accompanying photographs show custom-built, commercial installations of millwork, some manufactured by Ebenreiter, and some produced elsewhere, and installed by...
Custom millwork plant is spearhead of retail lumbermen’s fully rounded program of merchandising aids to his carpenter-contractor and builder customers

Ebenreiter contractors and builders.

Of particular note, as examples of the type of work turned out in the Ebenreiter mill, are the restaurant in the H. C. Prange Co. department store, the counters and office partitions in the Bank of Sheboygan, and the bar in the local Elks Club.

The department store restaurant is distinguished by rectangular and curved booths, and by a long, curved frame for a mural of the Sheboygan shore line. Panels, for the walls and structural columns were built by Ebenreiter to harmonize with the furnishings. The precision with which all of the millwork fits is the result of exact measurement of the premises, equally exact working drawings, and skill in craftsmanship. The same is true of the counter and partition work in the Bank of Sheboygan. Corner seats for customers in the bank are easily recognizable as products of the Ebenreiter mill.

Aside from the same precision in workmanship, the distinguishing feature of the Elks Club bar is its unusual contour. Another and larger bar in Sheboygan’s Grand Hotel is a closed rectangle with rounded corners. Some of the booths, similar to those in the department store, are three-quarter circles.

In addition to managing the overall operation, Bob Ebenreiter does most of the direct, outside sales work. Prior to the war, under Bob’s direction, the company obtained a building site for a score or more of houses, north of the city, designed all the houses, had them built by builder and carpenter customers, held a successful home demonstration week, and sold all of the houses. Since his return, Bob has turned out one house,
which was held open for demonstration purposes, and expects soon to begin building more.

Builders are expected to make the design department and material display their headquarters and sales offices. In addition to many kinds of material, dozens of house plans are on display in book form, and framed on the walls. Accommodations for the customers and prospects of both the company and the builders are well appointed and comfortable. Facilities for handling all of the details of home building from design through financing and building are available. The design and display department are open evenings for the convenience of both builders and their customers.

Service, however, does not stop with sales aids. Annually, the com-
EBENREITER LUMBER CO.

"ON THE JOB AGAIN" in red letters on a white disc was the symbol used by Bob Ebenreiter to advertise his discharge from the Army Air Corps and return to the lumber business. It is known everywhere in Sheboygan.

Company holds a mid-summer picnic for builders and contractors. This year, Bob conceived the idea of holding a first annual Winter Picnic. The purpose was to have a mid-winter get-together, and to get his suppliers acquainted with his customers. The result was one of the most unusual evenings the building industry has seen.

In the hall chosen for the picnic, more than 20 manufacturers and wholesale distributors of building materials erected elementary, but adequate exhibits in booths provided for them. The booths were opened at 5 p.m. By seven o'clock nearly 300 builders, carpenter-contractors, local store owners and manufacturing plant executives had arrived. Interest in the displays was lively from the start, and continued that way until 9 p.m., when a one-hour program was begun. At 20-minute intervals, Bob, who acted as master of ceremonies, interrupted the conversations at the booths to point out items of special interest at certain booths, making it a point to feature each booth before the program began.

The program consisted of a number of short addresses by invited guests, including the oldest living contractor in the Sheboygan area, grandfather Ebenreiter, and officials of the Wisconsin Retail Lumbermen's Association. At the conclusion of the program, all were invited to visit the refreshment counter in an adjacent room, where hot sandwiches, coffee and beer were served. During and after the serving of refreshments, visiting the booths was a constant feature.

Exhibitors were unanimous in expressing their appreciation of the opportunity to talk to their ultimate customers, the builders who do business with Ebenreiter. Builders and contractors demonstrated great interest in what they were being told and shown.

The consensus was that the meeting had done more to effect a united home building industry than anything that had ever taken place in Sheboygan. One manufacturer's representative stated that through the meeting he was sure that all the manufacturers and distributors, and the builders had learned more about each other's problems and functions than would have been possible in any other way.
The increasing popularity of the drive-in restaurant is due to the convenience afforded the busy traveler, and the unusual design employed in the buildings.

LONG horizontal lines delineate this drive-in restaurant. A line of separation from restaurant and car service is provided by the vertical pylon with display signs.

LEFT: View of the restaurant inside the parking area devoted to car service. Extensive planting in boxes, built-in as a part of the structure, embellishes adjoining wall surfaces. Wide curving canopy extending around two walls protects the girls serving this area from the elements.
THE DRIVE-IN restaurant of today meets the needs of people living in a busy modern age. Here an individual may obtain a hasty snack or a complete dinner with minimum time expended.

Out of a vast experience in the restaurant business, Floyd O. Gwinn, owner of the building, shown on these pages, came to the conclusion that "the building you build, asks in the people you want". Therefore, realizing that design would play a major role in the development of this project, he enlisted the services of Harold J. Bissner, A.I.A. architect, and Harold B. Zook, A.I.A. associate. These two men, schooled along modern lines of design, have produced a building that meets every requirement of the owner. The interpretation of the plans have been ably carried out by W. H. McCune, builder.

The accompanying photographs tell the complete story of this unusual restaurant built on the fringe of the business area of Pasadena, Calif. The structure is designed to cater to two groups of people—one group prefers to park their cars and enter the restaurant to be served at the counter and booths, and the other drives into the paved court to be served in their automobiles.

The building is planned around the kitchen. This is divided into three sections—the kitchen proper, the grill and the drive-in service. In this manner each group of diners are efficiently handled. The grill area, where short
The drive-in restaurant is planned to cater to counter and booth patrons as well as people who desire to be served in automobiles. The kitchen, grill and drive-in service is arranged to efficiently handle each type of service with ease.
orders are prepared, is provided with a large pass window to the drive-in and counter service.

Except for short orders, the drive-in service is independent. This area has separate coffee and fountain features, so that service to the automobile trade is uninterrupted. This unit is, however, closely related to the kitchen and restaurant, so that additional service may be obtained if needed. Ample storage and refrigerator space is provided adjoining the kitchen. Men and women’s locker rooms are conveniently located.

An unusual feature of the restaurant interior, is the canopy that extends over the entrance and a portion of the booths. This is a continuation of the canopy used on the exterior. Designed in an egg crate pattern, it helps to diffuse light from the fluorescent tubes in the ceiling.

The long horizontal lines of the canopies dominate the exterior design. A contrasting pattern is maintained in the flush vertical joints of the brick surfaces. The over-sized pylon that provides a distinct medium of separation in the two featured services emphasizes the vertical aspect of the design.

Built-in brick flower boxes are in abundance around the building. Colorful planting of flowers are maintained in season. The arresting appearance created by the strong colors in the building, in addition to the planting, is a distinct asset to this type of business. The warm red of the Roman brick is topped by the large glass expanse. This is capped by the brilliant white canopies that extend over the windows. Above the canopies is a stucco parapet painted a dark green which extends around the entire building.

An elongation of the building is established by a canopy over the driveway, leading to the car service area. This canopy is formed by a diamond-pattern egg crate design built-up of 1x6-inch members interlocked together. The overhang is supported by cast iron posts placed in a V pattern in the base of the flower box. A large curved canopy extends from pylon over to kitchen wall on the drive-in court extension. This serves to break the severe lines of the front. The soffit contains a number of lines of fluorescent tubes that follow the contour of the canopy. This arrangement provides an abundance of light at night for car service.

A six-foot high Redwood fence, left in its natural finish, encloses the entire rear of the building. Refuse cans and other objectionable items are thus placed out of sight. The vertical boards of the fence are placed diagonally to each other, permitting air to circulate freely as well as providing a deep shadow accent.

The ceiling of the restaurant is covered with acoustical plaster; lights are set flush with the ceiling; the floor is covered with asphalt tile. The platform on which the counter chairs are placed is covered with linoleum; the counter is highly-polished walnut. A copper canopy extends across the pass window and side walls are of bright metal. The floor of the kitchen is concrete.
ONE of the essential factors that provides charm and livability in a home or other structure is a good heating system, accurately controlled. No heating system operates any better than its controls and to achieve efficient operation there are certain minimum controls required for each of the various types of heating systems.

The correct procedure to follow in obtaining comfort and livability, is to select a good heating contractor who has the reputation of doing good work and is dependable. The next step is to select a heating system according to the advice of the heating contractor. As stated in other articles, it is well to order heating equipment manufactured by reliable and well established manufacturers. After the selection of the heating system, a considerable amount of thought should be given the control problem of the system. It is as important to have a dependable control system as it is to have a good heating system. Without correct control, the heating system will not function at maximum efficiency.

The first type of control setup to be discussed here is for a heating system hand-fired with coal, and in which the circulation is by gravity. The heating controls for the hand-fired heating system are designed for the automatic operation of the draft and check doors on the furnace or boiler. This is done with a damper motor connected to both the draft and check doors by a chain arrangement. The room thermostat governs operation of the damper motor. Both of these units are low voltage devices and are furnished with power from a line voltage circuit through a transformer. There is a limit con-
control in the thermostat circuit which will cause the draft door to close and the check to open, even though the room thermostat is not satisfied, in the event that the heating unit becomes unduly warm.

Second on the list of control systems — hand-fired coal with forced circulation. Like the hand-fired coal system for gravity circulation, the room thermostat, damper motor, transformer, and limit control are again used. In addition to this, there is a relay used to make and break the line voltage power circuit which supplies a booster motor for forced hot water, or a fan motor for forced warm air. The relay is controlled by the low voltage circuit which operates the damper motor. In addition to this, there is a reverse acting control in the line voltage power circuit for starting the booster or fan motor in case the room thermostat is not calling for heat. The reason for this control is to take care of any overide in temperature within the heating unit itself, so that no injury will result from overheating.

The third control system — stoker-fired coal with gravity circulation. The controls used with this system are almost identical to the controls used for hand-fired coal gravity circulation. The difference, however, is in the use of a timer relay rather than a damper motor and transformer. The operation of the timer relay provides for a regular minimum feed of coal to maintain the fire in the heating unit during the long intervals when the room thermostat does not call for heat.

Fourth in the method of controlling heating systems — stoker-fired coal with forced circulation. The control for this system is identical to hand-fired coal forced circulation with the exception that a timer relay is used in place of the damper motor and transformer. In some instances, instead of using a timer relay for the hold fire, a stack control is used for maintaining the fire. This control operates from the temperature of the flue gases. The results received through the use of this control are excellent as long as the control is in good operating condition. However, since this control has the thermal element inserted in the heating unit where it comes in contact with the hot gases, it has a tendency to corrode and deteriorate. After a few heating seasons, it will fail to function correctly, if at all. While the timer relay is not 100 per cent correct in its operation, it is a more substantial control than a stack control, and will accomplish the desired result.

Fifth — control system for oil-fired gravity circulation. The controls for this system are identical to those used for hand-fired and stoker-fired coal, with the exception that the protecto-relay replaces the timer relay or the damper motor and transformer. The protecto-relay indicated is for intermittent burner ignition, which in reality means that after the oil has been ignited, and the fire is burning, the ignition will cut off. It might be well at this point to advise that this control is perhaps the most essential control used in any oil-fired heating installation. The operation of the control, when in good working condition, is such that it will stop the burner if there is a temporary stoppage in the flow of oil to the burner. It is also designed to stop the burner motor if proper ignition does not occur.

Sixth — control for oil-fired forced warm air. This control system is similar to the control system used for oil-fired gravity circulation, with the exception of the limit control. In lieu of the limit control, a combination fan and safety switch is installed. The operation of the fan and safety switch is such that the fan motor will start when sufficient heat is in the bonnet of the furnace. It will also stop the oil burner in case the furnace bonnet temperature gets beyond the safety point. By using the fan and safety switch to start the fan motor, a sufficient amount of heat will be built up in the furnace bonnet so that a flow of warm air will be supplied to the rooms. This will result in the rooms being heated rather than being cooled, which would happen in a case where the burner and fan started at the same time.

Seventh — control of an oil-fired forced hot water heating system. The operation of this system is such that when the room thermostat calls for heat, the relay closes the line voltage power circuit which starts the booster motor. The closing of the relay also energizes the protec-to-relay which starts the oil burner. As long as the thermostat calls for heat, and providing the water temperature in the heating unit does not become too high, both the oil burner and booster
pump operate simultaneously. In the event the thermostat does not become satisfied, and the water temperature in the heating unit becomes extremely high, the aquastat will stop the oil burner. However, the booster pump will continue to run until the room thermostat is satisfied.

**Eighth** — control of a gas-fired heating system with gravity circulation. The operation of this system is such that the line voltage power circuit is reduced in voltage for the operation of a solenoid gas valve installed in the gas supply pipe to the heating unit. The operation of the solenoid gas valve is identical to that for the oil-fired forced warm air heating system, with the exception that a single pole, single throw relay is used instead of the proteco-relay. The operation of the system is such that when the room thermostat calls for heat, the relay will close, energizing the transformer and causing the gas supply valve to open. Then when the bonnet temperature becomes sufficiently warm, the combination fan and safety switch will start the fan motor. In event the bonnet temperature becomes excessive, the fan and safety switch will open the power circuit to the transformer. This will prevent overheating of the heating unit. The fan will, however, continue to run as long as the bonnet temperature is sufficiently high to keep the fan switch closed.

**Ninth** — control of a gas-fired forced warm air heating system. The operation of this system is similar to that of a gas-fired forced warm air system. An aquastat is used, however, in place of the combination fan and safety switch. The booster pump operates directly from the room thermostat, and will run as long as the thermostat is calling for heat. The aquastat is used strictly as a limit control. In the event temperature of the heating unit becomes excessive, the aquastat will cause the gas valve to close, preventing any damage.

**Tenth** — control of a gas-fired forced hot water heating system. The operation of this system is similar to that of a gas-fired forced warm air system. The booster pump operates directly from the room thermostat, and will run as long as the thermostat is calling for heat. The aquastat is used strictly as a limit control. In the event temperature of the heating unit becomes excessive, the aquastat will cause the gas valve to close, preventing any damage.

**Twelfth** — oil-fired steam heating system with year-round domestic hot water hook-up. The operation of this control system is identical to that for stoker-fired steam with gravity circulation. The exception is that a single pole, single throw relay is used in place of a timer relay. Also, there is an immersion aquastat connected in parallel with the room thermostat. The operation of the system is such that either the room thermostat or the aquastat will cause the stoker to operate. The room thermostat will cause the stoker to run long enough so the heating unit will generate steam and heat the structure. The aquastat will cause the stoker to run long enough to maintain a temperature within the heating unit. The temperature maintained by the aquastat will, however, be below the boiling point of water. By maintaining a sufficient temperature within the heating unit, it will be possible to heat domestic water. The heating of domestic water is by means of a heater immersed in the boiler water or through the use of a heater connected externally to the boiler. The aquastat used in this manner also acts as a hold fire control, thus eliminating the timer relay.
year-round domestic hot water, with the exception that a protector-relay is used in place of the single pole, single throw relay. The operation of this system is such that the immersion aquastat will cause the oil burner to operate and maintain a temperature within the heating unit. By maintaining a temperature within the boiler, the domestic water may be heated indirectly. In addition to maintaining temperature within the heating unit when the building requires heat, the room thermostat will cause the oil burner to operate until the required room temperature is obtained. However, in the event the boiler pressure becomes excessive, and even though the room thermostat is not satisfied, the limit control will stop the oil burner, thereby preventing serious damage to the heating unit.

Thirteenth—control system for stoker-fired hot water with year-round domestic hot water. The operation of this system is such that the immersion operating aquastat causes the stoker to operate and maintain a temperature within the boiler at all times. In addition to the immersion operating aquastat, a strap-on limit aquastat should be installed to prevent undue injury to the heating unit providing the operating aquastat should fail in a closed position. These controls will then maintain the temperature of the water within the boiler so that the domestic hot water can be heated indirectly an over-ride in boiler water temperature. The booster pump operates directly from the room thermostat.

It will be noted that all of the operating controls, such as the room thermostats, are of the low voltage type. These may be either series 10 three-wire controls or series 20 two-wire controls. Low voltage is used so that a more accurate temperature can be maintained with less wear and tear on the controls. The control systems outlined are considered good minimum controls for residential or small commercial buildings.

Nothing so far has been mentioned here about indoor-outdoor temperature control. The operation of the indoor-outdoor bulb control system is usually such that there is a continuous circulation of the heating medium throughout the entire heating system. The temperature of the heating medium flowing through the system is controlled by a temperature bulb located outside the building together with a temperature bulb located in the stream of the heating medium. Both of these bulbs are connected to a temperature controller by means of capillary tubes. This temperature controller is usually connected electrically to the burner itself, to a three-way mixing valve, or to a two-way valve with a bypass arrangement. When the outside temperature drops, the temperature controller permits the heating medium to become warmer. The increase in temperature compensates for the greater transfer of heat through the building. Vice-
with the temperature controller to assist in compensating the room temperature.

In addition to what has already been said about temperature control, it is well to remember that in many instances zone control is desirable. Zone control involves the addition of controls to take care of small intermediate areas where positive temperatures are desired.

FIVE MANUFACTURERS WHO SUPPLY:
Room Thermostats
Fan and Limit Controls
Immersion Aqualsts
Surface Aqualsts
Pressuretrols
Damper Motors
Relays
are:
Minneapolis-Honeywell Regulator Co.
White Rogers Electric Co.
Penn Electric Switch Co.
Frank Adam Electric Co.
General Controls
(Minneapolis-Honeywell and White-Rogers also make Indoor-Outdoor Controls)

Zone control is usually an addition to the basic controls which have been presented in this article.

In order to have a comfortable living condition in any structure, it is necessary to have a good heating system properly controlled. Many good heating systems have not come up to expectations due to lack of temperature control or through the use of improper controls. Thus, when considering a building, first consider the building itself, second, consider the heating plant with which to heat it, and third, make sure that the heating system is amply controlled.

If these considerations are carefully adhered to, satisfaction for the home owner and the building contractor—without complaints—will be the result.

ATTRACTIVE in appearance, engineered for efficient performance, the Frank Adam room thermostat is easy to install.

Starting in the May issue, American Builder will continue the series on Engineered House Construction with the first of several presentations on sound principles and practices of installing home electrical systems. The articles will be by nationally-recognized home wiring and lighting engineers.

American Builder, April 1948

Hamburger and Chicken Served in a New Way

WILSON'S, on the outskirts of Seattle, Wash., represents a brand new type of drive-in restaurant, if it can be called a restaurant. You drive up to the counter in the front or the counter on the rear side, and your sandwich or bowl of chicken is handed to you by the attendant while you are in your car—then you drive away and eat it.

Mr. Wilson says he conceived the idea himself and, as far as he knows, it is original with him. He designed the stand shown in the photograph and built it with the help of his son. He says that he has been asked for plans but that he used no plans.

The front of the building and the back are 12 inch knotty pine T&G boards; the sides are Roman brick. The overhang in the front and the back is 8 feet. There are three lights on the underside of the overhang. Planting spaces are provided at the ends of the building.

Northbound cars use the front counter; southbound cars are directed to the rear by the word "Entrance" in neon over the rear approach. The driveway is paved with concrete.
New Fireproof Door

Passes Rigid Test

Product developed by U. S. Plywood Corp. and American Structural Products Co. has core of new Kaylo insulation

THE new door can be fitted and installed with ordinary carpenter tools. Photo at right shows fire demonstration of the door 14 minutes after the fire was started. Conventional panel door is at the left.

DEVELOPMENT of a new fireproof door has been announced jointly by the American Structural Products Co. and the United States Plywood Corp. The door, composed of a core of Kaylo insulation faced with hardwood veneer bonded to it with waterproof glue, was shown in a spectacular fire demonstration at the new plant which will produce Kaylo insulation at South River, N.J. To attain the one-hour fire rating which has been granted by the Underwriters' Laboratories, the door withstood a free-burning fire for 60 minutes and then withstood the impact of a hose stream of 30-pound pressure for 60 seconds applied 20 feet from the fire.

The new "Weldwood" fireproof door was developed by U. S. Plywood, which will fabricate it at Algoma, Wis. Kaylo insulation, developed before the war and made in limited quantities for war industries, will be produced in the new plant of American Structural Products Co., a subsidiary of Owens-Illinois Glass Co., at South River, N.J. The new door is lighter in weight than a conventional flush panel built-up lumber core door.

Bath Tub Hanger Anchors Tub to Wall

INSET shows detail of the new bath tub hanger. The upper notch is used to hang tubes when walls are to be plastered and the lower notch when walls are to be tiled.

THE Titewall Hanger Co., Chicago, has developed and is producing a new type metal bath tub hanger which anchors the tub securely to the wall. The units, easily installed by workmen before walls are plastered or finished in any manner, has a special spacer for tile walls or for plastered walls, all combined in the same unit. Another special feature is the center slot which permits the workman to place the hanger in the approximate position desired, move it up or down to make an absolute level and tight fit before nailing securely through the other five holes. The hangers may be used on studding, furring strips or flat walls. The units come packed four in a box, the usual number required for hanging conventional tubs.
A FEW DAYS ago we came across the statement of a high government official who said in effect that “the way to solve the housing problem is to solve it.” It’s just that simple! All you need do is solve it. What’s so hard about that?

Whether the government official who made the statement was entirely serious or was merely talking for effect is more or less unimportant. However, the eleven words started us to thinking... especially when we came across an account in the same paper of one of the things the government had done in an effort to bring about a solution to the problem.

The article on another page in the same publication pertained to the prefabrication splurge which a certain suave politician (who had been selected to “expedite” the building of houses) assumed might be one of the answers to more and better housing.

At this point we must pause long enough to explain that we are not one of those individuals who believe that the prefabrication of houses has been weighed in the balance and found wanting. On the other hand, we maintain stoutly that substantial progress is being made constantly by well-established companies who are financially able to take the beating which accompanies any activity as involved as a change in the traditional method of building a home. The trouble with the whole subject of prefabricated houses has been that far too many inexperienced, under-financed companies promised first and hoped to be able to deliver afterward. However well meaning these super-enthusiasts might have been, the fact remains that many of them had never built a house or operated a factory.

Our only point in discussing the subject at all is not to trade down on prefabricated houses but merely to show that it is seldom possible to “solve a problem simply by solving it,” as stated by the government official who bemoaned the fact that the several million homes which are supposed to be needed to make up the housing shortage had not already been built. In the meantime other government officials were raising particular Ned because building prices were too high. Admittedly the price of most building materials, including labor, has been high but the reason exists solely because demand has been so much greater than supply. One wonders what would have happened to prices if it had been possible to build the several million residential units, all at approximately the same time, which to our way of thinking is the only method by which the problem could actually have been solved.

To get back to the prefab aspect of our story, it is necessary to recall the “expediter’s” enthusiasm for this new method of constructing a home and also to remember that Congress passed legislation in 1946 which authorized the RFC to guarantee markets for 200,000 prefabricated homes. It was the claim of the expediter that this guaranteed market would result in the construction of this many homes in 1947. Said year having come and gone, we may now look at the record and size up the results.

According to a recent news item in the Chicago Tribune, Richard Alger, director of the administration’s prefab program, said that it had cost the government $3,250,000 up to that time and that future costs are projected to bring the total to $8,500,000.

In all, only 30,000 prefabricated homes were completed in 1947. Several million homes remained to be built. This is the reproach against on-site construction.

Meanwhile, as an aside, we may mention that American Builder, April 1948, The First Million Homes Are The Hardest.
settlements would boost the loss to $3,600,000.

In only one case did the government actually take over any houses. $1,250,000 was paid for 299 flat-topped plywood houses stored in seven warehouses in Arkansas. The company had been able to sell only seven or eight and had turned the remainder over to RFC at something like $4,100 each. Another builder was paid $300,000 to stop building houses.

Three other firms were paid more than $2,000,000 to cancel similar contracts. The amounts involved ran from $300,000 to $1,000,000, and the net result in housing was so unsatisfactory that the entire program was discontinued.

In the meantime the building industry, freed of rules, regulations and costly restrictions, had proceeded in 1947 to roll up one of the most impressive records in its history with 850,000 completed residential units to its credit, despite the fact that it was harassed constantly with shortages of materials and manpower.

Back in the twenties, it had established a somewhat higher total of completions at a time when there was plenty of everything and the building of a home was a much simpler proposition than it is today.

Under such circumstances it can be assumed that if the demand for housing continues and building money remains plentiful, homes will be built in sufficient quantities by those who have supplied them in the past to meet the national needs and, furthermore, that supply may even catch up with demand sooner than expected.

It is entirely possible that government estimates may prove to be as inaccurate in connection with housing as has been the case in other postwar activities and that if the proposed "relief" measures are passed, they will be put in operation at about the same time the housing emergency is over. The more or less common prediction, by jittery politicians, that we need a million houses per year for ten years would probably ruin the price of existing homes to the point where it would amount to a major catastrophe, if ten million homes were actually constructed. Certainly the many families who built homes at peak prices, or even considerably less, would find need for another HOLC or something even more potent to bail them out.

We cite the loss involved in the government’s prefabricated home program merely to show how impossible it is to expect the housing problem to be solved by bureaucratic agencies, manned by officials totally inexperienced in building—office holders who are here today and gone tomorrow. Things simply are not done that way, even though they may believe sincerely that ‘the way to solve a problem is to solve it.’

Constructing 850,000 residential units in 1947 is no mean achievement, yet it is regarded as complete failure by many politicians who cling to the idea that private industry is unequal to the job. What government housing project can be pointed to as evidence that Uncle Sam can do it better?

What can lumber dealers do to hasten a solution of the housing problem?

The question is already being answered by lumber dealers and cooperating contractors who have joined up to speed construction and effect savings wherever possible. It is not enough for lumber dealers to leave the job to someone else. The mere fact that they sell such a large percentage of the materials required to build a home imposes a responsibility which extends to their eventual use. Not to accept this responsibility is to invite the competition of the many well-financed, well-managed prefabricating companies now making serious inroads in the home market, practically none of whom regard builders or lumber dealers as satisfactory outlets for their products.

That is why there is an element of danger in referring to the failure of the government’s prefabricated house program. It is apt to create the wrong impression among those who still do not regard prefabrication as a threat to their home market. That it should not be discounted too greatly is shown by the following figures which indicate that it is now far more than a budding industry and that it may be expected to continue to grow in importance . . . especially since it now includes several of the nation’s largest companies. Here are the interesting statistics: $60,000,000 invested capital; 10,000, employees; $1,800,000, monthly payroll; 4,000, monthly production; 1,800, sales agencies; 37,000, houses produced in 1947; 100,000, estimated production for 1948.

All of which should be of major interest to home builders and lumber dealers . . . as well as government officials. Regardless of what happened when the government attempted to engineer a prefabricated house program, the fact remains those who are most able to carry on are doing so on their own power.

Naturally this is the only manner in which any producing agency will achieve permanently satisfactory results. If prefabricated housing requires government subsidies in order to survive, it is doomed to failure. Nothing is more debilitating than a subsidy. That is why we make the unqualified statement that Mr. and Mrs. Home Prospect will get a far better house through free competitive enterprise than in any other way.

As the matter now stands, a new industry is growing up to compete with conventional home building. As is always the case, the fittest will survive.


**How to Find The Length and Bevels of Rafters**

HERBERT F. FEY of New Braunfels, Texas, submits this how-to-do-it suggestion.

To find the length and bevels of rafters in a building 40 feet long, for example, place a steel square on a board 20 inches from one corner, and 7 inches from the other. Mark the board as shown in the illustration.

The length will be the distance from (a) to (b), on the outer edge of the board. With 1 inch equal to 1 foot, the 20 inches on the scale are equivalent to 20 feet, or one half the width of the building. The 7 inches on the scale are, therefore, equivalent to a 7 foot rise. Thus, the distance from (a) to (b), on the edge of the board, is 21 inch-quarters of a twelfth. Therefore, the rafters in the 40 foot building will be 21 feet, 244 inches long.

This is a simple method of finding the length and bevels of rafters. It has been used consistently over a period of many years by Mr. Fey.

**How to Cut Miter At Door Stop**

TO HELP eliminate the housewife's job of sweeping around corners, this idea was suggested by ALLAN GREASBY, 2650 Montevallo Rd., Birmingham, Ala.

Simply make a miter cut, as shown encircled in the above illustration.

**How-To-Do-It Pointers**

(Continued to page 170)

**S5 for an Idea**

HAVE you a job pointer, a short cut or a method of solving some building problem? We are sure you have some time-and-labor saving kink you would like to pass along to the fellow members of your craft. Send us a rough draft of your idea. For any idea submitted which is found suitable for publication, American Builder will pay $5. Address material to Architectural Editor, American Builder, 105 W. Adams St., Chicago 3, Ill.

**The Entrance, A Focal Point Of Emphasis**

Design, as it applies to houses, is in a constant state of flux. Architects and builders are continually seeking to apply the principles of good design, whether traditional or modern, to the type house they are building, regardless of size.

In recent years, because building costs have increased, the design emphasis has been centered on the front entrance. This situation is more common in the traditional type of house than in any other. The emphasis can be applied in a number of ways. One method is by projecting the doorway and its immediate surroundings. Another way is shown in the detail plate on the opposite page.

In this case, the roof line extends down directly over the door and is capped by a simple cornice, consisting of a moulded gutter and a plain frieze board. A cut-out member arranged in an attractive pattern is applied to the frieze board. The steep, fence, door and roof projection all comprise the entrance ensemble. This type of unit placed in proper relationship to window fenestration and wall surface often provides the necessary design emphasis.

In this manner, a house, that would ordinarily be quite plain and simple, may be given an added measure of attractiveness at little expense. The type of entrance illustrated has a tendency to give a feeling of hospitality to the house. The stoop, steps and sidewalks may be built of either brick or flagstone. The picket fence, enclosing a portion of the front or side yard, ought to be painted a color harmonizing with the body of the house. A fence of the type suggested, with possibly a light pole at the extreme end, adds a great deal to the general effect.

The entrance detail shown on the opposite page has a distinct colonial flavor. It can be adapted for use on either a one-and-one-half or two-story house. The plan indicates that the vestibule is a part of a room extension, yet it is treated externally as a separate though co-ordinated unit.

The use of standard, commonplace materials are indicated in the construction work. With the wide selection of new materials available, a number of different variations may be made. This may be done while keeping within the scope of the original pattern.
This distinct entrance detail is adapted into one plan with the entrance elevation, door casing, and detail of fence. The builder's better detail plate is a collection of these different details within the same pattern.
COUNTER TOP AB4809
A counter top streamlined for functional use as well as beauty is the new feature of Kitchen-Kraft steel sink and floor cabinets. All sharp edges and corners have been eliminated. The back splash is concave, similar to the roller edge fit of well laid linoleum, doing away with crumb-catching corners where back splash meets the flat top. The floor cabinets are bolted together and the tops joined with a watertight seal, giving a one-piece custom-built effect. This method of fitting tops makes the joints waterproof, greaseproof and dirtproof. Developed by the Midwest Manufacturing Co., Galesburg, Ill., this top is identified as their Kustomized Top.

BOARD BENDER AB4808
Both carpenters and builders will find this Board Bender a useful addition to their tool kits. Sturdily made of aluminum, it adds little weight to the kit yet saves valuable time and material. Devised by the C. B. Tool Co., Lancaster, Pa., for use on rough, warped, or twisted lumber, it requires only four simple manipulations to operate: (1) Start nail in board as usual; (2) With stroke of hammer set anchor pin; (3) Draw handle down until groove is closed, and (4) Hold, drive your nail.

WATER HEATER AB4805
A streamlined, automatic oil-burning water heater with controls completely enclosed within the casing is announced by the J. L. Gillen Co., Dowagiac, Mich. This feature prevents children tampering with the controls as well as eliminates the possibility of damage by accidental bumping with broom, mop or other moving objects. Another advantage is that it permits placing the water heater in a smaller space. A magnesium alloy anode with special current-limiting resistor is another feature of this model. This device prevents electrolytic action, rust and corrosion, and prolongs tank life. A low draft burner, located at the base of the flue casing, rests on a screw-jack support that is easily lowered for servicing. The heater is available in 30 and 45 gallon sizes, both finished in baked white enamel trimmed with stainless steel.

CONCRETE FLOOR ENAMEL AB4802
A rubber base enamel for concrete floors that reduces skidding accidents because it has the same grip a rubber sole would have was recently put on the market. This fast-drying enamel (requires only an hour) is available in eight colors and has a semi-gloss finish. It is equally resistant to chemicals and oils, and unaffected by moisture and water. Long life is another of its outstanding qualities. The manufacturer is The Wilbur & Williams Paint Corp., 43 Leon St., Boston 15, Mass.

ALUMINUM EAVES AB4807
Aluminum rain-carrying equipment is now produced by the Reynolds Metals Co., Louisville, Ky. The line includes eaves trough, conductor pipe, and fittings of standard design. The eaves trough is available in two styles: round and square. The conductor pipe comes in three forms: round, corrugated and square. The equipment is installed by the slip joint method. Customary rules apply and soldering is unnecessary. All the qualities that are inherent in aluminum—its light weight, permanence, resistance to rust, rot, stain and vermin—combine to make these products popular with home owners.

ALUMINUM JALOUSIES AB4810
Aluminum jalousies are available from the J. S. Thorn Co., Allegheny Ave. and 20th St., Philadelphia, Pa. Developed primarily for torrid zones, they admit air and light yet exclude sun and rain. Made of non-ferrous materials, they are vermin, termite and rotproof, do not warp or swell, need no painting and are highly resistant to corrosion. The frames have
integral reinforcing ribs and water baffles designed to conduct water to the outside. To provide protection against housebreaking, the top and bottom reinforcing ribs interlock when slats are closed. These jalousies, named Tropic-al, are made to fit standard size openings and are delivered to the site assembled, ready for installation.

PACKAGED ATTIC FAN AB4818

An attic fan packaged, ready for installation, is an innovation of the Chelsea Fan & Blower Co. Inc., 1206 Grove St., Irvington 11, N. J. The unit consists of vertical discharge fan and motor, automatic ceiling shutter, floor mounting brackets and springs, canvas boot for seal between fan and attic floor, and pull chain switch. Designed for attics or other locations of low head-room and where extreme quiet is desired, this fan is suitable for home or commercial installation.

PLANING TOOL AB4815

Simple changes in design have increased the usefulness of Stow Metal "Dor-V-isE". Pointed set-screws, two on either end, have been added to the feet. These screws will hold on any surface. When not needed they may be backed off. To prevent marring finished floors, the feet are rubber padded. To increase the ease of handling, a tongue has been added to each foot. You simply step on the tongue—the jaws open and you place your work in the vise. Designed especially to hold doors while planing and drilling by the Stow Metal Products Co., Los Angeles, Calif., "Door-V-is-E" lends itself to many other woodworking operations.

GARAGE DOOR HARDWARE AB4812

Upward-acting garage door hardware that operates in only 3½ inches of headroom and provides rigidity not usually found in this type of hardware is offered by the Holmes Manufacturing Co., 211 N. Madison, Los Angeles 4, Calif. Requiring no tracks, cables, weights or pulleys, this hardware is completely noiseless and, through a patented turnbuckle adjustment, accurately balanced. It is designed for 8-foot or 16-foot one piece doors.

HEATING UNITS AB4801

The Richmond Radiator Co. has added three new home heating units to the regular line of plumbing and heating equipment. These include a gas boiler with built-in domestic hot water coil; a horizontal gas winter air conditioner, and an oil winter air conditioner. The latter is the first oil burner put out by this firm and marks its entry into the oil heating business. It is a vaporizing type air conditioner designed for low cost homes. Housed in a white enamel jacket, it comes completely assembled and wired to simplify installation. The gas-fired air conditioner is also completely assembled and ready for use. This unit requires a relatively small amount of floor space and allows ample head-room to ease installation of duct work. In the gas boiler, identified as Type K, the same cast iron sections can be used with different sets of controls for hot water, steam or vapor heating systems. The Richmond Radiator Co., an affiliate of Reynolds Metals Co., is located at 19 East 47th St., New York 17, N. Y.

NEW WALL TILE COLORS AB4814

The introduction of eight new colors in Miraplas plastic wall tile is announced by the S & W Moulding Co., 990 Parsons Ave., Columbus 6, Ohio. The colors are solid and in the pastel shades. They are designed to blend with other colors and are said to be restful to the eyes and unlikely to become tiring. Samples of these colors will be sent to anyone interested.

PUMP SCAFFOLD AB4803

A revolutionary scaffold bracket which elevates an entire platform with men and materials up or down on any 4x4 is on the market. The scaffold is held to the beams by means of pumps, and a simple brace holds it rigidly upright. The pumps, which operate and safety-lock automatically, employ three grips. This provides triple safety, as any one of these grips will hold the scaffold under normal weight. The pumps accommodate a 24-inch painter's scaffold and can be adjusted to 12 or 18-inch scaffolds. This type scaffold not only speeds up work in the construction or repair of homes, factories, and barns but eliminates manually raising and lowering planks to each new working level. The manufacturer is the Newark Ladder & Bracket Co., Clark (Rahway), N. J.

PAYLOADER BUGGY AB4806

To its line of material-handling equipment the Frank G. Hough Co., Libertyville, Ill., have added a "Payloader Buggy." It is a gasoline powered four-wheel unit built low and compact that can be operated in congested, low head-room areas and through narrow doorways and aisles. Its overall height is only 5 feet, 8 inches. The dump body is ideal for trucking sand, slag, castings, coal, cinders, gravel, ore, concrete or other bulk material. Built as a companion to the Payloader Shovel, the Payloader Buggy matches it in capacity, compact size, speeds and operation. In addition, all main parts of the Buggy are interchangeable with those of the Shovel.

(Continued to page 146)
INDUSTRIAL HEATERS AB4804

To answer the need of industry for high heating capacity at low cost, the Perfection Stove Co. designed two new Ivanhoe radiating heaters which are equally at home in a store or on a construction job. These heaters, of polished steel with enclosed bases finished in black japan, are identified as Model 2050 and Model 2030. The 2050, with a rated output of 50,000 BTU per hour, is an oil-burning heater equipped with Perfection's patented automatic opener are a few of the other features of merit. Made by the Frantz Manufacturing Co., Sterling, Ill., this equipment comes in 19 sizes and is available in complete wood or aluminum door units.

ROOFING FASTENERS AB4811

New type roofing fasteners which reduce erection costs of asbestos corrugated roofing and provide for movement between the steel frame and the asbestos roofing have been placed on the market by Keasbey & Mattison Co., Ambler, Pa. Trade-named "Top-Side" these fasteners eliminate the need of scaffolding and workmen beneath the roof since the entire installation is completed from the roof surface. In addition, lead covering tabs permanently weatherproof each fastener, making the cementing of bolt heads unnecessary. A drill and speed wrench are the only tools required when using this fastener.

POWER SAW ATTACHMENT AB4813

Unlimited variation of dado width can be accomplished by installing a new dado attachment known as the "Da-Dall" on bench, table, radial-arm and similar types of power saws. This attachment operates by means of a single adjustment screw which tilts the saw blade off the centerline to one-half the desired dado width. The saw will then produce the same width dado until the adjustment is manually changed. This device permits high-speed dadoing on plywood, hard, green or knotty woods. The Pacific Coast Tool Co., Oakland, Calif., is the manufacturer.

MASONRY SAW AB4817

Important improvements in the 1948 "Versa-Tile" Clipper Masonry Saw has resulted in a tool appropriately labeled "the 100 per cent answer to masonry cutting." Chief among these is the addition of a coolant to eliminate dust and to provide for wet or dry cutting. Others are a dual belt drive for increased power; snap-on-

GARAGE DOOR EQUIPMENT AB4819

Complete freedom of garage design is an advantage that "Over-The-Top" door equipment offers builder-contractors. The equipment utilizes a one-piece door which tilts out at the bottom, in at the top, and rises to a full overhead position by means of arms, a track in the ceiling to guide and carry the door, and counter-balancing springs. The door can be architecturally designed to harmonize with the home. Roller-bearing hangers; over-size springs;
Ro-Way Distributors are hand-picked to serve you better. They are as fussy about installing Ro-Way Overhead Type Doors as we are in building them.

They know that Ro-Way manufactures every part of the Ro-Way Doors—even the springs and the hardware—right in our own plant.

They know that Ro-Way engineers have perfected each part to give better service for more years.

They know that the Springs for each Ro-Way Door are "power-metered" for the weight of that door.

They are trained in Ro-Way's methods of exactness.

They value their Ro-Way franchise.

They are as jealous as we are of Ro-Way's nationwide good will.

...That's why you get so much more than good doors when you specify Ro-Ways. You get Up-Front Doors that are put up right. Available for residential, commercial and industrial installations.

ROWE MANUFACTURING COMPANY
735 Holton Street • Galesburg, Illinois, U.S.A.

Ro-Way Distributors in all principal cities.
Consult your Classified Telephone Directory or write for distributor's name. See our Catalog in Sweet's.
Construction ideas for "the modern look"

AN OPEN VISION FRONT draws attention to an attractive store interior and the merchandise displayed there... makes the inside of a store part of the window display. Up-to-date merchants want this added sales appeal. Sell them a "Pittsburgh" job. "Pittsburgh" is well known to your customers as the leader in the store modernization field. With Pittsburgh Glass Products, Pittco Store Front Metal, and an experienced crew of "Pittsburgh" workmen to handle the installations, you can easily provide modern store fronts and interiors to meet modern demands.

NEW SETTINGS specially designed for Twindow, have been added to the Pittco line of Store Front Metal. These settings are insulated, thereby increasing the effectiveness of Twindow in cutting heat losses, minimizing downdrafts near window areas and eliminating window fogging. Twindow settings may be used with Pittco De Luxe frame mouldings, making Twindow available for a wide range of store front and residential installations.
A LIVING ROOM WITH A PICTURE WINDOW combines interior comfort with outdoor beauty. It's smart, attractive, up-to-date. Pittsburgh Polished Plate Glass fits ordinary window requirements perfectly. If insulated windows are desired, suggest Twoindow, "Pittsburgh's" new window with built-in insulation. Note the Pittsburgh Corning Glass Blocks... ideal for preserving privacy, yet admitting plenty of natural light.

EVERY HOME NEEDS at least one full length floor mirror of Pittsburgh Plate Glass. Most homes need more than one. A full length floor mirror is a convenience that is appreciated by every member of the family. Other likely spots in the home for Pittsburgh Mirrors: over the living room mantel to reflect color and movement and make the room seem larger; in entrance hall and kitchen for a quick check-up before answering the door-bell.

FREE: We will gladly send you free our special "Builders Kit" which includes illustrated literature showing how you can use glass effectively on all types of jobs in which you are interested.

* Build it better with

Pittsburgh Glass
Industry Suffers Loss in Sudden Death
Of Past President S. Lamar Forrest

S. LAMAR FORREST, president of the National Retail Lumber Dealers Association in 1945 and 1946, passed away suddenly of a heart attack in Gallup, N. M., February 28. Mr. Forrest, whose home was in Lubbock, Texas, was 55 years of age. He was known nationally in the industry as a fine leader, a humanitarian and a vociferous advocate of the American system of free enterprise.

While Mr. Forrest was president of NRLDA he traveled more than 60,000 miles, visiting hundreds of lumber dealers and delivering addresses at meetings and conventions. His years of service to the industry were the outgrowth of the firm creed of selflessness by which he lived. In addition to holding the office of president through the trying and constantly changing days of 1945 and 1946, he served for several years on the executive committee of the National and held himself constantly ready to present the industry's viewpoints to congressional, inter-industry, and governmental committees. He was also past president of the Lumbermen Association of Texas and represented Southwestern lumbermen's interests on OPA and WPB industry advisory committees during and after World War II.

Mr. Forrest owned and operated eight lumberyards just south of the Texas Panhandle, with headquarters in Lubbock. He was always prompt and enthusiastic in defending the American system which provided opportunities for him to develop his business by thrift and hard work. During the last few years one of his prime interests was operation of the Forrest Foundation which he established and through which he provided thousands of dollars for the care of crippled, unfortunate children and others in need.

Mr. Forrest is survived by his wife, Mrs. Myrtle Forrest; two sons, S. S. Forrest, Jr., of Lubbock, active in the business; Edwin Forrest of Slaton; and a daughter, Mrs. Mary Jo Copenhaver, of Lubbock; his father, S. S. Forrest, Sr., of Slaton; and five grandchildren.

Final rites were conducted Monday, March 1, at the Lubbock First Methodist church, where Mr. Forrest was chairman of the board of stewards.

Sound Slide Film Now Ready To Promote Engineered House

A FULL-COLOR, 15-minute, 35mm. sound slide film which tells the complete story of the Industry Engineered Homes program has been developed by the National Retail Lumber Dealers Association. The film is an answer to repeated requests for source material to use in developing talks and programs for dealers, clubs and the public concerning the Engineered House.

The film explains fully what the Engineered House is, how it can be built and why it costs less. One copy of the film and disk will be provided by the National to each state and regional association for use in dealer group meetings. Dealers may also arrange to purchase a film and disk set, through state association secretaries for $9.50, plus the express charges. Projectors, screens and record players for presenting the film are for sale or for rent at most film supply dealers in larger cities.

Production and Distribution of Materials

by H. R. NORTHUP, Secretary-Manager NRLDA

If production and distribution of building materials could be viewed only from the standpoint of cold statistics, this country would be in the greatest position for home construction in its history. A combined index covering all building materials shows that in 1947 we were at the highest peak of production. Using 1939 as 100, the production figure for 1947 was 139.6.

Production years nearest that figure were 1925 with 134.0 and 1926 with 133.3. Highest production peak during the war years was reached in 1942 with 126.9. In 1920, often compared with 1947 because both years marked the second year's production after a major war, the figure was comparatively 95.9.

Production of all basic building materials has increased since 1945, but the amount of this increase is not always a key to the relative scarcity of the product. For example, since 1945, cast iron radiation has increased 216.7 per cent and may still be one of our scarce products, whereas cement has increased 81.6 per cent and is presently in adequate production for the construction contemplated for 1948.

Increases since 1945 have ranged from structural insulating board with 22.9 per cent to bathtubs with 549.4 per cent. Lumber is up 30.3 per cent, brick is up 119.7 per cent, cast iron soil pipe and fittings are up 184.2 per cent, gypsum board production, including lath, is up 79.3 per cent, wire, nails and staples production is up 32.4 per cent.

With few exceptions, preliminary studies being made by the (Continued to page 152)
Now Ready!

...a sales-making new booklet on

Hydro-Flo Heating

You've never seen a more attractive, convincing presentation of forced hot water heating... prepared especially to answer the pressing demand for information on B & G Hydro-Flo Heating Systems. You'll find this booklet an excellent help in visualizing to your prospects the benefits of today's preferred heating method... a valuable contribution in the interest of better heating for modern homes.

Send for Your Copy

Beautifully printed in four colors—every page alive with interesting, vital information on forced hot water heating... fascinating reading for home planners. Shows how the comforts of radiant heating can be obtained with radiators, panels, baseboards or convectors—plus the convenience of year round, low-cost hot water for kitchen, laundry and bath...

Please write on your business stationery.

Bell & Gossett
Company

Dept. AM-11, Morton Grove, Illinois
A Correctly Operating
FIREPLACE
this Easier Way

FIREPLACE Construction Industry Information Committee show that the production of all basic building materials will be up even higher in 1948. Production of sinks will be down 3.6 per cent and fabricated structural steel will be down 3.4 per cent. Of course, fabricated structural steel is purely a demand item. It is fabricated upon order and its production depends largely upon the orders received for it.

In all other categories, production is estimated as being higher in 1948 than in 1947.

Lumber production in 1947, for example, was 36.6 billion board feet and in 1948 will reach 38 billion board feet.

Gypsum board production was 3.7 billion board feet in 1947 and will go to 4.3 billion board feet in 1948. This was one of the scarce items in 1947 and the tremendous jump in production will be accounted for by new production from new plants which have been erected.

Shipped production of cast iron soil pipe and fittings in 1947 amounted to 577,000 tons and should reach 625,000 tons in 1948, barring strikes. Labor trouble which has since been straightened out was the cause of shortage in this item during 1947.

Wire nails and staples production in 1947 reached 799,000 tons and can reach 900,000 tons in 1948. Spotty shortages of nails were experienced in 1947, much of this production moving through gray market channels. Increased production depends largely upon steel company policies, the demand for the production, and the market price that can be obtained for nails.

Cast iron radiation production amounted to 57,000,000 square feet in 1947 and can increase to 65,000,000 square feet in 1948. Radiation, however, may be one of the shortages in 1948.

The above figures indicate the general increases that may be expected in the production of materials in 1948. In 1947, the industry completed 835,000 homes and started 860,000 homes.

On the basis of material production, there is no foreseeable shortage of building supplies for the BLS figure of 950,000 houses or approximately a million homes, except for an uncomfortably tight situation in millwork and cast iron radiation.
Johns-Manville Asbestos Flexboard is STRONG AND TOUGH

One man can handle the big sheets.

Exclusive J-M manufacturing process makes this fireproof, rotproof building board so strong and tough that it can be lifted and handled by one man without cracking or breaking. You save on time and labor, and avoid waste.

It can be nailed close to edge

Another advantage of Flexboard—you can drive a nail even close to the edge of the sheet without cracking or chipping...no drilling required!

Still another exclusive feature...Flexboard is so tough and flexible it can be bent on either axis to a degree unmatched by any other product of its kind...a great advantage where curved surfaces are required.

Send for this FREE Handbook—contains complete information about cutting and working asbestos Flexboard. Easily understood drawings show how to apply it indoors or out...how to handle the joints, door and window openings, ceilings, and floors. Your copy is ready. Ask for the Flexboard Handbook. Address Johns-Manville, Box 290, New York 16, N.Y.
Mr. Builder!

SAVE MONEY WITH THIS SALES FEATURE

Here is the double-hung sash equipment that combines spring balance and weatherstripping in one unit of obvious economy. Use it on new or old windows. It eliminates weights, pulleys and cord. It prevents binding and sticking. It gives sash "finger-tip" control.

TIME TESTED...PRACTICAL...ECONOMICAL

MASTER NO-DRAFT SASH BALANCE

This equipment acts as a perfect weatherstrip for both sides of the window. As shown on the left we recommend Master Metal cross strips for meeting rail and top and bottom rails. Properly tempered springs give upper and lower sash perfect balance. Self-adjusting metal housing provides for swelling and shrinking of wood and furnishes metal runways for sash that never need painting.

Write today for complete information about this modern window combination equipment that saves you time and money and gives your customers complete satisfaction on plank or box frame windows, old or new of any size. Use the coupon below.

MASTER METAL STRIP SERVICE

1720 N. Kilbourn Ave.
Chicago 39, Ill.

MASTER NO-DRAFT SASH BALANCE

Please send me, without obligation, complete information about Master No-Draft Sash Balance.

Name

Address

City State

American Builder, April 1948.

Dealer Review

(Continued from page 152)

Without strikes, without an undue increase in the export of building materials, and without government interference typified by controls and allocations, 1948 can be a most healthy construction year and produce the largest number of homes ever completed. It must be remembered that during the last six months of 1947 when the industry was free of controls, it produced homes at a rate of almost a million homes a year.

NRLDA Plans Folders In Public Relations Program

Five new folders carrying concise facts and arguments to counteract numerous attacks being made on the retail building material industry and the home building industry are being prepared by the National Retail Lumber Dealers Association, according to an announcement by Paul Watson, public relations director. Because the attacks usually fall into one of five categories, the five folders will each deal with one of the five classes of arguments advanced.

They will deal with the following topics:

1. Private or public housing? A complete analysis of why public housing is more expensive than private building, without actually adding one single additional housing unit to the supply at hand.

2. Are housing costs out of line? Breaking down of housing costs as they exist today and comparing them with other costs provides an answer to the question of just how high home costs are — and why.

3. Housing record. Should we have a free industry — or a controlled industry? A comparison of construction rates while the industry was under government control and the rate since controls were lifted provides all the answers to this argument.

4. Why the middleman is in the middle. The retail lumber and building material dealer has a definite part in the private home building industry and the public should be acquainted now with his functions. An analysis will be made of what the dealer does, why he is necessary and how the profit he takes actually reduces costs.

5. How to bring prices down. Some clear, concise suggestions as to what the American people can do to halt the rise of prices.

These five folders will be avail-
INSTALL Stainless Steel Sinks
and build SATISFACTION

REASONS FOR Lustertone SINKS

☐ To millions, stainless steel means permanence, sanitation and lasting beauty.

☐ One-Piece bonded construction eliminates all seams—no crevices to harbor dirt and germs.

☐ Housewives know that greater resilience means safer dishwashing—less hazard of breaking fine china.

☐ Hot utensils can’t mar the lustrous surface. Never a crack or craze from waste food disposer or automatic dishwasher action.

☐ Will not chip, peel, flake or wear off—never can discolor.

☐ Guaranteed to outlast any home or building.

THIS ILLUSTRATION headlined, "You can't wrap your kitchen in cellophane," will appear soon in ELKAY's House Beautiful advertising . . . one step in a national program to intensify an . . .

FACTS YOU SHOULD KNOW:
Available from stock in 7 popular sizes.

Single Bowl—54, 60, 72 inches
Double Bowl—66, 72, 84, 96 inches
To fit any cabinet—or as complete unit.

Custom built in any size, shape or arrangement.

#18 Gauge Stainless Steel—satin finish for lasting beauty and easier cleaning.

Seamless—one-piece bonded construction—no overlapping or soldered edges.

Corners and intersection rounded to large radius (no sharp angles).

Structurally reinforced and scientifically sound-deadened by master craftsmen.

CONSULT
1848 Sweet's Architectural File—23a/6,
or write for further facts.

ELKAY MANUFACTURING CO.
1872 S. 54th Avenue, Chicago 50

Lustertone STAINLESS STEEL SINKS
ELKAY tor over a quarter century — first choice of America’s Leading Sanitary Engineers
STANLEY SAFETY SAWS
MAKE HARD JOBS EASY

STANLEY SAFETY
SAWS put the "know-how"
of the skilled workman right on
the job. The toughest jobs such
as cutting compound angles,
stair stringers, floor joists, floor-
ing, etc. become simple, easy
tasks.

Stanley Saws handle easily as
a hand saw. Duplex handle for
convenient holding in any posi-
tion. Simple wing nut adjust-
ment for depth of cut. Safety
guard covers cutting edge at all
times.

Motor and arbor mounted on
sealed ball bearings. Indepen-
dent trigger switches for each of
duplex grips. Tilting base for
bevel cuts.

Operate on AC or DC. Write
for folder showing Stanley Saws
and Adjustable Saw Track. Sold
by industrial distributors. Stan-
ley Electric Tools, 492 Myrtle
St., New Britain, Conn.

Three popular sizes for
builders — W7 cuts up to
2\(\frac{1}{4}\)^{\prime}; W8 cuts up to 2\(\frac{3}{4}\)^{\prime};
W9 cuts up to 3\(\frac{1}{4}\)^{\prime}.

STANLEY W8

American Builder, April 1948.

Dealer Review
(Continued from page 154)

able to dealers and copies of the
envelope stuffers in sufficient quan-
tities for local campaigns can be
secured at extremely low cost. The
National also will carry on a sup-
porting campaign in newspapers
and other media that meet the pub-
lic directly.

Record Crowds, High Interest
Feature Dealer Meetings

Continued high interest in indus-
try and association affairs have
featured dealer association meet-
ings this year and there has been
no change as the season progressed.
Prime interest of dealers is in sat-
sifying an apparently insatiable de-
mand for their products in addi-
tion to preparing to meet problems
expected when the situation
changes into a strong buyers' mar-
ket. Reports on a number of meet-
ings were carried in the March
issue. The following reports are
on meetings conducted in late Feb-
uary.

MOUNTAIN STATES

W. P. Harley of Albuquerque,
N. M., was elected president of the
Mountain States Lumber Dealers
Association at the 55th annual
convention conducted at the Shir-
ley-Savoy Hotel in Denver Febru-
ary 11, 12 and 13. Paid registrations
toted 1,030, the largest in the
association's history. Space limita-
tions held exhibits to 61. The Old
Guard breakfast was again an out-
standing feature of the meeting,
and at this convention a Presi-
dent's Club was organized and will
be an annual get-together feature for
these men. More than 1,000 were
in attendance at the banquet.

Other officers elected in addition
to Mr. Harley are: C. A. Wang-
berg, Colorado Springs, Colo., vice
president; J. V. Smith, Denver,
secretary-treasurer, and John E.
Gorusch, general counsel. Direc-
tors are R. B. Allen, Portales,
N. M.; A. W. Edwards, Cheyenne,
Wyo.; W. P. Harley, Albuquerque,
N. M.; R. E. Nutting, Littleton,
Colo.; C. C. Phillippe, Basin,
Wyo.; J. F. Scott, Denver, Colo.;
W. J. Truitt, Sterling, Colo.; C. A.
Wangberg, Colorado Spr
ings,
Colo., H. I. Williams, Curango, Colo.

CAROLINA

The Carolina Lumber and Build-
ing Supply Association members
gathered at the Francis Marion
Hotel in Charleston February 11,
(Continued to page 158)
The durability and beauty of a floor depend greatly on the finish. That is why Bruce has devoted years of research to improving floor finishing materials and methods. The Scratch Test, pictured above, shows convincingly the results of this research.

In this test, one half of an oak panel is finished by the Bruce penetrating seal method; the other with a commonly used surface finish. A coin scraped across the panel scratches and chips away the surface finish...but leaves the Bruce Finish unharmed, because it’s “in the wood.”

You get this more beautiful, longer-lasting finish in Bruce Finished Floors—completely sanded, finished and waxed at the factory. Similar results can be secured on unfinished flooring.

The Bruce formula for finer hardwood floors: highest quality flooring plus the “Scratch Test Finish.”
Dealer Review

(Continued from page 156)

12, and 13 for their 25th annual convention. W. C. Godwin of E. W. Godwin’s Sons, Wilmington, N. C., was named president.

Other officers elected are: C. G. DeChamps, Spartanburg, S. C., first vice president; H. G. Sherrill, Statesville, N. C., second vice president; L. C. Fischer, Charleston, S. C., third vice president; W. V. Groome, Charlotte, N. C., treasurer. E. M. Garner continues in his capacity as secretary-manager. H. J. Munnerlyn is the NRLDA director.

WEST VIRGINIA

The 25th annual convention of the West Virginia Lumber and Builders Supply Dealers Association was conducted at the Daniel Boone Hotel in Charleston February 13 and 14. Attendance was largest in history.

No exhibits were featured because of inability to obtain suitable accommodations for display purposes.

James C. Borden of Bluefield was named 1948 president succeeding Hartsel L. Turner of Clarksburg. Vice presidents are: Earl Lilley, Beckley; Charles P. Houston, Welch; Paul T. Butcher, Weston; Earl Meek, Wheeling; Hartsel L. Turner, Clarksburg. Directors are George A. Bailey, Wheeling; A. W. Laing, Jr., Charleston; D. C. Thompson, Huntington; Charles E. Badger, Parkersburg; C. G. Conaway, Fairmont; C. I. Cheyne, Bluefield, and Charles P. Thorne, Morgantown. Sam H. Diemer is secretary of the association.

WESTERN

Members of the Western Retail Lumbermen’s Association gathered in record numbers at the Davenport Hotel in Spokane, Wash., for the 45th annual meeting of that association February 16, 17 and 18. Ninety-one exhibits drew intense interest of those in attendance.


(Continued to page 162)
You can make your arrangements for a profitable lifetime date by writing Metal Tile Products, Inc., Hastings, Michigan, today for full information. Once you have seen Hastings Alumitile, checked and tested it, you'll adopt it as your steady date.
Through every season...

COMFORTABLE TEMPERATURES!
JUST-RIGHT HUMIDITY!
FREEDOM FROM DUST!

KANSAS—Edwin G. Bradley of Wichita enjoys a perfect indoor climate every season of the year—thanks to his Servel All-Year Gas Air Conditioner.

CALIFORNIA—Mrs. Gordon R. Howard of 225 South Valley St., Burbank, says, "Our Servel has created ideally comfortable and healthful living conditions for our two small children and ourselves."
Give your new homes twelve-month comfort with Servel All-Year Gas Air Conditioning

YOU GIVE your clients a real plus in modern home construction when you plan your new homes around Servel All-Year Gas Air Conditioning. For this wonderfully efficient year-round conditioner offers the peak in indoor climate control... every season of the year.

In summer, the Servel All-Year Gas Air Conditioner refrigerates the air, removes sticky, wilting humidity. In winter, this same unit floods the home with warmth, adds just the right amount of moisture for comfort. In between seasons, Servel circulates air without drafts or “layers” of hot and cold air. Year round, Servel filters out dust, dirt, and irritating pollen. A flick of the finger controls all operations, through every season.

Owners everywhere praise Servel air conditioning. Many say it’s the finest feature a new home can offer. Shown on these two pages are a few of the many hundreds of installations now operating successfully from coast to coast. So you can be sure you’re on safe ground when you recommend Servel All-Year Gas Air Conditioning.

Ask your local Gas Company for detailed information about specific types of applications. Or write direct to Servel, Inc., 1804 Morton Avenue, Evansville 20, Indiana.
Dealer Review
(Continued from page 158)


WISCONSIN

Total registration at the 58th annual meeting of the Wisconsin Retail Lumbermen's Association was 2,870, an increase of 303 over a year ago. Business sessions were conducted in the Milwaukee Auditorium where the exhibit hall was crowded to capacity with 168 exhibit booths manned by 945 representatives of exhibitors.

C. K. Arp, of the Home Lumber & Fuel Co., Elkhorn, was reelected president and the treasurer, Joseph E. Richardson, of the Richardson Lumber Co., Sheboygan Falls, was also reelected.

The program was built around the problems of merchandising and managing lumber yards under today's conditions. Program topics included: "How We Build Homes for Our Customers"; "What Shall We Advise Our Customers About Building in 1948"; "Dusting Off Some of the Principles of Salesmanship"; "Lumber Dealer Advertising" and a presentation of the Industry Engineered House. One of the highlights was a debate the last day on "Should Cooperatives Pay Income Taxes". Richard M. Rice, attorney of Milwaukee, took the affirmative and Erich Lenz of Madison, the negative. Don S. Montgomery is secretary of the Wisconsin association.

(Continued to page 164)
You know that the faces of Roddiscraft Doors and Hardwood Plywood are smooth as satin — that edges are clean and true — but the quality that gives Roddiscraft Doors and Plywood long life and lasting beauty is an inside job. It's the inside materials — core blocks, glue, crossbandings, plus the care and craftsmanship used in fabrication that makes it possible for Roddis to unqualifiedly guarantee materials and workmanship.

Yes, — Roddiscraft backs its Doors and Plywood with a guarantee bond. That's your assurance that Roddiscraft beauty is more than veneer-deep.
FRIENDLY AND LIVABLE CABINETS OF WOOD

(Continued from page 162)

VIRGINIA

Forrest E. Paulett, of W. F. Paulett & Son, Scottsville, was elected president of the Virginia Building Material Association to succeed Earl R. Hunt of Norfolk at the 22nd annual convention of the association at the Hotel Roanoke in Roanoke, February 19 and 20. Vice presidents are S. L. Burrough, Tappahannock; Earl S. Talbert, Danville; Ernest L. Whitehurst, Norfolk, and John B. Young, Fredericksburg.

Craig Ruffin of Richmond was elected treasurer and the following men are directors: J. G. Bosang, Pulaski; George B. Early, Galax; H. G. Fowler, Newport News; R. H. Hinton, Lillian; T. H. Hirst, Leesburg; M. R. Large, Farmville; M. M. Maddux, Marshall; W. N. Neff, Abingdon; L. R. O'Hara, Yorktown; J. F. Raff, Sr., Richmond; Paul F. Rosenberger, Winchester, and E. R. Woolridge, Roanoke.

Earl R. Hunt is the NRLDA director and Harris Mitchell is secretary.

NEBRASKA

A total of 1,200 registrations were made at the 57th annual convention of the Nebraska Lumber Merchants Association in the City Auditorium, Omaha, February 23 and 24. Eighty-seven exhibitors occupied the 100 booths in the exhibit hall. Secretary Phil Runion reports that 35 applications for exhibit space has to be rejected because of lack of space.

The dealers elected O. N. Flaten, of Gering, as their new president to succeed Arthur W. Melville, of Broken Bow. Carl Johnson of Shubert was named vice president. Harold Holmquist of Oakland is

(Continued to page 166)
Bryant Heat-Chamber Gas-Fired Floor Furnace with Electric Dial-Lite Ignition

1. Rigid, non-trip, grille with pleasing, lasting finish.
2. Main and pilot burner controls readily accessible. Simply turn key to ignite and operate.
4. Electric-welded, gastight combustion chamber, die formed for rigidity.
5. Raised, drilled port, cast iron, venturi type, high-efficiency burner.
6. Easy, safe Dial-Lite ignition with electric coil.
7. Sealed casing prevents dirt or insects from entering dwelling.
8. Scientifically designed burner pan prevents drafts blowing out burner.

FITS BETWEEN STANDARD FLOOR JOISTS...

- For 1948 housing ... the floor furnace with the features that will attract buyers in both new and replacement markets. Engineered for ease of installation and operation, the Heat-Chamber fits between standard floor joists, provides floor level access to ignition and control. Made in fully automatic or manual control models. Three sizes for natural, manufactured, LP or mixed gases.

BRYANT HEATER COMPANY • CLEVELAND, OHIO

One of the Dresser Industries
The demand’s for broad siding. With Duo-Laps, you get the beauty of wide, expensive, Red Cedar siding with deeper horizontal shadows, at a fraction of usual cost. Build for beauty and instant sales with Duo-Laps double-course shingles, laid with full 12” or 14” exposure over solid or spaced sheathing.

FASTER, EASIER TO APPLY
Duo-Laps are dipped and stained by hand, butted, squared and tapered and require no painting. The genuine Red Cedar of Duo-Laps is unexcelled as insulation — keeps homes warm in winter, cool in summer. Selection of eight colors. Get two shingles in one (Stained No. 1 Red Cedar top course and rugged, genuine Red Cedar undercourse) with cost-cutting Duo-Laps.

WRITE FOR YOUR FREE COPY OF THE NEW DUO-LAP COLOR FOLDER AND THE NAME OF THE DUO-LAP DEALER NEAREST YOU.

The Edward Hines Lumber Co., Chicago, has announced plans to construct an Industry Engineered house for display at the annual Home Show of the Chicago Metropolitan Home Builders Association.

The show will open May 12 at the Coliseum. The Hines organization will build the house on the floor of the exhibit hall. It is expected that more than 200,000 residents of Chicago and its suburbs will attend the show during its eight days. Thus, the Industry Engineered house will get its first middle west showing, and will be viewed by one of the largest audiences to see it anywhere up to this time.

The Industry Engineered home is the result of joint planning, research and design by the National Retail Lumber Dealers Association, and the Producers’ Council. Full information, with plans, is available from either the association or the council.

Plywood Association Names New Chief Inspector
Arthur Larsen, inspector of Douglas fir plywood production since 1934 when Pacific Northwest panel manufacturers introduced industry-wide quality control of their product, is the new chief inspector for Douglas Fir Plywood Association.

Mr. Larsen’s experience in the production of plywood dates back to 1925 when he started work for Washington Veneer Co. at Olympia, Wash. He remained with that firm until joining the industry-maintained inspection force when standardization of grades and quality of the material was initiated as a part of the fir plywood trade-promotion effort.

In moving to the top inspection position in the Douglas fir plywood industry, Larsen replaces George M. Williams who resigned to join the sales and service force of American-Marietta Co., Adhesive, Resin & Chemical Division at Seattle.

(C (continued to page 168)}
New! Versatile!

RICHMOND Gas Boiler

...for Steam, Vapor or Hot Water Heating!

1. Designed for either steam, vapor or hot water heating. The same cast iron sections work for all three systems. Simply select the trim to fit the job.

2. The built-in domestic hot water coil (optional) saves on storage, floor space and installation.

Versatile in capacity, too!
With the new Richmond Gas Boilers capacity is no longer a problem. They are available in thirty-one (31) sizes ranging from 315 to 13,000 sq. ft., of equivalent direct steam radiation.

The sturdy streamline construction and the brilliant white enamel jacket add powerful sales appeal.

Full details about this popular gas boiler upon request.

Clip and mail coupon today

RICHMOND RADIATOR COMPANY
AFFILIATE OF REYNOLDS METALS COMPANY

Enamelled Cast Iron Ware • Vitreous China • Porcelain-Glass • Gas Boilers
Oil and Gas Water Air Conditioners • Gas Gravity Furnaces • Radiators
Eagle RTU is pure white lead. It has all the famed durability, beauty and economy of this most famous of painting materials. And, Eagle RTU comes factory-mixed for perfect brushing. It goes to the job in the original container, all set to open, stir and apply.

Eagle RTU spreads smoothly and easily. It covers completely, leaving no brush-marks, has real white lead hiding and staying power. And, Eagle RTU makes a smooth, gleaming elastic coat that won't crack or scale...defies time and weather, ages evenly by gradual chalking.

Eagle RTU is favored by builders for time and labor saving convenience...because it enables them to do a better job more efficiently. And, Eagle RTU is preferred by homeowners because of its beauty and durability...because of its whiter white that stays white longer.

Eagle RTU is white lead paint in a modern form. And, Eagle RTU is backed by Eagle-Picher's 104-year-old reputation as well as by the 2,000-year-old reputation of white lead.

Western Association Sets Pace in Short Courses
Western Retail Lumbermen's Association continues to set the pace for 30-day short courses in retail lumber and building materials merchandising. The sixth class was graduated with appropriate exercises early in February. Classes are held at the University of Washington, with cooperation of the University Extension Department.

The sixth class, containing about 35 students, including two girls, was given a banquet at the Edwin Meany Hotel in Seattle. Attendance was over 70, and included wives and husbands, as well as employers of some of the class members, and graduates of other classes.

The festivities were opened with remarks by chairman W. C. Bell, executive secretary of the association. Certificates of graduation were presented by the head of the university extension department.

Visitors included Martin Chamberlain, former head of educational activities for NRLDA, and now on the University of Washington faculty; and W. C. Rodd, western editor, and E. G. Gavin, editor, of American Builder.

New Directory Available
A new Membership Directory of the West Coast Lumbermen's Association is now available.

A convenient means of finding sources of supply, the new directory supercedes that of April 15, 1947, and contains information on 38 mills not previously listed.

Free copies of the directory may be obtained by writing the West Coast Lumbermen's Association, 1410 S. W. Morrison Street, Portland 5, Ore.
Add Appearance

to CH comfort

*We mean Convection Heating*

In selecting heat distribution equipment, you must keep in mind two important home-owner demands...it must provide real comfort on even the coldest days...it must be attractive in appearance, harmonize with modern furnishings.

When you recommend Tuttle & Bailey Recessed Convectors, you are sure of meeting both demands.

Convection heating—as provided by Tuttle & Bailey—means constant circulation of room air, even temperature from floor to ceiling. T&B heating elements—constructed entirely of copper—assure fast response to thermostat control, quick transmission of heat from boiler to rooms. More efficient heat distribution...more economical operation!

Then add appearance! Tuttle & Bailey Convectors—exclusively designed for recessed installation—add a touch of beauty to any room. Front panel, designed with trim, rounded corners, extends only 1 1/4" from wall...plaster overlap feature eliminates unsightly cracked plaster so often a problem when ordinary convectors are used. Recessed convectors save space...assure a permanently neat installation!

For complete facts, send for a copy of Catalog C6R. Write today...Tuttle & Bailey, Inc., New Britain, Connecticut.
Facts you should know about
WRIGHT RUBBER TILE

UNMATCHED BEAUTY, COLOR AND QUALITY
Wright Rubber Tile is absolutely the finest flooring tile you can buy! The color goes clear through — that means truly permanent beauty. The wide variety of colors means that floor design and floor style are limited only by imagination. It fits in any surrounding — home, office, church or store.

EXCEPTIONAL DURABILITY AND PERMANENCE
Wright Rubber Tile has super-smooth, non-porous top — resists wear and scuffing. Rubber content defies dents, chipping, cracking, or depressions. Two types available: Wrightex for greater resiliency and quiet—Wrightflor for harder surface to absorb more punishment with less upkeep.

LOW COST, EASY UPKEEP
Low-cost, easy care goes with every Wright Rubber Tile Floor. Its super-smooth, non-porous top keeps all dirt and stains right on top accessible to light cleaning. Gentle mopping, occasional light dry buffing and once-in-a-while scrubbing keeps it brilliantly clean and glowing beautiful.

There's nothing that bespeaks more quality and permanence; nothing that lends itself more readily to conventional and dignified, or startling colorful room atmospheres than Wright Rubber Tile. A fifty-year floor, with long-run economy and simple upkeep that make it a truly modern aid to finer building. Send for illustrated leaflet and information to help make your flooring jobs better. TAYLOR MANUFACTURING CO., 3050 W. Meinecke Avenue, Milwaukee 10, Wisconsin.

How-To-Do-It

(Continued from page 142)

Handy Gauge For Mortising Locks

CHARLES O. YANKOVICH, 969 South Main St., Meadville, Pa., suggests that a drop of white paint be placed on the bit at point of the required depth (as at “A” in figure). This, he said, will save a great deal of time, and will prevent boring through the stile as well as help to make all holes uniform.

How to Cut Miters On Circular Saw

THIS accurate way to cut miters on a circular saw was submitted by Herbert E. Fey, New Braunfels, Texas. Work, mitered on a circular saw with the aid of the jig (above), will fit accurately when joined because the two cuts are made simultaneously.

Wood strips slide in the miter-gauge grooves of the saw table to keep the jig in alignment. When the stop strips are fastened to the jig, a square must be used to set them exactly at right angles. The jig can be built to accommodate any width of material.

(Continued to page 172)
New... Needed... Priced Right!

REYNOLDS Lifetime ALUMINUM Gutters and Downspouts

Rustproof and stainproof gutters at half the former "rustproof price!"

Here's the rustproof advantage you recommend—no painting required. But in addition you get gutters that are never colored by corrosion—cannot stain a wall. In addition you get far lighter weight—lighter to handle, lighter on the eaves. And best of all you get all this at just about half the price of the only rustproof material used in the past. Any wonder that both the public and the trade are united in demanding Reynolds Lifetime Aluminum Gutters and Downspouts!

Choice of round or Colonial box-type design. Both gutters 5" across top, in 10' lengths, with slip-joint "S" connectors—no soldering. Weight, about 31/2 lbs. per length. Round and corrugated round downspouts are 3" diameter, and square type 21/2" x 31/2". Matched fittings: inside and outside miters, drop sections, end caps, hangers, elbows. See your supplier or write for literature. Reynolds Metals Company, Building Products Division, Louisville 1, Kentucky.

...and for every built-up roof, new or old!

REYNOLDS Embossed ALUMINUM Built-up Roofing!

.004" embossed aluminum in 36" rolls, 10 squares per roll. As a re-cap on old roofs or in 2- and 3-layer new roofs it's a barrier against all weather plus the sun's radiant heat. Preserves the life of asphalt...
"Lumite is the screening"

"My architect specified LUMITE. It never stains the house, never needs painting or upkeep. It’s the screening for me!"

say thousands of homeowners

Homeowners are no longer satisfied with ordinary screening—once they’ve heard about LUMITE. For this amazingly different plastic screening (woven of saran) absolutely cannot rust, corrode, or stain a house—no matter what the weather or climate.

Specifying LUMITE today in modern homes and buildings can mean substantial savings for your clients in time, trouble, and expense—now and in the future.

You’ll find the facts about LUMITE in SWEET’S FILE, or, if you want samples and more complete information, simply write LUMITE DIVISION, Chicopee Mfg. Corp., 47 Worth St., New York 13, N. Y.

Sold through Hardware and Lumber Dealers and Screen Manufacturers.

**Specify by Name**

LUMITE

Woven of saran

(Continued from page 170)

Steel Square Fence

For Cutting Risers

TO save considerable time in cutting stair risers, this handy steel square fence was suggested by Earl W. Ferber, Borden, Ind. The fence, which can be adjusted to hold the steel square in place by means of thumb screws, is made of a piece of hardwood. Suggested dimensions of the board are 30 inches long, 2 inches wide, and 1½ inches thick. As illustrated above, saw into the board at both ends, leaving about 6 inches near the middle. Insert screws in each end of the fence; clamp down on steel square at angle desired and at desired run, and raise figures and proceed with marking and cutting.

Magnet Holds Paint Brush

AN EASY method of keeping paint brush bristles from resting on the bottom of the paint can is suggested by Ray Harrison, Dafoe, Saskatchewan, Canada: When soaking paint brushes in a container, place a horseshoe magnet over the top of container as illustrated. The metal portion of paint brush handle will cling to magnet and keep it suspended.

(Continued to page 174)
Why do these thousands of new Levitt homes all include New Bendix Washers?

America's biggest home builders insure their leadership by giving extra value in every home!

In the giant housing development at Levittown, Long Island, there are now 2,000 homes occupied by veterans. Each rents for $65 a month. When the community is completed at the end of this year, there will be 6,000 homes with a population of 20,000! And each home will be equipped with a Bendix automatic Washer!

Certainly there's a reason. A Bendix-equipped home provides more efficient living, better living, easier living from the prospect's point of view.

And, from the builder's viewpoint, Bendix equipment already installed in the home means easier selling or renting—today, tomorrow, and the day after tomorrow!

A Bendix installation is an even more potent selling point, when the prospect discovers that it can be bought, along with the house, on a "package mortgage" plan!

These are a few of the reasons why so many "Look-Ahead Builders" like Levitt & Sons are including Bendix Home Laundry facilities right in their blueprints! These men set the trend toward giving more for the housing dollar. They realize how important it is to establish a reputation for giving greater value today in order to keep selling after the housing boom is over.

DISPLAY THE SIGN OF A "LOOK-AHEAD BUILDER"!
It means more profit... today and tomorrow!

WRITE TODAY FOR VALUABLE BOOK!
Send today for the beautiful "Architect's Handbook"... 40 pages of ideas for modern home laundry installations!
This cutaway view shows why the IMPROVED ACME TWIN is the most efficient sash balance ever designed.

Oil-impregnated fibre washer between Cable Drum and Face Plate insures friction-free operation.

2. Cable Drum fits snugly into Protective "Cup".

3. Tension Governor maintains uniform spring action and balancing.

4. Spring Hubs riveted at both ends ensure TWO solid bearing points.

5. Powerful Coil Springs provide positive, effortless window opening.

How To Do It

(Continued from page 172)

Easy Way to Cut Corrugated Iron

A SHORTCUT submitted by M. K. Fitzsimmons, 1704 Michigan Ave., LaPorte, Ind., suggests a simple cutting tool that will save time and fingers.

A piece of 3/16-inch strap iron is sharpened on one edge; then a 3/8-inch hole about 3/4 inch from one end is bored, through which a bolt or short rod can be run, projecting on both sides.

To use this tool, two 2x4 or 2x6 inch planks are laid on two saw horses with room left for the blade to work freely. Lay corrugated iron so that line is directly over planks; insert strap iron in space with bolt or rod below the planks with cutting edge towards the iron.

How to Make Airtight Plate

IN setting plates on block walls, William E. Hammons, 312 South Sullivan St., Gary, Ind., wrote, the usual procedure is to bed them in mortar or leave them open to drafts. By tacking ordinary weatherstrip felt to the underside of the plate, he suggested, they can be made airtight.

(Continued to page 176)
CERTAIN-TEED THICK-BUTT ASPHALT SHINGLES

The story of the wide acceptance of Certain-teed Thick-Butt Shingles among homeowners is a two sided one.

On the "fair weather" side Certain-teed Thick-Butts create roofs of beauty through rich solid colors and Certain-teed's outstanding and superior blends. Their deeper shadow lines impart character to any roof.

On the "rough weather" side Certain-teed Thick Butts give added years of service at low cost. The felt base is "Millerized" for longer life and the exposed part of the shingle has an extra layer of mastic coating and mineral surfacing to provide double protection against the elements.

Today reliable figures indicate that in excess of 85% of all roofing purchased is some type of Asphalt. YOU supply a fair share of the increased demand for fire-resistant Asphalt Shingles when you feature popular Certain-teed Thick-Butts.

CERTAIN-TEED PRODUCTS CORPORATION • 120 E. LANCASTER AVENUE • ARDMORE, PENN.
How-To-Do-It

(Continued from page 174)

Handy Saw Serves Many Purposes

**How to Remove Nail In Narrow Place**

This suggestion is made by Alex Isepson, 484 Portage Road, Stamford Centre, Ontario, Canada. For example, to remove a nail that has come through the good side of a stair riser, put a scrap piece of board on the tread below the nail; put a nail set on the point of the nail, then put a pinch bar under the nail set and on top of the scrap piece of wood. Push down on the pinch bar to force the nail up.
Why Hotpoint Kitchens Are The “Measure Of Value”

Confidence Goes Up,
Prices Seem Lower, When Home-Buyers Look At The Kitchen

BUILDING COSTS are steep today, but buyers find that prices look more reasonable through the windows of a Hotpoint All-Electric Kitchen. That’s because thirty million people know Hotpoint is a reliable measure of value—the finest in electric kitchens.

Alert Builders and architects find that it pays to invest enough extra and make the kitchen a real showplace. For powerful advertising and merchandising have made Americans kitchen conscious. And they look to Hotpoint for the biggest values.

Hotpoint All-Electric Kitchens create confidence in the quality of the whole house. The price seems better, too, for in many cases a “package mortgage” can be arranged to include cost of electric appliances.

See Your Sweet’s Catalog for details or consult your nearest Hotpoint Distributor. Hotpoint Inc., 5641 West Taylor Street, Chicago 44, Illinois.

Hotpoint has everything for the kitchen and laundry: RANGES • REFRIGERATORS • FREEZERS • DISHWASHERS • DISPOSALS* CABINETS • SINKS • WATER HEATERS • FLATPLATE IRONERS ROTARY IRONERS • WRINGER-TYPE WASHERS • DRYERS* *Reg. U. S. Pat. Off.

Everybody's Pointing to Hotpoint

Hotpoint Inc. A General Electric Affiliate

PIONEER IN THE ALL-ELECTRIC KITCHEN
Catholics Plan Building Exposition in Chicago

A NATIONAL Catholic Building Convention and Exposition will be conducted in Chicago at the Stevens Hotel June 30, July 1, 2 and 3. His Eminence Samuel Cardinal Stritch, Archbishop of Chicago, is honorary chairman. An attendance of some 5,000 pastors, religious superiors and college officials from all parts of the country is anticipated.

The convention program will present outstanding authorities from the fields of architecture and engineering, construction and remodeling, equipment, furnishing and decorating in a series of general and panel sessions which will thoroughly explore the problems involved in all types of Catholic structures. The convention and exposition is sponsored by the Business and Industry Foundation of the College of St. Joseph's of Indiana. James V. Malone, general manager of the show has offices at 185 North Wabash Avenue in Chicago.

International Contest for City Arterial Road Plan

THE Town Planning Board of Stockholm, Sweden, has invited highway planning experts in all nations to participate in competition for the most suitable plan for a new main highway artery between the districts of Sodermalm and Ostermalm via Sodra Djurgarden in Stockholm. The proposals must be in keeping with the present and future plans of the districts and suitable from aesthetic, practical and economic aspects for an arterial road carrying all forms of traffic including trams. The problem also involves a relatively extensive system of approaches as well as bridges and junctions with other main arteries. Competition closes May 1, 1949, and the first prize has been tentatively set at 20,000 Swedish crowns. A total of 48,000 crowns will be awarded in prizes.

Full details on the competition may be obtained by writing direct to Tavlingsfunktionaren, Stockholms stads stadsplanekontor, Stadshuset, Stockholm, or by contacting any Swedish embassy, embassy or consul.

Raydol Corporation Moves To Tuscola, Illinois

THE Raydol Division of the Cottom Corporation has been moved to Tuscola, Ill., about 150 miles south of Chicago, according to an announcement made recently by Truman Cottom, president of the firm which manufacturers radial arm saws. The establishment was formerly located at Bartlett, Ill., and was chartered as a corporation April 26, 1947.
275,000 FLOOR FURNACES IN 1948*
YOU'LL GET A BIGGER SHARE OF THE MARKET BY FEATURING

ONLY EVEN-TEMP MEETS ALL REQUIREMENTS OF ARCHITECTS, CONTRACTORS AND HOME OWNERS, FOR LOW COST AUTOMATIC HEAT!

Here is the newest, most advanced development in the popular priced automatic heating field! Because Even-Temp is a "natural" for architects, builders and home-owners in search of improved, low cost, heating equipment, dealers are assured a bigger slice of this year's anticipated volume.

Even-Temp is an amazing combination of compact efficiency, fool-proof operation, and exclusive conveniences. Compare its advantages! Even-Temp, for example, takes less floor space—only a two-foot square area! Thermostatic controls and booster fan are standard equipment. Even-Temp is a packaged heating Unit—completely wired and assembled at the factory—simpler, less expensive to install and service. And it operates quietly—carbon free—at a rated efficiency which assures substantial fuel savings!

Compare its extra conveniences, too. Instead of removing the entire grill to light or clean, just lift out a small section! Valve controls and electric switches are on one panel, accessible at floor level from inside the house. Then compare its smartly finished outer casing, double wall galvanized pressed steel inner casing, and so on!

Make this test today—order an Even-Temp Floor Furnace from the distributor in your locality and display it in your sales room. See for yourself how enthusiastically customers react to it! Write today!

Even-Temp Floor Furnaces are of course listed by Underwriters' Laboratories, Inc., and meet as well, the requirements of Commercial Standard CS-113-44 of the U.S. Department of Commerce, National Bureau of Standards.

Made and guaranteed by
NORTHWEST METAL PRODUCTS, INC.
358 SPOKANE STREET SEATTLE 4, WASH.
IT'S THE COLORS THAT COUNT

CABOT'S HOUSE PAINTS, made by our patented collopaking process, offer you a wide choice of beautiful, non-fading colors. Development builders can find the right color for every design and a variety of color combinations that give each house in a group pleasing individuality.

Cabot's Collopakes produce a porcelain-smooth surface that shows no brush marks and resists the elements for years.

Walter E. Curtis Victim Of Heart Attack

WALTER E. CURTIS, general manager of the Wausau, Wis., Division of Curtis Companies Inc., died suddenly of a heart attack at his home in Wausau, on January 15. His death came as a great shock to his family and friends.

Mr. Curtis, who was widely known throughout the lumber industry, was born into, grew up with, and spent his entire life in the sash and door business. Born in Iowa, May 9, 1880, he moved to Wausau when less than a year old with his parents, the late Mr. and Mrs. Cornelius S. Curtis. His father was one of the early associates in the Curtis business, which today is one of America's oldest and largest manufacturers of windows, doors, and millwork.

Mr. Curtis spent his entire life in Wausau and took active part in the civic and social affairs of the community. He was a member of the First Universalist Church, which he served in various offices in his lifetime, and was active for many years in Masonic work. He was past commander of St. Omer Commandery, Knights Templar, and a member of the four York rite Masonic bodies of Wausau, the Scottish Rite Consistory and the Shrine. He was a graduate of the University of Wisconsin.

In addition to his wide interest in the millwork business, Mr. Curtis was a director of the Employers Mutual Liability Insurance Co. of Wausau and a director of the Employers Mutual Fire Insurance Co. He was also a member of Mutual's executive committee.

He is survived by three daughters: Mrs. Russell Lyon, Neenah, Wis.; Mrs. C. W. Gilesworth, Charlotte, N.C.; Miss Harriet Curtis, of Wausau; and a brother, John, Los Angeles, Calif. Mrs. Curtis died in 1942.

Promotion of Koolshade Announced

THE activities of A. F. Hinrichsen, Inc., well known sales engineering organization of New York City, are being directed exclusively to promoting the use and sale of Koolshade for hospitals, industrial buildings, and office buildings, according to an announcement received from A. F. Hinrichsen, president of the firm. This organization specializes in equipment and materials allied and associated with air conditioning, heating and ventilation.

An associate company, The Brown Conditioning Co. of New Jersey, New York and Long Island, will take over (Continued to page 182)
MODERN hard coal stokers and clean, dependable anthracite are an unbeatable heating combination. This pair offers the owners of your new houses these important benefits.

Completely Automatic Heat — Modern hard coal stokers are fully automatic... from bin feed to ash removal. Sensitive thermostatic controls respond to the slightest change in room temperatures. They go to work immediately to send steady heat to every room in the house.

Plenty of Heat — A full year’s supply of plentiful, small size anthracite can be stored in the house. Every day, regardless of the temperature outside, the house is healthfully, comfortably warm. Owners have no worries about fuel supply with clean, economical anthracite.

Economical Heat — Stokers use the smaller, less expensive sizes of hard coal. Thousands of satisfied owners of anthracite stokers testify to reduced fuel bills... as much as 50% lower!

Get all the facts on heating with all types of anthracite equipment including modern automatic stokers. Simply fill out the coupon and send it to us, today.

Manufacturers of Approved Automatic Stokers

COOPER STOKER
ELECTRIC FURNACE-MAN
FAIRBANKS-MORSE STOKER
FUEL SAVERS STOKER
FURNACE TENDER STOKER
THE GILKOAL STOKER
IRON FIREMAN
MOTORSTOKER
NEWTON STOKER
STEWART-ROGERS STOKER
STOKOL ANTHRACITE STOKER
VAN WERT STOKER
WARDS ANTHRACITE STOKER

What the “unbeatable combination” can do for your new homes

ANTHRACITE INSTITUTE
101 Park Avenue • New York 17, New York

Please send me more information on anthracite and anthracite heating.

| Name: |  |
| Address: |  |
| Company: |  |
| City: | Zone: | State: |
Two Sizes... 300 and 500 gallon capacity. 14 Gauge Steel, Black Asphalt Coating.

Available for Delivery
Top quality steel tanks, fabricated by a manufacturer with over 55 years' experience. Write today for prices and complete delivery information.

BLACK, SIVALLS & BRYSON, INC.
24th Floor, Power and Light Building
KANSAS CITY 6, MISSOURI

The uses of Koolshade have expanded considerably since it was introduced to the engineering profession just prior to World War II. When used in connection with air conditioning, it has been found to reduce the total cost by the reduction of one ton of refrigeration for every 100 square feet of sun exposed glass area.

Penberthy Names Ruebelmann As General Sales Manager

THE Penberthy Injector Co., of Detroit, Mich., subsidiary of the Buffalo Bolt Co., announces the appointment of Fred E. Ruebelmann as general sales manager. Mr. Ruebelmann has been a member of the Penberthy organization for more than 36 years, most recently as supervisor of sales. He succeeds A. D. Thomas, resigned. This is the only major change in the Penberthy Injector Co. since it became a subsidiary of the Buffalo Bolt Co.

FRED E. RUEBELMANN

The Upson Company Promotes Two

THE appointment of Henry W. Schmidt as secretary-treasurer, and of James J. Upson as assistant to the president is announced by The Upson Co.

Both men are widely known throughout the industry. Mr. Schmidt, who is a member of the New Jersey Bar, joined The Upson Company as assistant to the president, and later became secretary. He was elected to his new office of secretary-treasurer by the Board of Directors.

Mr. Upson, who saw action during World War II in the Pacific theater of operations as lieutenant, joined the company upon his release from the Navy. His appointment was made by W. H. Upson, Jr., president.
Proved in the Laboratory*... and the Home
STEELCRAFT Steel Casements

Housewives Praise STEELCRAFT Casements for Remarkable Ease of Operation and Cleaning!

Proved in use by their most demanding critic, the housewife... STEELCRAFT Casement Windows are found to provide huge premiums in benefits that count! Great new advantages of beautiful appearance, fool-proof operation... plus wonderful ease of cleaning and screening... are everywhere encouraging more and more installations of STEELCRAFT Casements. This growing market stands ready for evidences of finer engineered casement construction, greater durability... and prompt delivery... all realized when you solve your window problems with STEELCRAFT Casement Windows.

STEELCRAFT CASEMENTS PROVED LIGHTER YET STRONGER IN INDEPENDENT LABORATORY TESTS...

Here it is... vivid, indisputable proof of the superiority of STEELCRAFT Steel Casements! When analyzed with the steel casements of three other leading manufacturers, STEELCRAFT showed 15% less pressure-induced deflection than the next strongest window, 34% less deflection than the weakest window tested. Results testify that STEELCRAFT is built to withstand from six to eight times the normal masonry load on openings of the width tested.

The on-the-scene laboratory photo (right) shows STEELCRAFT Type 2423 steel casement undergoing vertical deflection analysis in load-testing machine. Supports at bottom edges of casement allow deflection measurement at center of bottom as load is applied top center. Loads were up to equivalent of 600 lbs. per linear foot.

MAIL THIS COUPON TODAY!

STEELCRAFT MFG. CO.
9046 Blue Ash Rd.
Rossyowne (Cincinnati), Ohio
Please send me, without obligation, complete descriptive literature on STEELCRAFT Casement Windows.

Name:
Position:
Business Address:
City:
State:

* STEELCRAFT MANUFACTURING COMPANY
ROSSMOYNE (CINCINNATI), OHIO
Sargent Tells Purchase of Wm. Schollhorn Co.

SARGENT AND CO., New Haven, Conn., has purchased the operating assets of The Wm. Schollhorn Co., manufacturers of the nationally famous Schollhorn and Bernard pliers as well as special purpose tools.

The Schollhorn trade marks and patents, the right to continue manufacture of the Schollhorn products and the machinery with which to do it were included in the sale. The Schollhorn factory building was not a part of the purchase, however, and will be occupied by Sargent and Co. on a rental basis.

The Schollhorn Co., founded over 75 years ago, has developed many special tools, the most famous being the Bernard line of pliers. Sargent and Co. are known throughout the world for their lines of builders' hardware and allied products. Thousands of items ranging from beautiful lock sets to cup hooks; liquid door closers to window catches; food and meat choppers to plum bobs carry the Sargent label.

In a statement issued by Forbes Sargent, president of Sargent and Co., users of Schollhorn products are assured their requirements will continue to be promptly served.

Fuel Oil Scarcity Delays Minneapolis Construction

THE retarding effect on home building of the fuel oil shortage is showing up. In a survey of its members, the Minneapolis Contractors and Builders Association found homes still unsold, homes under construction delayed and new starts postponed because of the lack of fuel oil guarantees to prospective purchasers.

From 25 fuel oil questionnaires returned by members, it was reported that the lack of guarantees has prevented the sale of 13 houses, delayed completion of 83 and held up the starting of 69 houses planned for 1948 construction.

J. W. Clark, Fuel Conservator of Minnesota, told the association in a recent address that there was insufficient oil to heat Minnesota's new homes this year and that there probably would not be enough next year and possibly longer.

The Minneapolis association is continuing its participation in a weekly radio broadcast on homes over Station WLCL. Members who will appear on the forthcoming programs are Earle C. Ware, P. M. Zubert, S. A. Johnson and W. R. J. Jessup. The broadcasts take the form of a question and answer program, with the builders answering questions posed by home owners.
The Elevator Went Up Without a Hitch on this Slip-Form construction job... with Duraplastic

Another grain elevator built fast and clean with Atlas Duraplastic air-entraining cement. Further proof that the greater workability of Duraplastic makes it ideal for slip-form work. Because it makes a more plastic, more uniform, more cohesive mix, Duraplastic saves time and work in placing and finishing. Requiring less water for a given slump, Duraplastic minimizes segregation and bleeding.

Duraplastic works as well for paving, structural, and mass concrete as it does for slip-form construction. No unusual changes in procedure are required. A denser, more durable concrete results.

Duraplastic complies with ASTM and Federal specifications...sells at the same price as regular cement...makes better concrete at no extra cost. Send for further information. Write to Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York 17, N. Y.

OFFICES: Albany, Birmingham, Boston, Chicago, Cleveland, Dayton, Des Moines, Duluth, Kansas City, Minneapolis, New York, Philadelphia, Pittsburgh, St. Louis, Waco.

ATLAS DURAPLASTIC
AIR-ENTRAINING PORTLAND CEMENT

Makes Better Concrete at No Extra Cost

"THE THEATRE GUILD ON THE AIR" — Sponsored by U.S. Steel Subsidiaries — Sunday Evenings — ABC Network
Building Market
Information Service
Offered Distributors

As supplement to their plan to enter the home construction market on a major scale, American Kitchens, Connersville, Ind., have set up a comprehensive building market information service for distributors.

Organized under the direction of American's market analyst, Warren Campbell, the service is intended to keep distributors and dealers well informed on new home building trends, day to day changes in the market, and to equip them to more ably meet the builders' demands.

"It is our belief that the salesman who is to do an intelligent and successful job must be kept well informed on the market he is planning to attack," Mr. Campbell explained.

"In addition to the market information which I will develop from my own sources," he stated, "the service will include statistical data purchased from such well known organizations as the F. W. Dodge Corp., and Roy Wenzlick and Co."

Asphalt Roofing Bureau
Elects L. M. Cassidy


Mr. Cassidy succeeds E. W. Smith, vice president of Philip Carey Manufacturing Co.

P. C. Rowe, executive vice president of Flintkote Company, was named vice chairman of the board, and E. L. Chamberlain, vice president of Bird and Son, Inc., was re-elected treasurer.

Cotton Insulation
Re-Elects Cole

THE Cotton Insulation Association at its annual meeting in Washington, D. C. re-elected T. D. Cole, president. Mr. Cole is president of Lockport Cotton Batting Co., Lockport, N. Y. Tom Barnhardt, of Barnhardt Manufacturing Co., Charlotte, N. C., was elected vice president and Lawrence M. Gilman, Gilman Brothers Co., Gilman, Conn., treasurer.

Reports given at the meeting traced the growth in production and sales of cotton insulation from 55,000 pounds in 1940 to more than 14,316,000 pounds last year. With demand steadily increasing for the cotton product, industry leaders predicted continued success for the market expansion program they are conducting with the National Cotton Council.

Stainless
Steel Sinkbowls

Legion sinkbowls are seamless drawn from one piece of solid or single clad stainless steel... No welds, rough edges, ridges or grooves to cause leaks, corrosion or cracks where dirt may lodge... Light in weight, yet rigid and long-wearing... Oblong, square, round or oval shapes.

Write for catalog sheet.

ASSURES PAINTING SUCCESS
Every Painter! Every Homeowner!
Needs PA'SO to Quickly
SOFTEN PAINT • CLEAR HARNEDEO PAINT BRUSHES • SMOOTH OLD WOODWORK • STOP CHIPPING, CRAWLING
Over a Hundred Handy Uses!

Needs RUB-X
for thoroughly
CLEAN, POLISH AND BRIGHTEN • METALS, GLASS, TILE, PAINT • REMOVE WATER SPOTS, SHOE MARKS

An Indispensable Time Saver! POPULAR SALES, GOOD PROFIT MAKERS. WHENEVER DISPLAYED!
Be sure you have ample stocks. Order today... through your paint dealer... or write direct.

25th & STRONG KANSAS CITY 3, KAN.
Important news for all builders

STOP VAPOR and MOISTURE with revolutionary KAPCO BOARD!

69½ times better vapor seal than any other wall board on the market!

There's absolutely nothing like Kapco Board—resists water, vapor, alkali, acid, brine and alcohol. It's odorless, rigid, vermin-proof and termite-proof. Fire retarding. New superior strength. Stands up where other boards can't—will not rust, rot, mildew, mold, oxidize or de-laminate.

Bureau of Standards report reveals moisture penetration of Kapco Board is practically nil—only 1/25 gram (0.04) per sq. meter per day with quarter-inch board. This is 69½ times better protection than any other board on the market gives. Nothing finer for plaster base or dry wall construction. OK'd by F. H. A.

NOW AVAILABLE—THREE TYPES FOR A THOUSAND USES!

1. PLASTER BASE—Monolath. Prevents vapor and moisture condensation inside of outer walls. 99.92%, perfect vapor barrier. No more soggy, packed-down insulation—no more ice formations inside the walls. No chance of walls sweating—the cause of most plaster failures. Gives rigid support. Strong-armed workmen won't push through Kapco Board. Plaster clings better, is stronger—dries slower—from one side only. Comes in standard sizes. Cuts easily, or just score and break off. Priced competitively with ordinary sheet plaster base.

2. DRY WALL CONSTRUCTION—May be sealed and painted any color, or wallpapered. Filler or tape conceal joints perfectly. Use also as backerboard, as roofing base, as sheathing board, as flooring and linoleum underlayment, as a general utility construction board. Wonderful for basementless houses and concrete slab construction. Waterproof. Use on the farm for lining poultry houses, barns, silos, sheds. Stands all weathering. Easy to cut. Sizes to 4 x 8 ft. Costs less than ordinary building boards.

3. DECORATIVE WALL BOARD—Kapco Board in knotty pine and light walnut wood-grain finishes on one side now available. Nothing finer for finishing basements, attics, porches. Other decorative finishes available soon.

KAPCO BOARD

KEYSTONE ASPHALT PRODUCTS CO.

A Division of American-Marietta Co.

43 E. Ohio St., Chicago 11, Ill., U. S. A.
MR. DEALER:
Springtime Is Screen Door Grille Time.
Feature Wrought Iron SCREEN DOOR GRILLES
NOW FOR EXTRA PROFITS!

That New Look
For Old and Present Day Homes
With Aluminum Siding

OLD house is given a new appearance
by the application of aluminum siding

A NEW aluminum siding and roofing
with baked enamel finish is being manufactured by the National Aluminum Products Company of Canton, Ohio. The new product is becoming increasingly popular for use in new home construction as well as for refinishing old structures in need of new siding or roofing. According to S. L. Daniels, president of the company, a large number of the firm's dealers in Ohio and Pennsylvania are keeping busy satisfying the ever-increasing demand for the product. The product is being used by several manufacturers of prefabricated houses.

The National Aluminum Products Company was founded by Mr. Daniels in 1946 and started production with an experimental crew of only six employees. The firm has since moved to larger quarters and now employs more than 50 people, who operate new and modern equipment installed to fabricate the aluminum siding and roofing. Previous to founding the present firm, Mr. Daniels was engaged in general construction work.

In the March issue of American Builder, it was erroneously stated that this firm prefabricates roof and wall sections for aluminum houses. The firm's activities are confined to the manufacture of baked enamel finish aluminum siding and roofing.

USE of aluminum siding adds beauty
and permanence to this new home

Available Now!

Porcelain Enameded Cast Iron
Bathroom Accessories

A complete line of recessed and screw-on type accessories now available in quantities in standard colors—White, Black and Green. Display board, shown above, No. D-985 furnished at net cost of applied fixtures only, with stock order.

Order from your wholesaler.
ASK FOR CATALOG NO. 9.

Illinois Porcelain Enamel Co.
422 S. Winchester Ave., Chicago 12, Ill.

Buy Bearcat!

You'll finish jobs faster with a Bearcat! Speedy foot-pedal swing cut-off... Rip; cut-off at all angles... Portable from job to job... Rugged welded steel frame and top... Heavy-duty ball bearings. Two sizes: XJR for home builders, XCO for heaviest jobs. QUICK DELIVERY.

Write TODAY For Literature

The Paxson Co.
40 "E" Ave., Dowagiac, Michigan
Building Bearcats for 25 Years

Your drapery always looks better if the draper is
Pratt & Whitney.

...save a fortune... pay for the finest... hide the line from the seam... your draper will prove it.

Streets of America always look
right at night.
Your houses will have the new look, and will always sell more readily and at better prices if they are painted with the distinctive new Pratt & Lambert Paint colors. And you can save time, material and money because these fine P&L paints and varnishes go on so easily, hide in fewer coats and cover more square feet per gallon. Your painters will like them. Your prospects will want them. And your sales will prove it! Pratt & Lambert-Inc., 80 Tonawanda Street, Buffalo 7, N.Y. In Canada, 6 Courtwright Street, Fort Erie North, Ont.
Gypsum Product Prices
Only 29.4 Per Cent
Above 1939

Increases in gypsum product prices have been held at a minimum John C. Best, vice president of the National Gypsum Co., told the joint Senate and House Committee in Washington set up by Congress to investigate the current high cost of building.

Drawing on the experience of his company as being typical of the industry as a whole, Mr. Best presented conclusive proof that while manufacturing costs have doubled since the end of World War II, the selling price of his firm's building materials in 1947 was only 29.4 per cent above that of 1939. This in contrast with the figure of 95 per cent published in September by the Bureau of Labor Statistics as being the average increase in cost of all building construction materials since 1939.

As an example, Mr. Best cited the case of an actual residence built in Buffalo, N.Y., which cost about 40 cents per cubic foot or $5,100 in 1939 and today costs practically $1.00 per cubic foot or $12,500. Of this amount, the total increase in the cost of all the products by National Gypsum used in the house amounted to exactly $75.54 over 1939.

"During 1947, my company made an outstanding contribution toward relieving the shortage of certain critical building materials, and will make an even greater contribution in 1948," Mr. Best reported.

"This increased output was not attained through the simple process of building additional board machines. It involved the extension of our activities into several other fields. Four of our plants on the Atlantic seaboard depend on gypsum rock brought down by boat from Nova Scotia. To insure a continuous supply of raw material for these plants, we purchased and operate a fleet of 10,000 ton steamers.

The second most important item in the manufacture of gypsum wallboard and lath is the heavy paper liner on each side of the board. When this became difficult to obtain, we purchased three paper mills to insure the continued operation of our gypsum board plants.

"Retarder is another essential ingredient which could not be obtained in sufficient volume, and so we built our own retarder plant."

"In brief, additions to our existing gypsum wallboard and lath (Continued to page 192)
It's hard to believe, but residential aluminum windows cost less than pre-war.

They actually cost less today than windows made of perishable materials, that require constant painting and maintenance.

Thorn aluminum windows are completely finished at the factory with sash hung in frames, adjusted, weatherstripped and all hardware applied.

There are no additional parts or fittings to buy, no expensive field work to perform.

Just set them in the prepared openings or build them in masonry, and send for the glazier—That's All.
American Roof Trusses eliminate center walls and posts... increase your storage space. Strong and safe, they cut your building costs considerably. 25 to 150 foot spans built to your requirements. Prompt delivery... low cost. Write for an estimate today.

AMERICAN ROOF TRUSS CO.
6852 STONY ISLAND AVE.
CHICAGO 49, ILL.

ROCHESTER SPIRAL SASH BALANCE
IMPROVED DESIGN!
FASTER TO INSTALL!
SAME LOW COST!
The best sash balance for modern window construction is now made even better! — stronger than ever and requires one-third less time to install.
Built-in stops, to prevent sash traveling too far, have been made stronger. No loose parts. Actuating bearing is longer and three times as heavy, for easier installation. The Rochester Spiral Sash Balance is completely concealed — there are no exposed tubes, ropes, tapes or cables. It's weather-tight — no pully-holes or weight boxes. And it's neat — top of sash stile groove is closed.
No mortising, no adjusting, no rusting! Nothing to break! Efficient, modern, space-saving. And the Rochester Spiral Sash Balance still costs no more than old-fashioned balances.

MILWAUKEE STAMPING CO.
Our 54th Year of Quality Production
802 S. 72nd STREET • MILWAUKEE 14, WISCONSIN

(Continued from page 190)
plants; the construction of new plants and obtaining the additional shipping, paper and retarder facilities represent a total expenditure on the part of our company of $27,000,000.

Using gypsum products as an example, Mr. Best gave a breakdown of the increases in the unit cost of material, labor and services from 1939 to November, 1947 with which his firm was faced. Starch, a basic ingredient in manufacture, showed an increase of 244.6 per cent while the next high was fuel oil with an increase of 163.1 per cent.

"Despite these increased costs," Mr. Best pointed out, "selling prices on our gypsum building products today average only 27.7 per cent more than in 1939.

"While we speak only for ourselves, and have no authority to speak for other members of the industry," he continued, "it is obvious that their experience must be similar to ours. We therefore believe that the gypsum industry as a whole has probably done more to increase its output and, in spite of greatly increased costs for labor, materials, and services, has held its selling prices lower than any other major industry serving the building construction field.

"However, there is a point beyond which increases in cost cannot be absorbed or compensated for by increased output or the most intelligent management. The railroad increases effective this month (January) and the further increases in wages now being advocated, will not only add in each case many thousands of dollars to our costs, but will also affect the cost of materials that we have to purchase.

"As these elements increase our costs, they will have to be reflected in some further increase in our selling prices.

"Our objective for 1948 is to produce more building materials than we have ever turned out in any single year in the history of our company. We are geared to do just this. As a further stimulant to building, we will continue to hold price increases to the lowest level consistent with good management."
Now...

You Can Have Your Doors

"Signed, Sealed and Delivered"

THIS Certificate of Inspection—signed by an F.D.I. Inspector, sealed by a Notary, and delivered with a shipment of Douglas fir doors—means the shipment comes up to rigid quality standards adopted by member factories of the Fir Door Institute. Member factories of the Fir Door Institute will, at your request, enclose a notarized copy with your shipment, and attach another to your invoice. Doors, "Signed, Sealed and Delivered" in this manner, are in every respect up to official F.D.I. standards. Ask for this Certificate of Guaranteed Quality when you buy.
Fact Finding Group
To Stress Industry's Accomplishments

TO COUNTERACT the uninformed and misleading propaganda to which the building industry has been subjected, a fact-finding program has been inaugurated by a group of key men representing manufacturers of building materials and equipment. Headed by Melvin H. Baker of Buffalo, president of the National Gypsum Co., the organization has adopted the name Construction Industry Information Committee.

Their objectives are to inform both the public and the industry of the importance of the building industry to the individual citizen, whether he be employed in a factory, a store, on a farm or within the industry itself; and to bring to the attention of all groups the story of the industry's accomplishments, and the importance of maintaining a vigorous, dynamic program of construction.

"There is a lot of uninformed criticism directed toward the industry today," Mr. Baker explained. "That criticism has been far flung and persistent. If it is permitted to continue unchecked, it can seriously undermine public confidence in the industry and thus discourage people from building. Actually the critics are far behind the facts, and it is time that they and the public realized it.

"The greatest need as we see it is to present the facts about the industry's progress. We know it is doing a good job; that it has become more efficient and that it is constantly striving to lower costs. Over and above that, it is one of our largest sources of employment, and a mainstay in our economic well-being.

"Many people do not realize that their own jobs depend upon construction. While there are actually about 7,500,000 individuals employed in on-site operations and in supplying the needs of building, the jobs created by the building industry stretch far back of on-site construction.

"Therefore, a major phase of our program will be to foster, through the use of accurate information material, an industry-wide consciousness of responsibility and pride in its continued progress. This is a job that needs to be done for the sake of all who have a direct stake in the status of the industry. This means every American."

The committee has obtained the (Continued to page 196)
WHY THIS STRONG GARAGE DOOR IS INSTALLED Quicker

Check these Outstanding Advantages:

1. INSTALLED QUICKER (see illustrations at right)—Experienced 2-man crews are installing Strand Canopy Doors in prepared openings in minutes; Receding (track-type) Doors take somewhat longer.

2. AVAILABLE—you can get Strand Doors without waiting and without limit.

3. STRONG AND DURABLE—all-steel, all-welded construction provides outstanding strength and durability for a lifetime of service. Galvannealing provides a hot galvanized zinc coat for rust protection, oven-baked to provide a clinging base for paint.

4. ATTRACTIVE IN APPEARANCE—its good looks are permanent! Steel won't warp, shrink, sag or rot.

5. LOW IN COST— new low price results from volume production concentrated in one plant, and standardization on two models. Strand is America's greatest garage door value!

Your Strand doors are waiting for you! Order today from your dealer—or mail the coupon, mentioning your dealer's name.

ALL STEEL GALVANNEALED • OVERHEAD • ONE PIECE
STRAND GARAGE DOORS
TWO TYPES...RECEDING (TRACK) AND CANOPY

STRAND BUILDING PRODUCTS CO.,
Dept. AB-4, 1710 Buhl Building, Detroit 26, Michigan.
Please rush literature with detailed descriptions of Strand all-steel Garage Doors.
I am ( ) Architect; ( ) Contractor; ( ) Prospective Home Builder; ( ) Student. (Please check above).
Name __________________________
Address ________________________
City ___________________________ State __________

INSTALLED WITH ORDINARY TOOLS

LESS CRATING
LEAF IN 1 PIECE
HARDWARE COMES ALREADY ASSEMBLED

TRAND BUILDING PRODUCTS CO.,
Dept. AB-4, 1710 Buhl Building, Detroit 26, Michigan.
Please rush literature with detailed descriptions of Strand all-steel Garage Doors.
I am ( ) Architect; ( ) Contractor; ( ) Prospective Home Builder; ( ) Student. (Please check above).
Name __________________________
Address ________________________
City ___________________________ State __________

INSTALLED WITH ORDINARY TOOLS

LESS CRATING
LEAF IN 1 PIECE
HARDWARE COMES ALREADY ASSEMBLED
ATLAS SPEED FORMS

**Save to...**

**50%**

of poured concrete costs

**T**he Irvington engineers are in constant touch with the contractors all over the country who use Atlas Speed Forms — their experience and knowledge are at your disposal, too.

Because of this close contact, we can actually show you job after job where Atlas Speed Forms are saving 50% of Form Costs, Form Labor Costs, and Job Time.

**Controls Developed by Honeywell in 1947**

MORE than 60 new instruments and control systems were announced by the Minneapolis-Honeywell Regulator Co. during 1947, Harold W. Sweatt, president, told stockholders in his annual report made this month.

An increase of about 30 per cent in sales, which he said was general throughout major company divisions, resulted in an approximately equal percentage of increase in net earnings.

Slightly more than half of the company's total sales during the year were made up of products newly designed or re-designed since 1939, the report stated, and today, Minneapolis-Honeywell spends nearly as much for research and engineering as the company's entire net income 10 years ago.

(Continued from page 194)
For the homes you're building—and the commercial buildings, too—plan on Marlite plastic-finished wall and ceiling panels for simple, easy installation in every room where colorful, practical interiors are needed. Marlite wall-size panels are quickly and easily installed with regular carpenter's tools and, once installed, Marlite becomes an added value feature that appeals to every property owner. What's more, Marlite's enduring beauty and ease of maintenance means real, long-range economy for your customers.

Better check up today on Marlite and the entire line of genuine Marsh Products, designed to simplify your installation problems and help you do a better job. Complete details available in Sweet's File for Builders, or write Marsh Wall Products, Inc., 403 Main St., Dover, Ohio.
New Hardware Sales Manager

JACK McCUE, former western manager of Russell Erwin Manufacturing Co., has been appointed manager of hardware sales for the Edward Hines Lumber Co., according to an announcement made by James F. Mahoney, vice president of the Hines Co.

McCue was with the Erwin Manufacturing Co. for the last 25 years. In his new position, he will head up a greatly expanded hardware division dealing in builder’s hardware as well as consumer items which will be sold through Hines’ 24 stores in Chicago and suburbs.

L. W. Smith, Sales Manager
Passes Away After Illness

L. W. (LARRY) Smith, Chicago, for many years sales manager for the Sisalkraft Co., passed away Feb. 16, 1948, after a long illness.

Mr. Smith started in the lumber and building material industry in the lumber mills of the Northwest. He came to the Sisalkraft Co. 18 years ago, and worked in a sales capacity until recently.

Mr. W. L. Kennedy, formerly manager of the New York branch office of the Sisalkraft Co., has taken over the duties of sales manager, with headquarters in Chicago.

Relocate Eastern Offices

RELOCATION of their eastern regional offices has been announced by the Jaeger Machine Co., Columbus, Ohio. Previously located at 8 East 48th St., New York, the offices are now established at 1504 Widener Building, Philadelphia.

L. T. Phillips, regional manager at the new Philadelphia offices, stated that this change of location has been made in order to more efficiently serve the thirty Jaeger distributors in the Maine-to-South Carolina territory and the steadily increasing number of users of Jaeger pumps, compressors, hoists, concrete mixers and paving machines.

Rilco
 RAFTERS and TRUSSES for POST-FREE Commercial Construction

- Architects and builders find new values in modern Rilco construction for every type of commercial building. Engineered for dependable load bearing and great wind resistance, Rilco glued-laminated rafters and trusses are economical in cost and easy to erect.

The interior of a Rilco building needs no additional support of posts or braces. This fits the requirements of most hangars, warehouses, garages, skating rinks and recreational buildings.

Investigate Rilco framing for modern, permanent, commercial construction. See your nearest Rilco representative, or write us for details.

Rilco Laminated PRODUCTS, INC.
1669 First National Bank Bldg., St. Paul 1, Minn.

Eastern Division: Wilkes-Barre, Pennsylvania • Western Division: Sutherlin, Oregon

Factories at: Albert Lea, Minnesota; Independence, Kansas; Wilkes-Barre, Pennsylvania; Sutherlin, Oregon
The average six room house has at least fifteen double hung windows. Every window is an important item of construction cost. One way to keep the cost down without sacrificing quality is to install pre-assembled window units. They save time, save labor because they come complete—ready to install.

Pre-assembled window units equipped with Pullman Sash Balances are even better. Windows open freely, easily, noiselessly. You aren't lifting the weight of the window against friction. Pullman Balances fit inconspicuously into the window frame and are trouble-free even when painting or varnishing. Pullman Balances require no weight boxes. That means you can use modern, narrow trim or no trim at all. To the home owner that means no drafts, for insulation can be butted up to the frame.

Windows equipped with Pullman Balances give you an extra sales feature in that they are guaranteed for the life of the building . . . come what may. No cords to break. No weights to drop. That alone is a plus for any home buyer.

Ask your dealer for Pullman-balanced pre-assembled window units. Or for information write Pullman Manufacturing Corporation, 325 Hollenbeck Street, Rochester 5, N. Y.
NOW! Step Up Your Sales With—

The New HIGH-BAKED PLASTIC ENAMEL SURFACE

Miracle Walls by TYLAC

From all parts of the country our outlets are telling us their sales have stepped up with the new High-Baked Plastic Enamel Surface—Miracle Walls by Tylac. And, there’s a good reason: It’s tougher, more resilient and flexible, has a higher gloss, longer life and many other features of superiority.

There’s a wide range to choose from — 4 basic patterns and 18 colors, offering an endless selection of color combinations.

There’s greater profit in greater sales — Tylac offers you both. Write us for color chart and full information.

THE GREATEST POST-WAR DEVELOPMENT IN THE INDUSTRY

TYLAC COMPANY MONTICELLO, ILLINOIS

PIONEERS IN THE PREFABRICATED WALL PANEL INDUSTRY

Catalogs and HOW-TO-DO-IT INFORMATION

415—ALUMINUM WINDOWS—for moderately priced homes are covered in a pamphlet issued by Alcasco Products, Inc., Muskegon Heights, Mich. Assembly details, typical installation details and exact dimensions of the standard types of windows available make up its content. These all-aluminum casements blend with any style architecture and feature the larger glass area.

416—DRY WALL CONSTRUCTION—what it is and how materials can be speedily and properly applied in this type of construction are the principal points covered in literature titled "Short Course No. 901," prepared by The Reardon Co., St. Louis 6, Mo. Written primarily to instruct contractors in construction techniques, the material contains information of value to architects and builders who are interested in planning, specifying, selling or building dry wall structures.

417—GAS VENT AND FLUE PIPE CATALOG—this catalog features the complete Metalbestos line of fittings. It describes the problems of gas appliance venting and points out the advantages of Metalbestos patented pipe-within-a-pipe construction. Specifications, dimensions together with installation instructions are given. It is published by Williams-Wallace Co., 168 Hooper St., San Francisco 7, Calif.

418—SPEED PRIME PUMPS—are illustrated and described in Bulletin No. 47-12 published by the Chain Belt Co., 1600 W. Bruce St., Milwaukee 4, Wis. Helpful application information and tables together with detailed specifications are features. Advance design features of the unit are described in detail and pictured by cutaway and "exploded" photos.

419—WOOD KITCHEN CABINETS—how the Boro line of wood cabinets lend themselves to varying arrangements to meet individual requirements is the subject of a four-page folder offered by the Boro Wood Products Co. Inc., Bennettsville, S.C. The warmth of wood is combined with beauty of design in these units. The complete line is illustrated and described and floor plan of a typical corner layout shown.

SERVICE COUPON—CLIP and MAIL to CHICAGO

Readers Service Department (April, 1948)

American Builder, 105 W. Adams St., Chicago 3, Ill.

Please send me additional information on the following product items, or the catalogs, listed in this department:

Numbers ____________________________

Name _______________________________

Street ______________________________

City ___________________ State _________

OCCUPATION* ________________________

*Please note that occupation must be stated if full service is to be given.
Spencer—known since 1888 for manufacturing only quality boilers—now brings you this splendid new all purpose cast iron sectional boiler. New in design... design proven under actual conditions in our testing laboratories. New heights in performance from Spencer's long experience gained in manufacturing quality heating equipment... Write today—get complete details.

Just look at these added features—

Designed to burn any type fuel—easily and quickly converted. Year round domestic service hot water. Easily installed—a sectional boiler designed for iron to iron air tight fit. Attractive, colorful jacket combined with modern design door assembly that features pyrex observation ports. Adds a note of beauty to that extra room in the basement.

Spencer HEATER

DIVISION—AVCO MANUFACTURING CORPORATION
DEPT. BB-2
WILLIAMSPORT, PA.

ANOTHER AVCO PRODUCT!
No question about it—casement hardware has to take plenty of punishment... punishment from friction, from weathering, from temperature, from careless owners or tenants. Getty casement window operators, preferred by leading builders for over a quarter of a century, have amply proved their ability to absorb the daily wear and tear and still give the same smooth, effortless operation as the day they were installed.

Available in Bronze Lacquer and several plated finishes, the Getty No. 4715 Operator combines sturdy construction and sound design for lifetime performance. Write for Catalog E.

8 Vital Points with Getty built-in quality—
- Operating arm is 5/32" cold rolled steel, cadmium plated, with teeth accurately machine ground (hobbed) at exact operating angle.
- Full 5/8" diameter case-hardened steel worm. Shaft is integral with worm.
- Solid bronze bushing acts as a bearing for worm shaft. Bushing is deep-cut machine-threaded and locked in housing so worm cannot back-out under pressure.
- Arm pivots around 5/8" diameter case-hardened steel bearing stud.
- Solid brass button is locked in channel—cannot come out accidentally; prevents rattling. Button is protected from weather—cannot freeze.
- Heavy channel guides has 3-point anchorage on window—cannot bend or bind. Furnished with cadmium plated steel channel guides.
- Also available with solid brass channel guides at additional cost.
- Worm shaft and crank handle are serrated to accurately match each other. No slipping or play in handle.
- Simply installed (with only three screws for operator; three screws for channel guide).

Dependable Casement Control—with a flip of the finger

H. S. GETTY & CO., INC.
3348 N. 10th ST., PHILADELPHIA 40, PA.
SAVE 50% OR MORE BY
INSULATING WITH SISALATION
at about $25* per 1000 square feet

*Contractors' Price

1. You get insulation that is completely effective, since SISALATION, properly applied, is equivalent in heat-saving values to approximately 3/8" of flexible or rigid types of good insulations most commonly used...based on M.I.T. tests on sidewalls constructed with a single layer of reflective SISALATION.

2. SISALATION acts as an air-tight moisture-vapor barrier, thus protecting against dry-rot, paint failure, condensation. Exceeds FHA requirements as a vapor-barrier.

3. SISALATION, reinforced with steel-like sisal fibres, is so strong that one man can apply it over two stud-spaces at one time without danger of having the SISALATION rip or tear (see illustration). This makes for low application costs.

4. SISALATION does two jobs at one application cost...provides insulation and a vapor-barrier both at the same time.

5. SISALATION is AVAILABLE NOW for prompt delivery through your lumber or building supply dealer.

The SISALKRAFT Co.
205 W. Wacker Dr., Chicago 6, Ill.
New York 17, N. Y.
San Francisco 5, Calif.
Universal
LEVEL-TRANSIT

MOST PRACTICAL
ALL-AROUND BUILDER'S
INSTRUMENT
EVER DESIGNED!

Highly accurate, amazingly rugged, the Universal Level-Transit does all survey and check-up operations in building and road construction!

Quickly convertible from level to transit, its novel type of design protects parts which were formerly exposed to damage and inaccuracies. Other features include: a patented ball-bearing race, lock and release lever system, and perfect alignment adjustments.

12" Telescope, 25 power, horizontal guarded circle, Verniers to 5 minutes, Vertical arc, 3°.

Write today for full details and free booklet "How to lay out building lots."

We repair all makes of instruments

MANUFACTURERS OF
INSTRUMENTS FOR ENGINEERS,
SURVEYORS AND BUILDERS.

311 West Court St., Milwaukee 12, Wis.

SELL CLEAN KITCHENS

WITH
Westinghouse
NEW, IMPROVED
Poweraire
HOME VENTILATOR

Prospects look for convenience features which mark the home as modern in essential details. For instance, ventilation which keeps the home sweet and clean is an impressive selling point...especially when it's a Westinghouse Poweraire Home Ventilator. This is so easily installed and moderately priced that you can include it in any building or remodeling plans. With the new Air-Injector Grille, this Home Ventilator can completely change the air in an average kitchen every TWO MINUTES. It is easily installed in practically any type wall from 4½" to 30¼" thick.

CHECK THESE FEATURES

- Modern, streamlined design
- White, snap-on, Air-Injector grille
- Insulated outside door
- Economical to operate

- Easy to clean
- Easy to install in practically any wall thickness
- Single pull chain control

The Westinghouse Supplier in your locality will demonstrate its many other plus advantages. Contact him today.

Westinghouse Fans

WESTINGHOUSE ELECTRIC CORPORATION
Electric Appliance Division - Springfield 2, Mass.
Here at last... the insulated metal casement. No more cold drafts, condensation, frosting. Mesker outside metal storm sash blankets the entire American Home Casement with two inches of insulating dead air, yet opens and closes at a touch... from the inside. Practical, slick-appearing, inexpensive. Combines casement style and beauty with the most effective window insulation known. Exclusive with the...

**Mesker**

**“American Home”**

**COMPLETELY PRE-FABRICATED**

**METAL RESIDENTIAL CASEMENT**

Easy, Quick Installation Cuts Building Costs

Specially designed factory-fitted wood-surrounds make American Home Casements easiest, quickest of all to install. Minimum on-job labor. Adapted to any type residential construction. Steel or aluminum. See the Mesker Catalog in Sweet’s File for Builders, or write for descriptive folder. Stocked and sold by leading dealers and lumberyards.

INDIVIDUALLY PACKAGED + PRE-FABRICATED PICTURE WINDOWS

Each A. H. Casement packed in sturdy shipping carton. Protects window from factory to job.

Distinctive, popular picture windows are formed of stock size A. H. Windows. Factory made to order and shipped with wood surrounds for easy installation.

**FIRST WITH BUILDERS SINCE 1879**

**Mesker Metal Windows**

RESIDENTIAL • COMMERCIAL • INDUSTRIAL

MESKER BROTHERS, SALES DIVISION, 4347 GERALDINE AVE., ST. LOUIS 15, MO.
**YOUNG Announces...**

**New, Circular**

"**VERTIFLOW**"

**UNIT HEATER**

Young circular "Vertiflow Unit Heater shown with "Aerojet" Nozzle diffuser.

How to Get Effective Heating from High Ceiling Installations

Increased airflow and lower final air temperatures of the new, circular "Vertiflow" Unit Heater make it possible to heat floor areas from greater heights than previously practical . . . thereby providing greater heating efficiency with fewer units. The new, Young heating element provides correct final air temperatures, maintains more even heat at thermostat levels, and eliminates excessive air buoyancy, which causes over-heated air to rise before reaching the floor areas. An added bonus in assuring trouble-free installations is the patent-applied-for protective motor cooling principle, described below. Young-designed diffusers and "Anemostats" are available for specific installations. Write for new, free Catalog No. 2648 today!

"**VERTIFLOW**" by YOUNG

Offers Protective Motor Cooling

When motor is off, radiant heat from core rises, creates "chimney" effect, protects motor from "baking" by drawing cool or room air upward through stack (indicated by large arrows).

**CLIPPER**

**MASONRY SAWS**

Work like MAGIC

Savings

Time and Money

Yes, you'll be amazed how quickly and easily the hardest masonry materials can be sliced in two or any angle cut.

**CUTS DRY!**

Wet or Dry your Clipper will always be ready for any job—large or small.

The 100% Answer

You'll want to cut Wet and need to cut Dry. With the New HD Clipper it makes no difference. Both methods in one saw for the 100% answer on every job.

**CUTS WET!**

Dustless at a moment's notice—just turn on the circulating system of your new HD-48 Clipper.

**FREE TRIAL...You Judge**

You can have a Clipper delivered to your job on Free Trial. See it! Use it! Watch it! Then compare it with any other method, if you are not perfectly satisfied in every way, you may return the Clipper without cost. This means you have the opportunity to judge the Speed, Ease and Economy before you buy. That's been the Clipper guarantee for ten consecutive years.

**THE MASONRY SAW with Dual Control**

For more than ten years Clippers have been synonymous with masonry Cutting. The reasons are proven daily on jobs throughout the world. Clipper exclusive Patented features! And Now! New 1948 Clippers are available with new features to make them better than ever. Priced from $195.

Write for Descriptive Catalogs Today!

**CLIPPER MANUFACTURING CO.**

2808 WARWICK

KANSAS CITY 8, MISSOURI

Philadelphia • St. Louis • Cleveland • Austin, Tex.
They'll look for Quality Hardware

The extra cost is little... the pay-off is big... when you use quality hardware. And the outstanding name in quality hardware is YALE.

In our new advertising in BETTER HOMES & GARDENS, SATURDAY EVENING POST and SMALL HOMES GUIDE, we're telling new home buyers why it's so important to specify or look for quality hardware.

You'll be making a hit with your customer when he sees the name YALE on his hardware. He'll recognize it as a good sign of a well-built house.

The Yale & Towne Manufacturing Company, Stamford, Conn., U. S. A. Makers of the famous YALE Lines of Locks, Door Closers, Hardware.

SIGN OF A WELL-BUILT HOUSE
But it can mean disaster with that new building!

- It may be the home or garage!
- It may be the cellar!
- It may be the cistern or pool!
- It may be the dairy barn or milkhouse!
- It may be the city water reservoir!
- It may be the stable or pens!
- It may be the commercial building!
- It may be the factory or warehouse!

This is a 100% THOROSEAL home, not only the interior and exterior, but over the roof, THOROSEAL adds protection and beauty.

Not only the exterior walls surfaces of any type of masonry, including the sills and lintels, the roof, but the interior walls of light manufactured block can be filled and sealed with THOROSEAL and then a beautiful finish coat of QUICKSEAL.

MR. DEALER

Write now for Dealer Plan and our No. 17 Circular, describing, in photographic detail, the methods employed in The THORO System.

YOUR HOUSES Sell Easier

...WITH OAK FLOORS

Maybe you don’t have too much trouble selling houses today. But don’t they sell even more easily when you talk about their oak floors?

Most people know how beautiful, durable and adaptable oak floors are. But sometimes they forget about their long-time economy. Oak floors need only normal, simple care to withstand all the use the average family gives them.

A dustmop every day keeps them bright and clean, and an occasional simple treatment with floor wax quickly brings back their glowing luster. No other floors give such complete, long-time service.

Ask your oak flooring dealer for a supply of the helpers we have prepared for you. The booklet, Oak Floors for Long-time Beauty, tells prospective home owners about the values of oak flooring. The Builders’ Data Book gives detailed information and specifications for planning, laying and finishing oak floors.

Oak floors help you make friends... and keep them.

Copyright 1948, National Oak Flooring Manufacturers’ Association, Memphis, Tenn.
in 4 ways...
your best deal in basement windows

1. PRICED LOW FOR WIDE USE
Mass production of standard types makes this possible.

2. PROMPT DELIVERY
Standardization enables your dealer to carry ample stocks of 3 Basement windows and 1 Utility window to meet most building needs.

3. FENESTRA QUALITY IN EVERY RESPECT
Well made, easy operating, easily screened... Fenestra quality is nationally known.

4. SOLD EXCLUSIVELY THROUGH DEALERS
Provides a ready, local source of supply for you.

For further information, write to Detroit Steel Products Company, Dept. AB-4, 2260 East Grand Blvd., Detroit 11, Michigan.

Fenestra
BASEMENT and UTILITY WINDOWS
AIR AT SHORT NOTICE...
A light-weight, handy compressor that can get around fast! Powers light hand-held Rock Drill, Paving Breaker or equivalent air tools through its easy-breathing Feather® Valves — with unflagging dependability and economy. *

60' Contractor's Portable Compressor. Other Blue Brute Compressors up to 500' capacity.

FOUR FAST WORKERS...
Though tough and powerful, Blue Brute Air Tools are light and compact, with the easy handling that means more satisfied workers . . .
more work done . . . more profit for you.

Paving Breaker, WB-50
Rock Drill, WJ-45
'Clay Digger', W-19
Backfill Tamper, W-8

Your nearby Worthington-Ransome Distributor (write us for his name) has the complete line of Compressors, Rock Drills and Air Tools, Contractor’s Pumps, Portable Mixers, Truck Mixers and Pavers.
Distributors In All Principal Cities

WORTHINGTON
WORTHINGTON PUMP AND MACHINERY CORPORATION
Worthington-Ransome Construction Equipment Division
263 Canal Street, Holyoke, Massachusetts
IF IT’S A CONSTRUCTION JOB, IT’S A BLUE BRUTE JOB 42-10

NORGE
AUTOMATIC ELECTRIC WATER HEATERS
The clients you satisfy now are your best boosters in the years ahead. “But,” you ask, “why do Norge automatic electric water heaters give my clients greater satisfaction?” We would like to answer that with a few simple facts.

1ST MORE HOMEMAKERS WANT THEM
A recent NEMA survey reveals three times as many women want electric water heaters as own them. Their reasons, in order of preference, are: Safe; Clean; Modern; Adaptable; Automatic; Economical.

2ND HOMEMAKERS GET MORE WITH A NORGE
. . . more features to assure satisfaction on every “reason for preference”: No fumes, flame, smoke, soot or vent. Accurate thermostatic control. Smoothly baked white enamel on heavy-gauge steel jacket containing three-inch wall of glass fiber insulation. Cold water baffle. Heat trap in outlet. Direct-contact “Nichrome” heating elements, embedded and sealed, project into water and reduce operating cost. Easy-to-install electrical connection. Modern in every detail! And in seven sizes, from 12- to 82-gal.

Norge Division, Borg-Warner Corporation • Detroit 26
"...we shall continue using it at every opportunity."

"Our first experience with Bradley Pre-finished flooring was in 1942. That we made a wise decision in selecting it was proved repeatedly as our work progressed. No time was required for sorting, its tongue-and-groove fitting accelerated laying. Pre-finished at your factories, it required no machine sanding and finishing after it was laid. Its durable, uniform and lustrous finish, subjected to the constant handling and work of the mechanics in laying, was restored simply by cleaning.

"Since then we have used Bradley Pre-finished Oak Flooring for about 95 jobs, with the same satisfactory experience. Needless to say, we shall continue using it at every opportunity."

What's behind this contractor's good opinion of Bradley Pre-finished is covered in our Data and Specifications. Write now for your copies.
Success Formula
FOR BUILDERS, DEALERS,
ARCHITECTS

1. WINDOWS THAT OPEN WIDE
Men and women everywhere want windows that open wide at the slightest touch of the hand... smoothly... silently.

+ Plus 2.

INVIZABLE SASH BALANCES
The "Grand Rapids Invizi-ble" Sash Balance is always at your service... never in your sight. It is completely concealed in and moves with the sash itself.

+ Plus 3.

SAVINGS IN MONEY...
This preferred balance more than pays its cost in the savings on installation alone.

= EQUALS =

SATISFIED HOME OWNERS
Tested in the laboratory and proved in thousands of homes, these preferred spiral sash balances will give you a lifetime of dependable service.

ADVERTISED TO
134,445,000 READERSHIP IN NATIONAL MAGAZINES

- BALANCE 100% concealed in the sash... no tapes... no cables... no corrosion.
- EASY TO INSTALL... just drive in two fasteners... screw in one screw.
- 10 SIZES FIT 95% of all new and old windows... completely interchangeable.

You must have thought often of the mighty important role shipping plays in your business and private life, for you depend on shipping for practically everything you eat, wear or otherwise use...

We of Railway Express know how diverse shipping requirements can be. With the addition of hundreds of new express cars, motor vehicles and other equipment, we are building our service to meet every one of your transportation needs.

Such improvements, as well as rising maintenance and operating costs, have made higher charges inevitable—but these charges will aid us in making Railway Express the high standard shipping service for you and for all America.

RAILWAY EXPRESS

... Maintains 23,000 offices (there's one near your factory, office or home);
... Uses 10,000 passenger trains daily;
... Has 18,000 motor vehicles in its pick-up and delivery services;
... Offers extra-fast Air Express with direct service to 1,078 cities and towns.

NATION-WIDE RAIL-AIR SERVICE
TRUSCON Residential STEEL CASEMENTS

offer you an unusual group of advantages!

No other type of window offers the utilitarian advantages of Truscon Residential Casements. Nor does any other type of window offer such features of beauty and distinction in design, applicable to every style of architecture, in every size of home.

Study the group of Truscon Steel Casement features illustrated below. These are benefits the home-owner wants and appreciates. He will buy them willingly, for you can offer them to him at a reasonable figure. And remember, too, that these Truscon Casements have the permanence of steel—no rotting, warping, sticking—no costly repairs or constant maintenance.

Write for illustrated literature giving complete specifications, instruction details and detailed information on Truscon Residential Steel Casements.

TRUSCON STEEL COMPANY
YOUNGSTOWN 1, OHIO Subsidiary of Republic Steel Corporation

PACKAGED Cooling Comfort
for INCREASED Sales Appeal

BAR-BROOK W-30 FAN UNIT
You can increase the sales appeal of the small homes and apartments you build with the Bar-Brook W-30 Packaged Fan Unit. Its compact size—only 5 1/4" thick and 30" square—makes in-the-wall installation simple and inexpensive.

The W-30 has 30" blades, two quiet speeds (High: 4800 CFM; Low: 3500 CFM), and 11' cord and plug. Direct drive motor insures efficient, economical cooling comfort. Smart styling and beautiful ivory white baked enamel finish make the W-30 “at home” in the finest surroundings. Available with or without automatic shutter and attractive stationary louver.

ECONOMY SIDINGS
one answer to high building costs

For those who want wood siding for their dream house but at the same time face the high building costs of today, Economy Sidings in Western Pines* is one solution to the problem. In short, “Economy” lumber gives the home builder adequate service and lasting beauty with low-cost maintenance.

Economy Sidings are milled to a variety of pleasing patterns. The knots offer no problem when sealed with knot sealer WP-578 (see below).

In Economy Sidings, architects and builders have a material to recommend which is versatile and offers the same outstanding resistance to weathering as higher cost sidings.

GOT A KNOTTY PROBLEM?
Knot sealer WP-578, developed by Western Pine Association, is recommended for priming knots to prevent paint failure. In laboratory and field tests, it has out-performed all other sealers. Prepared solutions of WP-578 are made and distributed by 2 approved paint manufacturers from coast to coast. If your dealer does not have it, write Dept. 60-B, Western Pine Association, Yeon Building, Portland 4, Oregon.

BAR-BROOK BREEZEBUILDER* FANS
have been consumer accepted and preferred for 16 years. 4 sizes: 36", 42", 48", 54". Air deliveries certified by ASHVE Code. UL approved. Designed for ATTIC or BASEMENT installation.

BAR-BROOKFANS
BAR-BROOK MANUFACTURING CO., INC.
SHREVEPORT, LOUISIANA
Preferred by LEADING BUILDERS

The effective use of Copco Residential Steel Windows is demonstrated in the Schaefer Highway Project, Detroit, Michigan, part of which is shown above. F.H.A. APPROVED UNDER TITLE #603. Built by Curtis Development Co. These experienced construction experts PREFER Copco because they know that Copco cold roll-formed sections make perfect casements. Copco Steel Windows are always uniform, providing tight, faultless fit... and greater strength. Follow the example of leading builders... next time SPECIFY COPCO.

Write for free illustrated literature and price list on Copco Steel Windows and Building Products.
Pour 12 to 15 More Yards of Concrete Every Day!

At the high wages you pay your concrete crews today, every extra yard you pour is worth real money. You can produce 30% to 40% more yardage every day with a —

3½-S AUTO-LOADER

- A non-tilt half-bag mixer that keeps crews on their toes! Mixes up to 50 yards a day — fast as a power loader! While one batch mixes and discharges the next is being loaded and measured in the low-mouthed hopper. Lift the hopper gate, and in goes the new batch — automatically shaken in — quick as a flash and clean. Metering tank supplies water exactly. Drum turns on machined steel tracks, has famous “Dual-Mix” action for thorough mixing and extra fast discharge — a 3½ hp engine drives it. Machine trails and moves easily and safely on wide-tracking Timken bearing wheels and springs. The fastest 3½-S mixer made — for 30% to 40% greater daily yardage!

JAEGER 3½-SPEDY

Fast Working End-Discharge Half-Bag Tilter

Patented V-bottom “Dual-Mix” drum gives double the mixing action of other tilters. Tows fast and stably. Spots by merely backing up to material pile, because loading end is at rear. No feet or legs on discharge end — wheelers get in and away with loads fast, no need to reverse direction. 2½ hp engine, Timken drum and wheel bearings.

65, 115, 165 POWER LOADERS

With Skip-Shaker, machined steel drum tracks, automotive transmissions, and other Jaeger features for bigger jobs and greater daily production.

Write for complete catalog M-8

THE JAEGER MACHINE CO.
Main Office and Factory — Columbus 16, Ohio

REGIONAL OFFICES

2-SPEED HYDRO-HOISTS, SELF-RAISING TOWERS, PUMPS, AIR COMPRESSORS, DISTRIBUTORS IN 130 CITIES.

WEIGHT-LIFTING CHAMPION

"OVER-THE-TOP"

DOOR EQUIPMENT

for Heavy Industrial Doors

Use of “over-sized” power springs is one of the success secrets of “Over-the-Top” Door Equipment. These heat-treated, oil tempered steel springs are adjustable to provide the right amount of lift for effortless operation, even on the largest industrial doors. Other important features are: simple, trouble-free mechanism; smooth, quiet operation; minimum head-room requirements (as little as 6’ for a 12’ high x 14’ wide door); automatic opening (starter springs begin upward action, power springs do the rest). Little wonder “Over-the-Top” leads the field!

Select “Over-the-Top” Equipment for Heavy-Duty Applications

<table>
<thead>
<tr>
<th>Type of Hardware</th>
<th>Stock No.</th>
<th>Door Width</th>
<th>Door Height</th>
<th>Weight Pounds</th>
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<tr>
<td>Heavy Series</td>
<td>716</td>
<td>8’ to 10’</td>
<td>9’1” to 10’</td>
<td>200 to 250</td>
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<tr>
<td></td>
<td>716</td>
<td>8’ to 13’</td>
<td>8’1” to 9’</td>
<td>200 to 275</td>
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<tr>
<td></td>
<td>716</td>
<td>8’ to 16’</td>
<td>6’6” to 8’</td>
<td>200 to 300</td>
</tr>
<tr>
<td>Extra Series</td>
<td>716</td>
<td>8’ to 14’</td>
<td>9’1” to 10’</td>
<td>180 to 375</td>
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<td>716</td>
<td>8’ to 16’</td>
<td>8’1” to 9’</td>
<td>210 to 425</td>
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<td>716</td>
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<td>6’6” to 8’</td>
<td>240 to 475</td>
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<td>Heavy Series</td>
<td>718</td>
<td>9’ to 14’</td>
<td>11’1” to 12’</td>
<td>200 to 300</td>
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<tr>
<td></td>
<td>718</td>
<td>9’ to 16’</td>
<td>10’1” to 11’</td>
<td>235 to 400</td>
</tr>
<tr>
<td></td>
<td>718</td>
<td>9’ to 18’</td>
<td>9’0” to 10’</td>
<td>275 to 500</td>
</tr>
</tbody>
</table>

Write for free “Over-the-Top” Door Equipment catalog which illustrates the complete line, including Wood and Aluminum Door Units.

FRANTZ
GUARANTEED BUILDERS HARDWARE

FRANTZ MANUFACTURING CO., STERLING, ILLINOIS
Cut Spring Homebuilding Costs

3 Ways!

• Springtime is building time and for the budget-minded builder Ceco offers 3 ways to cut costs of new or remodeled homes. Consider the money-saving building suggestions below and call on Ceco for full details.

STEEL CASEMENTS

- Cut installation costs 80% because there are no hidden costs to overlook such as hardware, prime coat, accessories, planning or fitting. No need for repair.

BASEMENT WINDOWS

- Standard sizes ready to install and easy to do, too. No fitting, trimming or painting necessary. Cannot rot and need no repair.

METAL SCREENS

- Factory finished, on-the-job painting unnecessary. Precision made, ready to install without fitting or trimming. Standard types for every purpose.

THE CECO CREED

- Here is your guarantee of Engineering Excellence in Ceco products. Call on Ceco's 23 offices for help in reducing building costs.

CECO STEEL PRODUCTS CORPORATION

General Offices: 5701 West 26th Street, Chicago 50, Illinois
Offices, Branches and Fabricating Plants from Coast to Coast

In construction products CECO ENGINEERING makes the big difference
NOW comes a new outstanding product to broaden further the well-known line of Gabriel Home-Building Specialties. This new Utility Window incorporates the advantages of the standard Gabriel Basement Window, such as the exclusive side-arm locking detail, easy top or bottom opening to any position, automatic locking. Gabriel high standard of quality and performance. Designed for use in barns, garages, gas stations and miscellaneous small buildings. Size, 15" x 20"; 4 Light; Masonry Opening 32½" x 42½".

WRITE FOR CATALOG showing the complete Gabriel line.
Now Available To Meet Local Code Requirements,
Fit Individual Plans, Schedules and Needs

Permits Architects and Builders To Give Greater Value, Speed Up Small Home Construction

You can give greater value, come out with a good profit, and do the job easier and faster if you figure the Ingersoll Utility Unit into your small home construction plans. With installations in 416 cities throughout the country, architects and builders have found that the convenience, adaptability and economy of the Unit is giving them a real competitive advantage in housing projects, large or small.

Now being produced to more efficiently help you meet local code requirements and to fit individual needs, the Ingersoll Utility Unit is adaptable to a wide variety of plans in single homes and multiple dwellings. Its completeness and compactness simplifies time-consuming specifications, helps cut construction time, and its quality parts insure home-owner satisfaction. Send for complete details on how Ingersoll's “One Purchase, One Package, One Installation” plan will benefit you.
FIREPLACE UNITS
FOR ALL YOUR CUSTOMERS

More sales—better profits for you—with the Bennett Line—Fireplace Units, Dampers (Steel and Cast-iron), Clean-outs, Ash Dumps, Lintel Bars, etc. to fit every prospect's requirement. Only Bennett builds two types of Fireplace Units, to meet all building needs.

Fresh air, from outdoors, is heated and circulated throughout the room. No loss of expensive furnace heat up the chimney...no cold, unhealthy floor drafts—and no smoke!

The unit cannot interfere with the traditional beauty of the fireplace—it's hidden within the masonry...Easier and quicker to build. Mantel may be designed with complete freedom.

EVERY FIREPLACE OWNER WANTS...

Write us for FREE FIREPLACE CATALOG at 448 Market Street.

BENNETT-IRELAND INC.
Chartered in 1906
NORWICH, NEW YORK

 Does your present sander fit today's highly competitive fast moving floor finishing picture? Here's what the 1948 line of ultra-modern HOLT sanders offer to help you make MORE PROFITS PER JOB:

1. Fully automatic belt tighteners to eliminate machine chatter.
4. All motors built by leading manufacturers to Holt specifications.
5. All Holt motors guaranteed for one year.

AND YOU'LL CHOOSE...
Why it pays low-cost-home builders to revise plans
To Include Coleman Floor Furnaces

This plan offers savings that often improve value! This design, by National Plan Service (Design V-5), shows how this leader in small home design has secured maximum value and convenience in a genuinely moderate-priced home. Note how two Coleman Floor Furnaces can be used for "area" heating in this type of construction—to eliminate basement cost, and still require no first-floor space for heating equipment.

Needs no basement. Easily installed. Coleman Floor Furnace can be adapted to designs either with or without basements. This saves space in all cases, and often saves construction cost too. Coleman engineering has made it possible to give amazing "all-over-the-house" comfort, at exceptionally low fuel cost—along with the clean automatic heating today's housewives demand. And Coleman's reputation for quality and nationwide acceptance are powerful selling helps.

Cutaway model shows the advantages of Coleman's automatic, "all-over-the-house", warm-floor heat that really sells homes. Note how floor-level air is drawn through cool-air-chamber (A); how air is thoroughly heated in warm-in chamber (B); how 78% open register (C) lets warm air into house FAST. Note: Patented streamlined bottom (D) speeds up warm air flow 35% over old-fashioned designs.

See how it sits in the floor—not ON it and not in the basement. No basement is needed, so you can often save this cost—and much costly duct work. An experienced man can install in only 4 to 6 hours. Models from 25,000 to 70,000 BTU input; use one furnace, or combinations of two or three. In city, town or country, there is a Coleman Floor Furnace to fit your needs—models for oil, gas and LP-Gas.

Special cooperation for contractors! Send coupon for full facts and latest contractors specification book.
HOMASOTE gets a letter

Long Branch, New Jersey
October 22, 1947.

President
Homasote Company
Fernwood Road
Trenton, New Jersey

Dear Sir: —

I am one of 56 men who constructed and then lived in the Byrd Expedition buildings (at Little America, Antarctica for over a year in 1934-35) which were assembled from Homasote lined sections left over from the establishment of the first Little America in 1929. These sections were already the veterans of five years' storage in damp New Zealand warehouses, but were still so strong and easy to saw, fit, and assemble that we were considerably surprised. But when we had dug down to the old camp and found also that the Homasote in the original buildings was in perfect condition after one year of soaking in melted snow (1929-30) and five years under the terrific pressure of 20 feet of ice, we were completely sold. When other wallboards would have pulped, cracked or dissolved, Homasote remained firm and trustworthy insulation against blizzards and temperatures to minus 75!

I am not in the habit of using my few leisure hours to throw bouquets, I have too much to do, but I feel that merit deserves reward, so here goes — believe it or not, the above remarks are paled into obscurity by my present opinion of your fine product. When, as a technical observer, on the recently concluded Navy "Operation Highjump", I was one of the few who were privileged to dig down 12 feet to our old home 10 miles from the newest camp-site, I found the 18 year old Homasote in the walls and ceilings of the "Messhall" and "Science Lab" (the only buildings we could reach) absolutely unharmed by time, water, or cold. Hundreds of tons of ice had forced up the wood floors and pushed down the ceilings until they met in the center of the rooms, and puddles of ice everywhere evidenced the repeated freezing and thawing of the many seasons, but the walls were straight, unbuckled and scarcely stained.

Later, when our Expedition was leaving for its return to the States (February, 1947) and I had occasion to make one last run to the old camp to mark the entrances against the future, I hacked out a piece of the messhall wall to send to you for analysis. I am mailing it to you for whatever purpose you may wish to use it, and if you ever want me to convince some doubting customer of yours, just lead me to him. At least I can assure you that when at last I build the home I've been planning throughout several years of roaming the world, the insulation will emphatically be Homasote.

Yours sincerely,

Amory H. Waite, Jr.
Radio Engineer
BAE II 1934-35 and 1946-47

P.S. I forgot one item. When I was carrying your specimen up the rope ladder from the whaleboat to the ship, it fell out of my pack and drifted away to sea. To my amazement its generation-old waterproofing qualities were still intact for it kept floating! Another boat speared it with a boat hook an hour later and returned it to me, punctured, but still definitely useable wallboard. The hole, therefore, is a badge of honor rather than a defect.

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- Spanish Buff
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- Also, Pure White
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3
I have thousands of parts, of many sizes, types, and capacities. I am readily available in any quantity—all from a single source. My parent has the best-known name in electricity. Know what it is?

ANSWERS

1
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4
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This Andersen casement picture window in a Columbus, Ohio, home designed by Downie Moore, Architect, is a good example of windows that function simultaneously as walls and windows.

The installation is stock unit Number 542. The sash at each side swings out.

Specification data is in Sweet's Architectural and Builders' Catalogues or will be sent by Andersen Corporation on request. See your local lumber and millwork dealer for prices and delivery information.

*TRADEMARK OF ANDERSEN CORPORATION

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20" PLANER

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No draft, rain, snow or insects can enter — ventilation can be regulated. Painting unneeded — frames are rustproof and corrosion resistant. Top channel of frame reinforced to carry glass blocks. Positive transom type lock. Completely assembled for installation.

8 sizes: for 6" and 8" glass blocks.

Detailed specifications on individual and continuous belt construction Ventilators sent upon request

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Note the METAL REINFORCED JAMBS, exclusive with NORDAHL FRAMES. The pocket opening is held rigid and true. Sturdy metal track in a built-up header makes a smooth running surface for the wear-ever phenolic fiber rollers. Nothing to go wrong... easy to install. See your dealer or write for descriptive folder.

Nordahl—180 W. Alameda Ave., Burbank, Calif.

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Oil or Gas Fired

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Four floating types are easy operating, weather-tight, long-lasting, easily installed. All are priced within a few dollars of ordinary, old-style garage door equipment. Worth looking into, isn't it?

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2. "SLIDE-UP"—
   A bargain in convenience. Can be applied to old or new doors. A simple weight-box, sand-filled, balances the weight of the door.

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   Simple pivot principle swings the door up effortlessly. For doors up to 250 lbs. and any size up to 8' x 8'. Excellent for converting old, hinged doors into a smooth working unit.

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For Any Residential, Commercial or Industrial Door
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Flexible-Reinforced
MASTER ASPHALT TILE

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Build Mid-Summer Comfort in Your Houses WITH A Peerless Electric VENTILATTIC FAN

AD luxury values at a practical cost to every home you build, by installing a Peerless Electric Ventilattic Fan. Operated during the day the Ventilattic fan blows out heat radiated from a hot attic to rooms below, but the chief purpose is to pull in the living quarters the cool night air—10 to 20 degrees cooler than the air pocketed in the attic. Available in five sizes complete with motor, and with or without automatic-louver outlet—closes automatically when fan is not operating. Supplied with automatic shut-off and suction box if desired. Excellent also for stores, dance halls, restaurants, theaters. Descriptive folder free on request.

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Indispensable in kitchens and other rooms where grease, heat, smoke and odors are likely to accumulate, the G·E Ventilating Fan exhausts stale, smoke-filled air and replaces it with fresh air—FAST!—quietly.

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Model FM10C1

INSIDE

OUTSIDE

This image is doubtless

It moves the house to that

General expensive the Sun

P.S. Every G·E Fan

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G·E

Model Number

FM24W1
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It's your insurance policy on each and every G-E Fan! Appliance and Merchandise Department, General Electric Company, Bridgeport 2, Connecticut.

G-E HOME COOLING FANS AVAILABLE IN FIVE MODELS

<table>
<thead>
<tr>
<th>Model</th>
<th>Blade Size</th>
<th>Volume Cu. Ft./Min.</th>
<th>Pressure Test Method</th>
<th>NAFM Rating</th>
<th>Width</th>
<th>Height</th>
<th>Depth</th>
<th>Net.</th>
<th>Wt.</th>
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<tr>
<td>FM24K</td>
<td>24</td>
<td>4,000</td>
<td></td>
<td></td>
<td>30</td>
<td>30</td>
<td>13½</td>
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<tr>
<td>FM30K</td>
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<td>14</td>
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<td>24½</td>
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<tr>
<td>FM42K</td>
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<td>50</td>
<td>50½</td>
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<tr>
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<td>56</td>
<td>56½</td>
<td>26½</td>
<td>190</td>
<td>lb</td>
</tr>
</tbody>
</table>

Note all fans 110/120 volts, 60 cycles.

MAKERS OF TOP-QUALITY FANS MORE THAN 58 YEARS

GENERAL ELECTRIC
High interior decorating costs put the pinch on construction budgets—and profits. Elliott's UNI-TEX cuts these costs drastically by conserving gallons of paint, hours of work. Moreover, it leaves a rich-looking appearance that pleases your most particular client.

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*Poll by leading home magazine.

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The Leigh Dust Chute is a low priced unit consisting of 3 parts: the face, the chute and dust bin. The face is finished in white enamel (infra-red baked) with a door that trips open with the foot and stays open until closed. The Chute extends down into the basement to a dust bin at the bottom.

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