NAHB Convention Issue
8 Builders’ Projects Described
Review of National Home Week

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A PRODUCT WORTHY OF ITS NAME

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Socialization Versus the Middle Class

SPOKESMEN of the Truman administration are advocating increases in taxes on business and on the "middle and upper income groups" which it is claimed are needed to balance the federal budget. American Builder is in favor of balancing the budget by making (1) the smallest government expenditures consistent with national defense and (2) such distribution among taxpayers of the increases in taxes then needed as will do the least harm to the national economy.

The significance of the proposal to impose all the increases in taxes on business and the middle and upper income groups should not be disregarded. For the middle and upper income groups are the owners of virtually all business, large and small. Hence, what is actually proposed is that all the increases in taxes shall be directly and indirectly imposed on the middle and upper income groups. And as the middle class, with incomes ranging from $4,000 or $5,000 up to $50,000 before taxes) greatly outnumbers the rich, and in the aggregate owns vastly more property, what is actually proposed is that the great bulk of the increases of taxes shall be imposed on the middle class.

The things which in every country where they exist principally distinguish the so-called "working class" from the so-called "middle class"—known in Europe and in the literature of socialism and communism as the "proletariat" and the "bourgeois"—are their ambitions, the size of their incomes, the ways in which their incomes are made and their ways of life. The typical member of the working class is content to make his living with his hands, is satisfied to have his labor union get his raises in pay for him provided the union gets him as much as other workers doing similar work, and has little or no ambition for promotion in position or the accumulation of property. The outstanding characteristics of a member of the middle class are ambition and ability—ambition and ability to work with his brain, rather than with his hands, to excel in his work, to get promoted, to command more pay than others, to increase his wealth and income by saving and making remunerative investments. The "proletariat" want equality of income without equality of work. The "bourgeois" want inequality of both work and income—i.e., they want to do more and better work and to be better off than other people.

Until within recent years the middle class, with its belief in and practice of individualism, was dominant in the political and economic affairs of the United States. It has now lost both its political and economic dominance and is being rapidly liquidated by the use of the power of government by politicians and labor leaders for the supposed benefit of the working class. The change began sixteen years ago when the New Deal administration began promoting both labor unionism and socialist policies. Under the fostering care of a government which almost daily begins proceedings to destroy alleged monopolies in business, the labor unions have now become the most powerful monopolies that ever existed. It is natural for labor unions to favor socialist policies because most such policies ostensibly have the purpose and effect of benefiting people with less than average incomes at the expense of people with more than average incomes.

President Roosevelt both increased the membership and power of the labor unions and used them skilfully for his own political purposes. Now the labor unions have got virtual control of the Democratic party and are dictating its policies. The chairman of the Democratic National Committee made the significant remark after the result of the recent election became known, "Labor did it"—meaning, of course, that the labor unions "did it."

While the manual workers have become organized into powerful union monopolies, and these monopolies have been getting control of one of the great political parties and using their control of it to promote socialist policies, the middle class has remained unorganized and has seen the leadership of the Republican party ignoring the interests of its predominantly middle class membership while competing with the Democratic party in offering socialist policies for the support and votes of the leaders and members of the labor unions.

Thus the great middle class is in process of being rapidly liquidated by socialist policies because it lacks leadership and organization of its own and because it not only regards with tolerance but in large measure supports the very leadership, organization and policies that are being devoted to its economic destruction.
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**Case**

Vitreous China Plumbing Fixtures

Distributed Nationally by Leading Plumbing Supply Wholesalers—Consult Your Classified Telephone Directory
for every taste...
What homeowner wouldn’t exclaim over a beautiful bathroom like this? It’s the Crane Drexel Group, styled to grace the finest homes.

For every taste...for every budget...CRANE

That’s the beauty of a really complete line—it satisfies all individual likes. Crane can be gay, Crane can be sedate. Where “cost is nothing,” Crane goes de luxe... where cost is everything, Crane gets right down to earth.

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See Sweet’s Builders’ File for selections from the Crane line—and be sure to check your requirements early with your Crane Branch or Crane Wholesaler.

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The Servel ALL-YEAR Gas Air Conditioner

The Flame of Freedom House was especially designed for Servel All-Year Gas Air Conditioning. This means that families living there will be forever free from summer heat, winter cold, dirt draughts, humidity, pollen and prowlers. And yet, this home costs little more than an ordinary home with a good winter heating plant. Planning a house around air conditioning makes many savings possible. No basement excavation is needed. Porch screens, and storm sashes are eliminated. And the cost of duct work can be held to the minimum.
The Flame of Freedom House was designed by the distinguished architect David Searcy Barrow as one of the 5-Star Homes (plan No. 1902) sponsored by Better Homes & Gardens Magazine. This house was reproduced and demonstrated at the Atlantic City Auditorium during the American Gas Association Convention, October 4-8, 1948.

SEE MODEL AT BUILDERS' SHOW


The Servel GAS Refrigerator

The different Servel Gas Refrigerator certainly occupies a dominant place in the Flame of Freedom House. For this is the only refrigerator that assures owners freedom from the noise and wear of moving parts. That's because Servel doesn't have a single piston or pump, valve or compressor in its entire freezing system. A tiny, silent gas flame does all the work. And, of course, the Gas Refrigerator offers every worthwhile cabinet feature, including a spacious frozen food compartment, moist cold, dry cold, and a big flexible interior.

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The presence of the ball-type gas water heater brings freedom from work, worry, delay, drudgery. Based on a new, different operating design, Servel delivers all the hot water needed for modern living's rapidly increasing requirements, including the huge demands of automatic washing appliances. And yet, Servel has a lower operating cost, greater safety and durability than any other heater made. Thus unmatched efficiency and service is the result of Servel's exclusive copper ball tank, internal heat-exchanger, and double insulation.
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IN CUSTOMER PREFERENCE!

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"Buyers of non-residential construction rate brick first!"

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Floors of structural clay tile with concrete topping have proved very efficient for homes with no basements. They are simple and economical to lay and offer a draft-free, dry and especially warm floor. Any type of finish such as wood, linoleum, or composition tile may be laid directly over the concrete topping.

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1. Place tile units directly on a bed of clean gravel of 3" minimum thickness. Use gravel which is free from earth. See that earth is not mixed with gravel while placing or tamping. Pea gravel may be used or sizes up to 3/4".

2. Place insulation as shown around entire slab to reduce heat loss. Use thicker insulation for severe conditions.

3. Lay tile with position of the cells alternating as indicated to reduce lateral heat flow.

4. Under severe moisture conditions tile units may be dipped flatwise to a depth of 1/2" in tar or asphalt to seal the pores on the bottom surface.

5. Pour concrete topping after tile and insulation have been placed.

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Here are six small modular brick homes you can build easily. Drawings and basic engineering plans included, detailed drawings available. Send 25¢ with name and address to Structural Clay Products Institute, 1756 K St., N.W., Dept. AB-2, Wash. 6, D.C.
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CHEVROLET MOTOR DIVISION, General Motors Corporation, DETROIT 2, MICHIGAN

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- Multiple Color Options.

*Heating and ventilating system and rear-corner windows with deluxe equipment optional at extra cost.

CHOOSE CHEVROLET TRUCKS FOR TRANSPORTATION UNLIMITED!
For sure sink satisfaction!

- BUILT-IN COUNTER TOP installations are no problem to the Richmond line of fine enameled sinks. Shown here is the Shelton, plate No. 2115, a flat rim sink with double compartments—drilled for supply fittings. Sizes 32" x 21" and 42" x 21".

- WHEN ECONOMY of space and cost is paramount, Richmond wall hung units, such as the Sewanee shown here, are just the thing. Unit illustrated as a modern roll-rim sink with single drainboard. Drilled for combination fittings and large strainer. Right drainboard (plate No. 1552) or left drainboard (plate No. 1550), both 42" x 25".

DESIGNED FOR BEAUTY AND EFFICIENCY — Richmond ledgeback sinks with single or double drainboards are ideal for base cabinet installations in the most modern of kitchens. Drilled for deck-type supply fittings with hose and spray. Model shown is the Servilla, plate No. 1535, available in two sizes, 54" x 25" and 60" x 25".

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CONTINUOUS VAPOR BARRIER
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By Frank R. Walker

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Send for a copy of the new Tenth Edition of THE BUILDING ESTIMATOR’S REFERENCE BOOK today. Take advantage of the many opportunities it offers for increasing your profits through better estimates. Money back if not entirely satisfactory.
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Distributors of Davis and Wells Woodworking Machines
Here's what CONTRACTORS say about this VERSATILE NEW MACHINE

From Seattle, Wash.—"We let your distributor demonstrate two machines on a concrete pouring job. Inside of a half an hour we pushed aside our six concrete buggies and finished the job with the two Prime Movers. In 7½ hours we poured 160 yards of concrete with only two men."

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From Bastrop, La.—"We save 48 man-hours a day hauling concrete, brick, tile, and other construction materials."

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American Builder, February 1949.
Here's good news for builders, dealers and homeowners—an economical basement window that "weathers" at two contacts with the same precision as two-point weathering in casements. Ceco engineers studied basement window problems—ease of installation—ease of operation—weathertightness. What they learned has been wrapped up for you in the new Ceconomy Basement Window. Then Ceco went further—produced a Combination Screen and Storm Panel that gives added comfort and protection for an already satisfactory year-round basement window. All available in three stock sizes. Ask your Ceco man for full details or write for literature.

"Give us moderate-cost housing that has quality down to the last stick of wood," directed the Revere Quality House Institute. And the gentlemen commissioned by the Institute to create the Quality House for Cleveland complied. That is why we point with pride to the selection of Bryant Model 26 Boilers for use with the forced hot water radiant heating systems in this quality housing.

Architect Riddle put every inch of space to work in a design that is functional and wonderfully livable. He provided spacious rooms, a modern step-saving kitchen, even the garage play a part in this plan for modern living.

Builder Fishman, through his on-the-spot prefabrication methods, accounted for savings that made possible such features as automatic laundry equipment, automatic garbage disposal, copper plumbing and Thermopane windows. Before long he will have mass-produced more than 800 of these homes that speak quality in every detail.

This meeting of Bryant Quality with quality in other building equipment and appliances is a custom that dates back more than forty years, when Bryant created the first completely automatic gas-fired boiler for home heating. The top-grade features of design, workmanship and performance incorporated in Bryant heating equipment are a case of quality we invite you to hear about first hand from the Bryant Distributor in your locality.

"Bryant Automatic Heating Equipment is Part of Our Quality Theme"

says MAURICE J. FISHMAN, builder of the Cleveland Revere Quality Houses

"Certainly the provision for cold-weather comfort is an important aspect of home construction. We specified Bryant Boilers for this project because we were sure they would handle the job efficiently and economically. In my experience they have proved it many times."
build better
sell faster!

WITH QUALITY-APPROVED

ALUMINUM WINDOWS

Here's a profitable way to better building and selling. Be sure this "Quality-Approved" Seal is on the aluminum windows you buy!

Then you can offer your customers windows made to the most rigid specifications for design, construction and materials. Only windows that meet these specifications bear this Seal.

Quality-approved aluminum windows—double-hung, casement and projected—come ready to install. No extras to buy! No finish to apply! They give your customers freedom from painting—from costly upkeep—from replacements. And they keep their smart appearance with minimum maintenance.

Remember that only manufacturers whose windows have been tested by an independent testing laboratory may use this "Quality-Approved" Seal. Write today and we'll send you the names of manufacturers who can supply you. Address Dept. A.
"Me sell a roof? Are you kidding? I know how to lay a roof—how to make a roof stand up and deliver the goods. But sell? No, that's not for me!"

Probably very few roofers think of themselves as salesmen. And yet it's right up there on the roof that sales are made or lost. The fellow who lays a roof right has more to do with selling the next job than anybody. And the outfit that keeps laying roofs right—that convinces each owner that short-cutting a job is short-changing himself on roof performance—is the outfit that will have orders to spare when orders get harder to find.

Sure it takes a little longer to do a job better. BUT HOW IT PAYS! No trouble-shooting—no call-backs. Each customer a booster—each year a stronger boost.

Doing a job better means watching details. It means holding to specified exposures, using six nails properly placed when laying strip shingles, cementing tabs where wind is a hazard. It means remembering at each step that doing it better is good business—and good selling!

Soon to be issued is this new booklet, "Good Application Makes a Good Roof Better". 24 pages, pocket size, illustrated with step-by-step diagrams. A useful summary of recommended application practices. Advance sample copy orders may be placed by writing Asphalt Roofing Industry Bureau.

ASPHALT ROOFING INDUSTRY BUREAU
2 West 45th Street * New York 19, New York

CONSTRUCTION'S BIGGEST DOLLAR'S WORTH

SPONSORED BY 28 LEADING MANUFACTURERS OF ASPHALT SHINGLES • SIDINGS • ROLL AND BUILT-UP ROOFINGS
We wanted a name, but we also wanted to know what the experts — architects, draftsmen, suppliers, builders, dealers and lumbermen — thought of Roddis exclusive Hollow Core door construction. So we asked them to tell us why the new Roddiscraft HOUSEMART Door was superior.

They agreed unanimously that it was lighter, stronger, could take more abuse and would last forever. Take the word of these experts who know doors.

After carefully studying the exclusive Hollow Core construction, they could readily see that no other door offered as many advantages.

*The winning name in the Roddiscraft Door Contest submitted in conjunction with a 25-word statement by Miss Joan Englert, Hulsmay Planing Mill, St. Anthony, Indiana. The two other winners were Lessing Whitford Williams, Partner, Geo. B. Post & Sons, Architects, 101 Park Avenue, New York 17, N. Y. and R. C. Emerson, B. H. Charles Cabinet Shop, 2214 Alessandro Street, Los Angeles, Calif.
Something NEW in Multiple-Use Cabinets is to be shown at the National Home Builders Show, February 20-24, Chicago, Illinois. Also, Superior Unit Window and Nu-Style Kitchen Cabinets will be shown. These "Headliners" will demonstrate why so many Builders prefer the New Bilt-Well Line. Don't fail to see this display...booth 112.

CARR, ADAMS & COLLIER COMPANY
DUBUQUE, IOWA
The asphalt tile boom is on!

Articles and illustrated stories on the importance of the Asphalt Tile Industry to the building field are regularly being featured in these and many other leading trade and consumer publications—creating a ready-made market for YOU!

Sell the profit line in '49...

Genuine FACTORY WAXED ASPHALT TILE FLOORING

Here are the SALES FACTS for...

DISTRIBUTORS: As a HAKO distributor you will get prompt delivery of HAKO Factory Waxed Asphalt Tile in the new light and conventional colors—matching colored Feature Strips—and the new easy-to-install HAKO Extra Flexible Plastic Cove Base—plus, new practical merchandising plans to help build your dealer organization.

FLOORING CONTRACTORS: HAKO Factory Waxed Asphalt Tile is made in America's most modern plant, and laboratory controlled for color and uniformity! For assured satisfactory installations be certain it's HAKO.

DEalers: HAKO distributors, located in strategic market centers, are in a position to readily supply your HAKO Factory Waxed Asphalt Tile. You are supported with a well-planned merchandising program that brings customers into your store and makes your selling job easier.

Phone, wire or write NOW—the HAKO representative will be glad to work with you.

HACHMEISTER - Incorporated
PITTSBURGH, PA. - CABLE ADDRESS "HAKO"

HAKO DISTRIBUTORS GIVE YOU FAST SERVICE ANYWHERE IN THE U.S.A.
It's here...

BETTER BUILDING...LESS WASTE!

1. "I was amazed at the saving in time, material and labor," writes a contractor who used End-Matched lumber for siding and lining on a 66 x 100 foot dairy barn.

2. Interior lining of barn is made smooth, clean, and sanitary with End-Matched lumber.

3. Every piece of End-Matched lumber fits. No sawing needed...no time lost squaring up the ends. It lays up fast, and stays up tight.

4. Appearance counts too...and what could be better looking than the perfectly smooth underside of this fine home. End-joints are practically invisible.

5. Diagonal sheathing makes a sounder, more perfect building...and End-Matched lumber is ideal for the job. Let the joints fall where they may!
Retail lumber dealers are in a position to furnish End-Matched lumber from softwood species of the West Coast . . . lumber that locks together at the ends and edges to form smooth, tight, rigid panels of any desired area. There is no waste with End-Matched lumber—no cutting and fitting of each piece. It makes possible sound, speedy construction at lowered cost.

End-Matched, with its superior construction qualities for sheathing, siding and flooring, is extremely popular among builders who have used it and seen its extra values. They will be glad to know that End-Matched is available. The pictures on the opposite page illustrate some of the advantages of this superior lumber product.

Sound quality in lumber helps you win friends, build sales, increase your profits. You can offer that kind of quality in fullest measure, in Weyerhaeuser End-Matched Lumber!
PLYSCORD cuts building time and costs. The large, light panels cover big areas fast and require fewer fastenings. Contractors report 50% saving in time when using PlyScord for subflooring... even greater savings when the panels are used for roof decking and wall sheathing. Homes built with PlyScord are tighter and warmer, as well as stronger and more rigid.

Walls are Stronger—More Rigid, When Sheathed with PLYSCORD

Here's how government tests at U.S. Forest Products laboratory rank the relative strength and rigidity of various sheathing materials on walls with openings:

<table>
<thead>
<tr>
<th>STRENGTH AND RIGIDITY OF FRAME WALLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheathing Material</td>
</tr>
<tr>
<td>1x8'' DIAGONAL SHEATHING</td>
</tr>
<tr>
<td>29/32'' FIBERBOARD</td>
</tr>
<tr>
<td>HORIZONTAL with LET-IN BRACES</td>
</tr>
<tr>
<td>1/4'' PLYWOOD NAILED</td>
</tr>
<tr>
<td>1/4'' PLYWOOD GLUED TO FRAME</td>
</tr>
</tbody>
</table>

PLYSCORD—the unsanded sheathing grade of Interior-type Douglas fir plywood—contributes to better building in scores of ways. PlyScord adds rigidity and strength to wall construction when used as sheathing. PlyScord is an ideal roof sheathing, too—suitable for any type of finish roofing. As subflooring, PlyScord provides a rigid, sturdy base for finish flooring, insulates, protects against drafts from below. PlyScord serves as a one-use concrete form panel as well; after form use, the panels are re-used as sheathing or subflooring—an added construction economy.

For details on PlyScord use and application, see Sweet's File, Architectural, or write for the new 1949 Basic Plywood Catalog. Also available is a new booklet, "The Wood of 1,000 Uses". Douglas Fir Plywood Association, Tacoma 2, Washington.
When Your Plans
are the Same as Hers

HOUSES SELL FASTER!

Her Plans Call for a

FORMICA CABINET TOP!

Millions of American housewives have a warm spot in their hearts for cheerful, colorful Beauty Bonded Formica Cabinet Tops. They love Formica's rugged resistance to fruit acids, alcohol, boiling water, and cleaning alkalis. They know and trust this most famous name in decorative laminates.

Formica tops are so easy to have, there is no reason for any home to be without this powerful sales stimulant. Many well-known "packaged" cabinet units are available from stock with Formica tops.

A Formica fabricator in your town will gladly furnish tops for custom kitchens.

Write for our Mr. and Mrs. Jones folder. It tells in full color the story of Formica in the home. Would you like a Formica Color Pattern Index? Would you like a chip folder with actual Formica samples of six popular color patterns? They're yours for the asking. Formica, 4514 Spring Grove Avenue, Cincinnati 32, Ohio.

Formica is a Trade Mark Registered in U. S. Patent Office.
COMPLEMENT

YOUR RESIDENTIAL MASTERPIECES WITH TRUSCON SERIES 138 DOUBLE-HUNG STEEL WINDOWS

The adept use of Truscon Series 138 Double-Hung Steel Windows in two apartment groups at Cleveland, Ohio, lends an air of dignified beauty and efficiency to the structures ... and assures the occupants easy-to-operate, easy-to-screen and apply storm sash, easy-to-drape windows that will give them numberless years of trouble-free service.

This outstanding window was an original development by Truscon in 1938, as an answer to the insistent demand for an economically priced steel window in the popular double-hung design. The efficiency and economy of these steel windows have been proven thru ten years of use in thousands of installations.

Of major importance in the Series 138 Truscon Double-Hung Steel Windows is the fact that the sash members are of welded tubular construction. This assures strength, durability and finished appearance. Weights and cords are not used. Operation is controlled by motor type spring balances equipped with tapes of Enduro stainless steel.

Each window is completely factory weather-stripped in stainless steel. Screens and storm sash of the simplest and most economical type are available. Shade, drapery, curtain or venetian blind fixtures, of standard types are easily attached to the interior side, in holes provided in all units.

NEW LITERATURE. Write for new Truscon Catalog, complete with installation details and specifications of Truscon Double-Hung Windows and Casements.
Build with pentachlorophenol-treated lumber and you build greater customer satisfaction.

This tested preservative protects wood from decay and termites. Dow pentachlorophenol increases the life of wood, cuts maintenance costs, and increases wood’s salvage value.

Build with “Penta”-treated wood and add to your reputation as a builder of quality.

For further information about pentachlorophenol write to Dow for free booklet PE-20.

THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN
BUILD BETTER
SIDEWALLS

Builders are enthusiastic about this wonderful sidewall for four prime reasons:

1. Finished walls cost less! Pre-staining saves builders the time and cost of prime-coating. This saving, plus the reasonable cost of materials, makes sense.

2. Application is simple and fast. A strip of shiplap for nailing guide is the only "extra" in the way of equipment. Any man who can drive a nail can apply stained shingles or shakes.

3. Available in quantity and wide variety! Any mill listed below can provide dealers with stained shingles and shakes of excellent quality, choice of colors.

4. Architects approve them. Home buyers prefer them. Sales are easier. Customers are assured warm, attractive homes with very low maintenance cost.

FOR SPECIFICATIONS SEE SWEET'S 86724

<table>
<thead>
<tr>
<th>Length of Shake</th>
<th>Single Course</th>
<th>Double Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>10'</td>
<td>6&quot; to 7 1/4&quot;</td>
<td>8&quot; to 12&quot;</td>
</tr>
<tr>
<td>16'</td>
<td>6&quot; to 9 1/2&quot;</td>
<td>9&quot; to 14&quot;</td>
</tr>
<tr>
<td>24'</td>
<td>8&quot; to 11 1/2&quot;</td>
<td>12&quot; to 16&quot;</td>
</tr>
</tbody>
</table>

CONCEALED JOINTS
Blended with the grooved surfaces; laid tight, joints disappear.

ECONOMY FACTOR
Walls are double. Hidden courses are low cost, low grade cedar shingles.

ASSOCIATED MANUFACTURERS

- M. B. Smith Lumber & Shingle Co., Seattle, Washington
- Canadian Forest Products, Ltd., Vancouver, British Columbia
- The Robert McNeil Shingle Co., Ltd., Vancouver, British Columbia
- Everett Shingle & Shake Company, Everett, Washington
- Columbia Shingle Company, Ltd., Vancouver, British Columbia
- Pacific Products Company, Cleveland, Ohio
- West Coast Stained Shingle Co., Seattle, Washington
- Portland Shingle Company, Portland, Oregon
- W. E. Smith & Sons, Seattle, Washington
- Colonial Cedar Company, Seattle, Washington
"What keeps this house so comfortable? Where does the heat come from?"

That's the question universally asked in houses heated with a B & G Hydro-Flo System. No wonder home buyers—particularly women—are impressed by this completely concealed heating system. No wonder that men (who foot the bills) are delighted with the economy features of B & G Hydro-Flo Radiant Panel Heating.

This forced hot water system circulates heated water through pipe coils in the floor or ceiling. It is so accurately controlled that the heat supply is always smoothly proportioned to the weather. Hence, indoor temperature is always supremely comfortable and fuel bills at rock bottom.

And besides, a Hydro-Flo Heating System furnishes a year 'round low cost supply of hot tap water in virtually inexhaustible quantities... ample for the needs of automatic clothes and dish washers.

A new booklet, "Capture the Sun with B & G Hydro-Flo Heating," will give you the complete picture—write today.

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

B & G Hydro-Flo Radiant Panel Heating

Bell & Gossett Company

Dept. AW-11

Morton Grove, Ill.
1. This beautiful General Electric kitchen-laundry inspires any buyer. In a nationwide survey, 51 per cent of the men and 53 per cent of the women said they prefer General Electric appliances. Each appliance brings you extra profit.

2. The G-E way of living in action. This Electric Sink eliminates messy clean-up jobs. The homemaker saves weeks of work each year, gets hours of extra leisure each day. Operating cost: mere pennies a day!

3. What woman could resist this General Electric Laundry Center? In this bright, sunny corner, the housewife saves time, work, money. Quick-clean washing, fluff drying, effortless ironing, all help to banish washday drudgery.

4. Can they afford the G-E way of living? Yes, definitely, in a "packaged mortgage." It costs only up to $4.30 extra each month, much less than it would cost to buy any one of these appliances on the installment plan!
for a home that features...

The G-E Way of Living!

Today's home buyers seek houses that give them easier living... electrically! Let General Electric Home Bureau help you plan G-E equipped homes for extra profit opportunities and prestige—at first cost of only $4.80* extra a month to the buyer! Your cost: zero!

*When equipment is included in a long-term mortgage.

What is the "G-E way of living"?

It means living in a house where the burdens of homemaking are shifted from people to modern electric appliances!

The G-E way of living is being enjoyed by thousands and thousands of families today in General Electric equipped homes. And today's home "lookers" are learning to insist on the comfort, convenience, and economy of the G-E way of living...in bungalows and in mansions.

In project after project—from ten homes to a thousand—it has been proved that—

G-E equipped homes bring the builder greater prestige—for a G-E equipped home combines beauty, efficiency, and economy—the best combination for sound sales appeal.

Talking cost and profit

The G-E way of living is easily within reach of the average prospect. A complete G-E equipped home costs him only up to $4.80 more a month, under the "packaged mortgage" plan.

And the buyer saves on operation and maintenance of efficient General Electric appliances...often, enough to cover the slight increase in the monthly payment!

Each appliance brings you extra profit—so your G-E equipped home is a more profitable home to sell.

So you see, the G-E way of living is practical for you—and for your prospect!

How can Home Bureau help you make profit out of the G-E way of living? Read the story below.

GENERAL ELECTRIC HOME BUREAU SUCCESS STORY OF THE MONTH

Everett E. Benjamin, New Jersey builder, writes:

"We feel that whether the home is large and expensive or small and inexpensive, the completely modern General Electric kitchen paves the way to a quicker sale of that home!"

And 90 new Benjamin foundations will soon be topped off by more houses with G-E kitchens and laundries!

Let us tell you the whole story. And let us show you how G-E Home Bureau can help you plan homes for better living—and help you sell them faster!

Just drop a post card to the Home Bureau, General Electric Company, Appliance and Merchandise Department, Bridgeport 2, Connecticut.

Everett E. Benjamin

GENERAL ELECTRIC YOU CAN PUT YOUR CONFIDENCE IN GENERAL ELECTRIC
American Builder, February 1949.

1000-home project uses KIMSUL* insulation throughout!

Newton, Iowa

1000-home project uses KIMSUL* insulation throughout!

Builds choose KIMSUL for its Low Cost — High Insulating Efficiency

Pictured here are three of the 35 different styles of houses being built at Newton, Iowa, employing streamlined construction methods devised by Chief Engineer J. Buford Jenkins. This is a 100% site-prefabricated project. Leaders of the non-profit organization financing it, say the houses will sell for $8,000—$10,000. It is expected that 1000 units will be completed within three years—all of them insulated throughout with KIMSUL.

Whether you're building one house or a thousand, investigate first the many advantages of using KIMSUL insulation. For KIMSUL, with a "k" factor of 0.27, is the only many-layer stitched blanket type of insulation—and that means uniform efficiency over every inch of covered area. No thick spots—no thin spots where heat can leak out. What's more, KIMSUL comes in light, handy, compressed rolls, so it's easier and more profitable to install. No need for skilled workmen or expensive machinery. And KIMSUL is the only insulation with the fire-resistant Pyrogard* cover.

For further information, see your distributor, or write for our free booklet covering the latest techniques in the insulation field.

KIMBERLY-CLARK CORPORATION
Neenah, Wisconsin

America's Finest New Homes are insulated with Kimsul!
THIS TIME we graduated into the big truck class with a Bonus Built Ford F-7 Big Job," writes E. H. Holtzen of Enid, Oklahoma. "Our Ford F-7 does the job with power to spare, and we can understand what you mean by 'Bonus Built.' Our costs have been negligible, and our gas mileage is very economical."

With Mr. Holtzen, as with thousands of other extra heavy duty truck users, the new Ford 145-horsepower Big Jobs are all the go! One reason why... engine power second to none in its class. Second reason... the luxury of the new Ford Million Dollar Cab. Third reason... Bonus Built construction, a feature of every one of over 139 Ford Truck models. Bonus Built is the superstrong construction that contributes to long truck life. Life insurance experts prove Ford Trucks last longer!

ONLY THE FORD BIG JOB HAS ALL THESE FEATURES!

- Ford exclusive concentric dual-throat carburetor for more power, more economy.
- New heavy duty 5-speed transmissions for operating flexibility.
- Big Ford rear brakes for sure-footed stopping; 16-inch by 5-inch in the F-8.
- Ford Super Quadraax 2-speed axle with vacuum shift for performance flexibility in Model F-8 (single speed axle also available); single-speed Quadraax Hypoid Axle in Model F-7.
- Large diameter (10-inch) wheel bolt circle with 8 studs to allow for extra-strong hub construction.
- Million Dollar Cab with Ford Exclusive Level Action suspension for greater driving comfort.
- Nationwide service from over 6,400 Ford Dealers.
- Ford Bonus Built construction for long truck life.

Gross Vehicle Weight Ratings: F-8 up to 21,500 lbs., F-7 up to 19,000 lbs. Gross combination ratings: F-8 up to 39,000 lbs., F-7 up to 35,000 lbs.
More Glass means

here's proof from "Pittsburgh"

IN BANKS OR BAKERIES... shoe stores or hat shops, "open vision" fronts help achieve the same end — more business. "Pittsburgh's" complete line of quality glass products and "Pittsburgh's" trained and skilled installation crews have helped to create talked-about "open vision" fronts across the country. So when you're selling store fronts, remember — your job will be easier when you mention "Pittsburgh" Products — and the store will be a better one if you use them.

MODERN HOMEOWNERS want mirrors such as this. Every modern house needs them. While the full-length door mirror tops the popularity list, other practical applications are: over living room mantels...in kitchens and entrance halls for quick spruce-ups. "Pittsburgh" Mirrors not only increase the appeal of your homes, but help increase your profits as well.

* Design it better...with
2 PITTCO DE LUXE MEMBERS — a sill-sash combination — have been designed to simplify installation and reduce the hazards of glass breakage in certain types of modern store front design. Setting procedure is so simple that a substantial saving in setting time is usually effected. The sill was designed to recess the Carrara Structural Glass bulkhead, providing toe room and protection. Invertible sill members offer variety in styling.

TO HELP YOU make better Carrara Glass installations, a new Carrara edge pointing compound has been developed in "Pittsburgh" laboratories. Setting into a tough, resilient, non-absorbent film, this new compound maintains high adhesion to the edges of the Carrara Glass.

MOST HOMEOWNERS want to take full advantage of pleasant views. That, of course, calls for picture windows. Because of its perfect transparency and brilliant flawless surfaces, Pittsburgh Polished Plate Glass is ideal for picture windows. And where insulated windows are required, we suggest "Twindows" — "Pittsburgh's" window with built-in insulation.

MOST HOMEOWNERS want to take full advantage of pleasant views. That, of course, calls for picture windows. Because of its perfect transparency and brilliant flawless surfaces, Pittsburgh Polished Plate Glass is ideal for picture windows. And where insulated windows are required, we suggest "Twindows" — "Pittsburgh's" window with built-in insulation.

Pittsburgh Glass

PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS

PITTSBURGH PLATE GLASS COMPANY
NEW Cabinet Door Pull (4419)—For use with a Stanley friction catch. Makes an excellent combination. No. 4420 Drawer Pull (not shown) matches it perfectly.

NEW Cabinet Hinge (1539)—Designed for application on flush doors, these surface mounted matching cabinet hinges come in gleaming chrome. Also available for lipped doors under class 1529.

NEW Cabinet Latch (4220)—By popular demand, this positive door latch is now furnished with a chrome thumb-piece (available also with plastic thumb-piece, in red or black). Matches 4420 Drawer Pull.

New MATCHING CABINET HARDWARE by Stanley

Saves guesswork in selecting right combination for cabinets...gives added value to homes

The architect who recommends Stanley Matching Cabinet Hardware adds to the value, as well as appearance, of the homes he plans. The builder who chooses the new Stanley line saves time and trouble—drawer pulls, latches and hinges match, eliminating guesswork in selecting the right combination for cabinets.

Whether of Solid Brass or gleaming chrome, nothing can match the beauty of this Matching Cabinet Hardware. And clients are impressed when you point out that "cabinet hardware throughout the house is made by Stanley". Home owners have learned, from experience and from hardware dealers, that Stanley is the greatest name in hardware. The Stanley Works, New Britain, Connecticut.
FOR GREATER SATISFACTION

BUILD THE DOUBLE DUTY WAY WITH INSULITE

Better for you and better for your customer. Your customer gets a PLUS value because Insulite gives him extra insulating value, and he likes his warm draught-free home. But your gain is even greater because Insulite cuts fast, fits easy, goes on in record time. Speeds up construction. Helps assure better profits on the job.

See Sweet's File for Builders — 2c/11

"Insulite" is a registered trade mark, U.S. Pat. Off.
This all-purpose southern hardwood can bring you a lot of profitable business. But for top-quality at fair prices... be sure the gum plywood you feature is Weldwood gum!

Don't overlook the possibilities of this lowest-priced hardwood plywood. And don't... just because of the low price... forget what really fine work you can do with a good unselected gum panel.

By that, we don't mean you should rush out and buy gum indiscriminately. Because, during the past several years, a great deal of inferior gum plywood has found its way to the market.

But we do want to remind you that good gum plywood is an attractive, reasonably-priced cabinet hardwood that works beautifully, and makes a striking finished installation. And Weldwood gum panels are always the cream of the plywood crop.

Like all Weldwood hardwood plywood... oak, mahogany, birch, walnut and many others... every gum panel is under constant care by Weldwood experts... from forest to finished panel. Manufactured with the most modern methods and equipment... it must pass rigid inspection before it is allowed to carry the Weldwood name.

Weldwood gum panels are versatile, too. They take stains readily... to finish up as beautifully simulated mahogany or walnut. And for painted surfaces, these panels are ideal because there's no grain raise.

So don't give gum the go-by. It's a beautiful wood, reasonably priced, and can bring you a lot of business.
"No sign of any staining"

Reports manager of Everglades Hotel, Miami

Miami's famous Everglades Hotel chose Lumite because it will

• NEVER RUST
• NEVER CORRODE
• NEVER STAIN
• LAST LONGER

Wherever climatic conditions destroy other types of screening—LUMITE is the only answer. It is unaffected by the usual enemies of screening such as salt spray, moisture, or acid smoke.

When properly framed it will never sag or bulge. It actually has greater impact strength than any old-style screening.

LUMITE costs only 11½ cents to 12 cents per square foot (retail)—much less than any other quality screening. Consult SWEET'S FILE for further information or write Dept. AB-I, LUMITE DIVISION, Chicopee Manufacturing Corporation, 47 Worth Street, New York 13, N. Y.

Sold by leading hardware, lumber and building supply dealers and screen manufacturers.

SPECIFICATIONS

EFFECTS OF ACIDS, ALKALIS AND SOLVENTS—Essentially none.

BURNING RATE—None. (Lumite is Non-Inflammable.) Melts at 340°F.

WATER ABSORPTION—Immersion 24 hours, less than 0.1%.

TENSILE STRENGTH, ULTIMATE (of filament)—Up to 50,000 lbs. per sq. in.

IMPACT STRENGTH—Greater than conventional screening.

INSTALLATION. Cut with ordinary scissors. Fold cut edges under 1/2". Tack every 1/2" through two thicknesses. Being elastic, Lumite will automatically draw itself into a snug, firm fit. For correct methods of machine framing, consult Lumite engineers.

SPECFY LUMITE* woven of saran
What feature is most important to you in selecting garage doors? Cost? Appearance? Strength? Durability? Ease of installation?

Craw-Fir-Dor offers all of these features!

**Low Cost**—Modern mass production and mass distribution bring you this precision-built door at an amazingly low cost.

**Attractive Appearance**—Craw-Fir-Dor is made in two attractive designs, to harmonize with any style of architecture. A new, auto-type lock gives added safety and beauty.

**Durable and Strong**—Craw-Fir-Dor will give long-lasting service. Panels are of Exterior-type waterproof, weatherproof Douglas fir plywood.

**Easy to Install**—Craw-Fir-Dor is pre-fit to standard 8 by 7-foot size. Hardware is 97% pre-assembled. Install Craw-Fir-Dor quickly with only 5 tools—hammer, saw, screwdriver, level, brace and bit!
Many Different Jobs!

Three to Five Times FASTER!

On all kinds of routing and shaping, Speedmatics give you cost-cutting speed — and a highly professional job — even when used by less experienced workmen.

With Speedmatics, you can cut mortises for door locks, hinge butts, stair stringers. You can plane doors and sash, and make various difficult fits. Many time-taking operations are changed into quick, accurate and uniform machine operations by these four tools.

And Speedmatics outperform and outlast ordinary tools — because they have the full benefit of Porter-Cable’s 42-year reputation for quality. Note the superiorities and greater value that are built into each unit:

1. Speedmatic Router — Has at least 50% more power. No shaft distortion. Simple, accurate micrometer adjustment for depth cut. Self-adjusting end-thrust bearing for longer service. Complete with motor . . . . . $125
2. Speedmatic Shaper — Uses Inverted Router attached to pedestal-mounted table. (Table top also clamps to bench.) Complete with Router . . . . . . . . $225
   Table and pedestal only . . . . . $100
3. Speedmatic Plane — Positive, easy-to-read depth adjustment. Has renewable and reversible cutter blades that cut twice as fast, last 3 times longer between sharpenings. Includes simple grinding attachment to sharpen blades while in place. Complete . . . . . . . . $175
   Using Router motor . . . . . . . . $86
4. Speedmatic Lock Mortiser — Does lock mortising in one-third the time. Easy to use. Feed is positive and semi-automatic. Stops when bit reaches desired pre-set length and depth of cut. Complete . . . . . $180
   Using Router motor . . . . . . . . $91

You save $267 by Speedmatic’s EXCLUSIVE Feature—the Quickly Interchangeable Motor Unit. It actually eliminates the cost of 3 motors. GIVES YOU ECONOMY!

In just a few seconds you can take off the Router motor and put it on the Shaper, the Plane, or the Lock Mortiser. GIVES YOU ADAPTABILITY!

Speedmatics Pay for Themselves Quickly

You may buy these Speedmatic woodworking tools either as a group or separately. Whether you use one or all, your investment will pay out quickly. Remember these money-saving reasons:

1. Save the cost of EXTRA motors!
2. Do all kinds of mortising, planing, shaping, routing jobs!
3. Fit, hang and lock-mortise up to 11 doors in a day!
4. More than 140 bits, many different templates, make intricate cuts easy.

See your Hardware, Mill Supply or Lumber Dealer today! Or, write for complete catalog and name of dealer nearest you.

Porter-Cable

MACHINE CO.
1602 N. Salina St., Syracuse, N. Y.
Manufacturers of Speedmatic and Guild Electric Tools.
KITCHEN SORCERY: in which the illusion has been created that the inside of the home is really outside, in the sunshine and fresh air.

Andersen Casement Window Units form these WINDOWWALLS...a non-ventilating picture window flanked on each side by mullioned casements.

Specification data on ANDERSEN WINDOWWALLS is in Sweet's Architectural and Builders' Catalogs, or will be sent by us upon request. See your local lumber or millwork dealer for further information.

Andersen Corporation
BAYPORT • MINNESOTA
Mueller Climatrol

fuel-thrifty Furnaces

With this complete line, there's no question about the right answer to any heating problem

Mueller Climatrol comfort wins quick and lasting approval from your clients

Here's a formula that guarantees client approval — saves time and trouble on every job: Mueller Climatrol heating equals modern comfort and economy multiplied by years of client satisfaction.

And here's why you can count on quick and lasting approval:

- 92 years of specialized experience and years of national advertising in leading magazines have established the Mueller Climatrol name.
- Up-to-the-minute engineering gives your client the most advanced new heating developments. (See "Modular Design" below.)
- The complete Mueller Climatrol line gives you a unit you know is right for any job, with any fuel.
- Every Mueller Climatrol Furnace is built to deliver years of satisfying, fuel-thrifty comfort.

When you make it a practice to recommend Mueller Climatrol equipment, you make sure of successful jobs. Write for complete information ... L. J. Mueller Furnace Co., 2016 W. Oklahoma Ave., Milwaukee 7, Wis.

All units starred are Modular Furnaces — Mueller's great new heating development. Each is composed of combinations from a basic group of standardized, interchangeable units.

Thus, you can install any modular equipment (up to the complete year-round air conditioner) all at once or a step at a time to fit your clients' needs and budget. You can change from one fuel to another by switching modular units. You can expand the initial installation by adding modular units. At each stage, your client enjoys the efficiency of a completely engineered heating system! Write for complete details on this great new step in home-planning.

American Builder, February 1949.
Types of Air Conditioning Equipment

**Type 102 Winter Air Conditioner** — Steel, "Heat-Speeder" sectional heat-exchanger design.

**Type 103 Forced Air Furnace** — Steel, "Heat-Speeder" sectional heat-exchanger.

**Type 105 Winter Air Conditioner** — Steel, Type 101 plus forced-air circulating and filtering unit.

**Type 106 Gravity Furnace** — Cast iron, Type 106 plus forced-air circulating and filtering unit.

**Type 107 Winter Air Conditioner** — Cast iron, Type 100 plus forced-air circulating and filtering unit.

**Type 110 Winter Air Conditioner — Steel, Vertical design similar to Type 101 plus Roll-a-Drawer.** For small homes and apartments.

**Type "UN" Unit Heater** — Space heating unit for factories, warehouses, hangars, shops.

**Type 150 Unit Heater** — Suspended type. For flexible, space-saving, "overhead" installation.

**Type 10 Boiler** — For steam, hot water, or vapor heat, and hot-water supply in residences and small commercial or industrial installations.

**Type 11 Boiler** — Same as Type 10 except that controls are not enclosed in outer cabinet.

**Type 20 Boiler** — For steam, hot water, or vapor heat in large residences, and commercial and industrial jobs. Sectional construction for battery installations.

**Type 109 Winter Air Conditioner** — Cast iron, Type 109 plus Roll-a-Drawer. For medium-size homes.

**Type "UH" Unit** — For small and medium-size homes. With pressure-atomizing or vaporizing burner.

**Type 202 Winter Air Conditioner** — Steel, Type 202 plus forced-air circulating and filtering unit.

**Type 209 Winter Air Conditioner** — Steel, Vertical cabinet for space-saving installation. Blower assembly mounted in exclusive Roll-a-Drawer.

**Type 201 Gravity Furnace** — Cast iron, Type 201 plus forced-air circulating unit.

**Type 202 Oil-fired Winter Air Conditioner** — Type 202 Oil-fired Winter Air Conditioners. By-pass damper. Sizes: 3 and 5 tons.

**Type 209 Winter Air Conditioner** — Steel, Type 209 Winter Air Conditioners. By-pass damper. Sizes: 3 and 5 tons.

**Type 404 Conversion Burner** — Highly efficient vaporizing oil burner with exclusive flame-bowl design. Capacities of 1/2 to 3 gal. per hour.

**Type 450 Conversion Burner** — Pressure-atomizing type. Nozzle capacities from 1 to 2 gal. per hour.

**Type 460 Conversion Burner** — Highly efficient pressure-atomizing type. Nozzle capacities from 1 to 2 gal. per hour.

**Type "FB" Winter Air Conditioner** — Cast iron, Type F and blower-filter unit combined in one cabinet.

**Type "WR-22" Forced Air Furnace** — Cast iron, Type "WR-22" plus forced-air circulating unit. 61,200 Btu at register.

**Type "WG" Winter Air Conditioner** — Cast iron, Type "WG" plus forced-air circulating unit. 61,200 Btu at register.

**Type 104 Air Conditioner** — For installation in standard forced-air heating systems. Sizes: 3 and 5 tons.

**Type 103 Burner** — Highly efficient vaporizing oil burner with exclusive flame-bowl design. Capacities of 1/2 to 3 gal. per hour.

**Year Round Air Conditioning**

**Type 900 Condensing Unit and Cell** — For installation in standard forced-air heating systems. Sizes: 3 and 5 tons.

**Type 901 Summer Air Conditioner** — For installation with Type 103 Gravity, and Type 202 Oil-fired Winter Air Conditioners, By-pass damper. Sizes: 3 and 5 tons.

**Furnace Pipe, Duct, and Fittings** — Complete line for both gravity and forced-air installations.

**Blower-Filter Unit** — For a wide range of sizes for heating, ventilating, air-conditioning, and processing applications.

**Automatic Humidifier** — For installation in hood of any size or make of warm-air furnace.
THRUSH Adjustable Supply Tees for perfectly balanced one-pipe heating, are now available in bronze for solder connections as well as cast iron. You may offer the many advantages of the Ajustaflo System with either copper or steel pipe installations. Heating efficiency is improved because just the right amount of water may be diverted to each radiator. Convenient exterior lever adjustment determines the amount of hot water passing from the main through each radiator. This assures uniform heating in every room. Flow of water through the main is increased... not throttled... when branch flow is cut down by this method.

For more information on Thrush Ajustaflo System or Adjustable Supply Tees, see our catalog in Sweet's or address Dept. G.-2

H. A. THRUSH & CO.
PERU, INDIANA

PERFECTLY BALANCED ONE-PIPE HEATING
Built in Appliances SELL HOUSES FASTER!
...especially if they're Westinghouse Sales Makers

When house-hunters see Westinghouse Appliances built into the kitchens and laundries of your houses, it's a good bet they'll be interested.

It is more economical to have plumbed-in, wired-in appliances installed during construction—a selling point your prospects will appreciate. And when you explain that these modern conveniences can be included in the purchase price of the house, at little increase in the down payment or monthly installments, you have a big advantage over competition.

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We'll Be Looking for You at the NAHB CONVENTION & EXHIBITION Booths 71 to 76
For beauty, convenience and economy—here’s the newest, most amazing resilient floor covering development! FLOR-EVER, made of famous Vinylite Brand Plastics, offers these revolutionary features: It gives more wear, needs less care—is spot-, stain- and alkali-resistant, grease- and water-proof, fade-resistant and won’t support combustion. Its clear, bright colors go right through the Vinylite surface, complement all decors, add charm and convenience to every house. The only plastic floor covering available by the yard—it’s easy and inexpensive to install. Quiet to the step it’s the floor covering to install in new houses and in redecorating old ones.

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New York Showrooms: 295 Fifth Avenue
Also manufacturers of “Wall-Ever” Vinylite Plastic Wall Covering and “Duralin” Enamel Floor Covering.
A SECOND CLASS DOOR doesn't save a penny. Not when your reputation is at stake. That's why so many builders specify TRU-SIZED Doors. They're first class, first quality in every way... and they save you up to 55 valuable minutes on each installation.

TIME IS MONEY! TRU-SIZED doors are factory machined to exact book openings. They're ready to hang—without sawing, fitting or planing. Resin sealing saves additional time—protects the surface against dirt and dampness and eliminates need of any further priming coat before final finishing.

TRU-SIZED MEANS EXTRA VALUE! You get more for your money in a TRU-SIZED Door. You get extra beauty, extra years of service—plus important savings in installation time. TRU-SIZED Doors are made only by Wheeler Osgood, and are distributed by leading jobbers from coast to coast.

A First Class Door Helps You Build a First Class Reputation!
One hundred years of paint manufacturing, through four major wars and numerous depressions, have given Pratt & Lambert-Inc. a background of immeasurable value to the builder.

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1849 — Pratt & Lambert Centennial Year — 1949
Only BALANSAW combines the two features you want—Balance and Visibility. With Balansaw, the weight helps do the work instead of dragging on your wrist. And you sight this saw right on the line you're cutting; an internal blower clears the cut of sawdust. Users call it the world's sweetest operating saw, and so will you!


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add that extra value needed to convince today's value-wise home buyers!

"WE FIND that today's home buyers are kitchen-conscious," says Walter R. Crabtree, head of Walter R. Crabtree Company, Jacksonville, Fla., "and today's high home prices look lower when Hotpoint All-Electric Kitchens are installed."

THE CRABTREE COMPANY has equipped more than 100 new homes and 188 apartments with Hotpoint Kitchens and Automatic Electric Water Heaters.

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"Montgomery is so clever!
He anticipated this business increase 18 years ago when he reminded the Builder that —

Everythings Hinges on Hager!"
'JEEP' 2 AND 4 WHEEL DRIVE TRUCKS

Cut Hauling Costs

Powered by the War-Proved Willys-Overland 'Jeep' Engine

TWO GREAT LINES—2-wheel-drive "Jeep" Trucks (4700-5300 lbs. GVW) are built for long service and low operating costs for medium-duty hauling. 4-wheel-drive "Jeep" Trucks (5300 lbs. GVW) meet a real need for a low-weight vehicle with all-wheel traction to get through mud, climb steep grades and operate off the road.

DESIGNED TO CUT COSTS—Every feature of these postwar trucks is designed to lower operating and maintenance costs. They are powered by the war-proved Willys-Overland "Jeep" Engine, world-famous for gas and oil economy, easy repair and long service. They are ruggedly built of quality materials to stand up. No body frills to add non-essential weight and decrease payload.

FUNCTIONAL BODIES—"Jeep" Truck body designs not only cut weight but also make maintenance and servicing easier. Note the hard-to-damage fenders, which make it simpler to change tires or put on chains. Wide hood opens from fender to fender, with engine and battery easy to reach. Lights are in protected position.

See the other features of 2- and 4-wheel-drive "Jeep" Trucks at Willys-Overland dealers, including the roomy cab, large windshield and windows, short turning radius and popular body styles—pick-up, canopy, van and platform-stake.

'Jeep' Trucks

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NEW SELF-FEED RIP SAW
Does More Jobs, Costs Less!

Illustration shows special fence and roll attachment which is available as an extra.

NOW—FOR THE FIRST TIME...
a modern, high-speed rip saw—PLUS an efficient 4-inch RESAW—which costs LESS than you’d expect to pay for the rip saw alone! Precision built, all driving parts full enclosed—no belts or pullies running in sawdust. Saw arbor directly connected with 10 HP ball bearing main motor. Takes up to 3 saws on 1” stock, 2 on 2”, 1 on 4”. Can use 5 saws on lath, 3 saws bolting lath stock from slabs. Four feeds, 50 to 190 feet per minute. The XL Ripper does more jobs, costs less, pays for itself faster! Write today for folder and name of nearest dealer!

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Manufacturers of the XL Line of Woodworking Equipment
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NEW XL MOLDMATCHER
NEW XL LOK-SAFE SHAPER COLLAR
NEW XL SPINDLE SHAPER
**Any way you look at it...**

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Engineered to give real protection against wind and storm. Their patented, *Ruberoid originated* features give the utmost in weather protection.

**in PERFORMANCE**
Tite-Ons interweave and interlap, make a "one-piece" roof having *two complete thicknesses throughout*, and so firmly anchored that hurricanes haven't been able to tear them loose!

**in APPEARANCE**
Across the country, the finest homes are being roofed with handsome, colorful Tite-Ons. No other shingle offers your customers so much... distinctive good looks, longer years of wear, real windproof protection!

**Dubl-Coverage Tite-Ons**
give you every selling advantage!

*These tremendously successful shingles* give home owners everything they want in a roof! And don't forget your customers know about Tite-Ons! No other shingle has had such strong promotion... national advertising makes Tite-Ons known everywhere. You'll find it's good business to carry Tite-Ons.

**The RUBEROID Co.**
Executive Offices: 500 Fifth Ave., N. Y. 18, N. Y. Building Materials for Home, Farm and Industry

**DUBL-COVERAGE TITE-ON SHINGLES**
This demonstration will help you build big volume with Firestone Velon screening.

By this amazing demonstration as shown at the left, The Davis Lumber Co. of Hutchinson, Kansas, developed their screening business tenfold. Here's how they did it. First, and foremost, they selected Firestone Velon plastic screening on the strength of its performance in World War II. The Firestone representative helped them with a full line of manufacturer's sales helps—swatches of Velon screening in forest green, aluminum grey and bronze brown, envelope stuffers, window banners, display cards, newspaper mats and radio spot commercials. The public response was immediate and gratifying. Tied into this program was the dramatic eye-opening Velon strength test. A Firestone Velon screen placed between two chairs supported the weight of the heaviest employees, without denting or breaking. Biggest selling points for Firestone Velon screening, The Davis Company reports, were durability, non-rusting and corroding to stain housefronts.

You, too, can make a "specialty" item like screening pay off handsomely in volume sales when you stock, feature and promote Firestone Velon screening. A Firestone representative will be glad to furnish you with sales aids to help you build a big business in Firestone Velon screening. Write Firestone, Pottstown, Pa.
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GAS RANGE

TO FIT YOUR PLANS

• Finest Homes!

Here is a range especially built to meet the cooking requirements of large homes. Beautifully styled in satin finish stainless steel, this new Magic Chef cooks for two or two hundred. It has six top burners, two large ovens, high level broiler and a 23” x 24” griddle. These and many other features are compactly built into an overall length of only 62”.

• To Smallest Apartments!

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1. Most widely advertised gas range in America.
2. More women cook on Magic Chef than on any other range.
3. More women plan to buy Magic Chef than any other range.
4. Magic Chef’s proven quality offers you the greatest return on your investment.

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62” Wide—Series 1000

36” Wide—Series 700
39” Wide—Series 2400 & 1300
36” Wide—Series 1200
30” Wide—Series 600
20” Wide—Series 500
43” Wide—Series 400 & 460

OTHER Products: combination, coal and wood ranges, oil stoves and heaters, oil furnaces.

AMERICAN STOVE COMPANY • 1641 S. KINGSHIGHWAY BLVD., ST. LOUIS 10, MISSOURI

VISIT THE Magic Chef EXHIBIT AT THE N.A.H.B. CONVENTION
Now! a new building material!

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Now you can have Koroseal, the miracle plastic, in Cove Base and Cove Molding—in mirror-bright colors.

Koroseal laughs at rot, stain, grease, acid, alkali or moisture... gives a permanent, watertight fit. It's non-inflammable... virtually dent-proof... non-porous, provides no hiding place for germs or dirt.

You save on construction costs—installation is easy and inexpensive—and no painting is required!

Koroseal is also available in floor tile.

Write for FREE samples and further information about this new wonder plastic building material.

**B. F. Goodrich Co.**

DEPT. AB-1

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Britain has long been the world's greatest customer, and has led the way in the export of manufactured products. By initiative in modern research, and from experience of commerce with other nations, her industrial production has become greater and more varied than ever in history.

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At BIF 1949, from 2-13 May, three thousand exhibitors will display the latest developments in thirty groups of allied trades. The leading men of international commerce are invited to attend the world's greatest assembly of national products.

2-13 MAY 1949
TRADE BUYERS—PLAN YOUR VISIT NOW

Information about exhibitors, special displays and facilities at the Fair can be obtained from the nearest British Embassy, Legation or Consulate.
One Multiplex does all this—and more!

Shown is Delta Multiplex Model 40A with cabinet base. It has a rip capacity up to 34¼". Also available is Delta Multiplex Model 30A with cabinet base—and a rip capacity up to 2¼". Both models are widely used for cutting foundation forms, sheathing, roofing, cabinets, doors, frames, drawers, sills, stair treads, etc.

"Saves enough labor to pay for itself on one $12,000-$15,000 house"—that's what a Kansas construction firm says of the DELTA Multiplex Radial-Arm Saw

You cut job time and costs, with a Delta Multiplex. Two men can carry even a cabinet model, so it's easy to take right to the job.

That's like bringing along a whole shopful of handy tools. You can use a Delta Multiplex blade at any angle — and get 100% mitering capacity. The patented "Versatile Elbow" sees to that. It's a center-pivoted track that carries the cutting head and rotates 360°.

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Your nearby Delta distributor has Multiplex models with rip capacities up to 6". Inspect them there. See for yourself the Delta Multiplex features that assure you of safety, speed, convenience, capacity, and economy.

Send coupon for descriptive literature.

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Look for the name of your Delta distributor under "Tools" in the classified section of your telephone directory.

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for cutting interior trim

An exceptionally low-cost portable machine. Can be carried easily in the back of your car. Has a rip capacity up to 2".
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Manufactured by...
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Ask your lumber dealer or write us for prices and complete information on Bruce Finished Floors. Then figure your own installed costs as compared with the use of unfinished flooring, plus sanding and finishing. You'll be convinced, too!

BRUCE Finished FLOORS

With the new improved 1949 Finish

Product of E. L. Bruce Co., Memphis, Tenn., World's Largest Maker of Hardwood Floors

Bruce Also Makes Block Flooring, Strip Flooring, Random-width Planks, Hardwood Moulding and Trim, Pine and Hardwood Lumber, Furniture Parts, Cedar/line Closet Lining, Everbond X Mastic, Terminix, Floor Care Products.
Vitrified Clay Pipe 100%

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Write for Information on Your Clay Pipe Question
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The famous resort hotel and spa, The Northernaire, at Three Lakes, Wisconsin has steel-framed floors and walls. "Because," owner Carl Marty, Jr. says, "low maintenance cost was essential and the lasting quality of Stran-Steel floor joists and studs was considered more important than initial cost. Stran-Steel framing was the recommendation of our designer and builder, and was immediately available. No condensation, plaster cracking or sound-conduction have developed. The building is most satisfactory in every respect."

Stran-Steel framing members are favored where rigid construction, long life and low upkeep are essential. Yes, if you are planning quality buildings—residential, garden type apartments, commercial and industrial structures of not more than three stories—investigate the advantages of Stran-Steel framing.
Modern Methods of Home Heating

By J. L. SHANK
Consulting Engineer

INTRODUCTION BY
S. KONZO
Professor of Mechanical Engineering
at the University of Illinois

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Fourteen Different Types Discussed

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Profusely illustrated with photographs, charts, tables and diagrams. Each article is a complete study of the heating requirements of an individual house.

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AB 2-49
Coleman Floor Furnaces CUT COSTS, UPHELD VALUE

2 WAYS

...For Richmond, Va., Builder

Buyers feel Coleman equipment proves high quality of Duke Company's houses

American Builder, February 1949.

Crestview Addition No. 3, developed and built by Duke Construction Co.—heated throughout with Coleman Floor Furnaces to hold down costs, yet give top-quality automatic heating of the kind buyers want.

Duke Construction Corporation
7100 Horseshoe Road
Richmond, Virginia

The Coleman Company, Inc.,
Wichita, Kansas.

Gentlemen:

In these days of complaints about high housing costs we have to do everything we can to hold down selling prices and still get the quality that customers expect. That's why we are using Coleman Floor Furnaces. Properly located and properly installed, they reduce building costs, yet give top-quality automatic heating. And what's more, Coleman Floor Furnaces are so well known that our buyers consider them real proof that we put best-quality materials into our houses.

Ludwig Bloch, aggressive vice president of Duke Construction Co., Richmond, Va., one of the South's small home building leaders.

This shows typical Coleman Floor Furnace installation

See how Coleman may help you, too, in designing to beat "price resistance"

Duke Construction Company is only one of the many leading building firms now switching to Coleman Floor Furnaces. Scores of these leaders are learning how Coleman helps cut costs: eliminates costly duct work, saves basement excavation costs, cuts skilled-labor expense for installers and plumbers.

And, like the Duke company, they are also learning two other Coleman advantages: First, how Coleman engineering really gives home-owners the "warm-floor" heating and the clean automatic heat they want. Second, how Coleman reputation for quality and service helps sell houses—by proving to prospects that the builder is using the best heating equipment the money will buy.

You, too, want to see proof of these advantages that are switching so many builders to Coleman. Use the coupon below and let us tell you how we can help meet your problem of holding down building cost and selling price. Tell us what kind of fuel you want—gas, oil, or LP-gas—we make models for all three. Do it—today!

THE COLEMAN COMPANY, INC.,
Wichita 1, Kansas; Philadelphia 8 (Terminal Commerce Bldg.), Pa.; Los Angeles 24, Calif.

Automatic Gas, Oil, LP-Gas

FLOOR FURNACES

Coleman

Please send me free information about your special cooperation for builders and contractors, and Floor Furnace Catalog for Builders. I am specially interested in:

☑ Gas ☐ Oil ☐ LP-Gas models

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For Any Type of Masonry

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The world-wide reputation of Bondex builds confidence and assures satisfaction.

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BONDEX outsells all other cement paints combined
the mark of modern post-war construction...

Put greater sales appeal in the houses you build by equipping them with Mesker Steel Casements. Their versatility adapts easily to any architectural style, traditional or modern. The charm of their graceful, slender lines adds distinction that marks truly post-war construction. See our catalog in Sweet's Builders File, or write us for your own copy.

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"We have found Plug-In Strip to be all you claim for its ease of installation on the job, the saving of labor, the complete service it renders and the economy as compared to individual outlets."

Electrical Contractor

"Plug-In Strip lends itself to a multiplicity of applications, and we now have not only electrical contractors, but also department stores and industrial accounts using this type of convenience outlet system."

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"We have several contracts on office buildings that were awarded after the brick walls had been erected and the tenant space not yet sub-divided. The problem was how to get an adequate number of outlets to meet unknown demands with a minimum amount of brick and concrete cutting. We found Plug-In Strip to be the perfect answer."

Electrical Contractor

"In our new office addition, we have used LOPO-TRIM to carry telephone circuits and CF2 606-18 PLUG-IN STRIP in 110v outlets for office equipment."

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"Your new Plug-In Strip with its cut-in-the-field feature and fast method of connection is a big improvement."

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"Especially in renovating, we found that Plug-In Strip installed very smoothly, eliminating considerable amount of breaking into the structures... We are proud of our installations, have made profitable jobs, and lastly our electricians like to work with it."

Electrical Contractor

"We have found that there is no waste, and Plug-In Strip was very easy to install."

Electrical Contractor

"In every case the installation of the required number of duplex outlets would have been more costly than Plug-In Strip. Also we found Plug-In Strip to be very profitable material to use."

Electrical Contractor

"I have installed Plug-In Strip throughout my new ranch house."

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"We are more than pleased with this 'low-cost' method of adequate wiring, and recommend it for stores, homes, industrials, hospitals, hotels and anywhere that adequate outlets are required."

Electrical Contractor

"In some of the residences we have built, we have used your Plug-In Strip exclusively rather than the conventional duplex receptacle arrangement."

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"Industrially, the uses of Plug-In Strip are innumerable... We have used the strip to great advantage on electrical work-benches, radio work-benches, etc. It allows the use of soldering irons, small electric motors, light welding, etc., all at the same time."

Electrical Contractor

Excerpts from letters. Names on request.

National Electric Products Corporation
1329 Chamber of Commerce Building
Pittsburgh 19, Pa.

Please send me your Catalog CF-2 on the NEW NE Plug-In Strip.

NAME

ADDRESS

National Electric Products Corporation
1329 Chamber of Commerce Building
Pittsburgh 19, Pa.

Please send me your Catalog CF-2 on the NEW NE Plug-In Strip.
Unique Sash Balance plants are located in the United States, Canada, Australia, and in England to fill a worldwide demand.

Windows in Canada, Australia, England and in these United States... numbering more than 18,000,000... here more than 67,000,000 Unique Balances can be found.

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Thousands of Architects and Builders know that Unique Sash Balances are the secret of window success in their buildings.

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You can build BETTER HOUSES ... at less cost ... with UNI-FORMS!

UNI-FORMS are Foolproof ... Automatically Accurate!

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Use UNI-FORMS on your next job. They guarantee a fast start ... fast finish. Remember ... UNI-FORMED concrete is better concrete ... at lower cost.

Write for Bulletin SA-13. It has complete information on the UNI-FORM System.

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Founded 1912
1238 N. KOSTNER  •  CHICAGO 51, ILL.
American Builder, February 1949

LONE STAR CEMENTS
FROM SOUP TO NUTS — QUALITY ALL THE WAY THROUGH

Telephone Buildings are designed with quality the sole arbiter. This new structure at West New Brighton, Staten Island, N. Y., is a case in point. Working on a schedule which ticked like a well-regulated watch, 'Incor' 24-Hour Cement was used in retaining-wall construction to permit quick back-fill. During cold weather, in frame and floor concrete, 'Incor' reduced freezing risk and cut heat-protection costs by better than 50%. In all other concrete, where time was not a factor, Lone Star Cement was used. Matching the quality of the concrete is the brick masonry, in which Lone Star Masonry Cement was used to produce clean, smooth, moisture-proof joints.

Lone Star Cements meet every construction need. Use 'Incor', where dependable high early strength reduces form, time and cold-weather costs ... elsewhere, use Lone Star Cement. For mortar, use Lone Star Masonry Cement. Selective use of Lone Star Cements means maximum quality at minimum cost.


CITIZENSHIP AIDING HOMEOWNER EFFORT IN CITIES Worldwide, cities are building larger and better dwellings to meet the growing demand for housing. It was the first of its kind when the new Civic Center in Los Angeles was completed in 1948. The Civic Center was conceived seven years before and has been in construction for over two years. The Civic Center is the second building in a downtown development that has been called the most interesting and imaginative project during the past 25 years. Built on an 82-acre site, the Civic Center will serve as a civic and educational center for the city.

Many of the new products developed during the war have been especially important in producing the new Civic Center. Much of the work on the Civic Center has been done under the direction of the Los Angeles Office of Architecture, which is responsible for all of the new buildings in the Civic Center area. The Civic Center is one of the largest and most expensive buildings ever built in the United States. The Civic Center will cost approximately $150 million to build.

LONE STAR CEMENT CORPORATION
Offices: ALBANY • BETHLEHEM, PA. • BIRMINGHAM • BOSTON • CHICAGO • DALLAS • HOUSTON • INDIANAPOLIS • JACKSON, MISS.
KANSAS CITY, MO. • NEW ORLEANS • NEW YORK • NORFOLK • PHILADELPHIA • ST. LOUIS • WASHINGTON, D. C.
LONE STAR CEMENT, WITH ITS SUBSIDIARIES, IS ONE OF THE WORLD'S LARGEST CEMENT PRODUCERS: 15 MODERN MILLS, 27,000,000 BARRELS ANNUAL CAPACITY
California and Texas Cities Lead in Home Building

Cities in California and Texas again topped all others in housing starts in 1948. Out of twenty cities leading in number of new dwelling units, eight cities in California and Texas were among the first twenty. Los Angeles again led the procession with close to 30,000 new dwelling units started. San Diego, San Francisco and Long Beach were in the procession, as were the Texas cities of Houston, Dallas, Fort Worth and San Antonio. Portland, Ore., and Denver, Colo., were also among the first twenty on the list.

Non-farm house building for the year 1948 was up about 10 per cent over 1947. November 1948 showed a decline under 1947 when builders started 65,000 new permanent non-farm dwelling units, 14,700 units or 18 per cent under the number started in the same month last year.

Building material production broke all records in 1948 and is expected to increase still further in 1949, according to Producers' Council. Dealers' inventories of most products have improved substantially and production of some building materials and equipment items has increased to the point where output has been cut back.

Material requirements in 1949 probably will be somewhat smaller on the whole than in 1948, because the volume of new construction is expected to be only slightly higher and a decrease is expected in the amount of repair and maintenance work.

The supply of steel will probably be tight in 1949, but should be as large as in 1948 and may be a little greater.

Cement supplies should be sufficient this year, but there will be no surplus and there may be local shortages owing to the geographical location of cement plants. Cement production reached an all-time high in October 1948.

Construction lumber is no longer a problem so far as supply is concerned. There still is no surplus of millwork, but the backlog of orders has been decreasing in recent months.

Steel pipe probably is the most difficult construction material to obtain at the present time. Nail production has improved greatly, with the result that local shortages are less severe than a year ago.

Gypsum board and lath, roofing materials, building board, insulation board and materials, plumbing fixtures, and brick and tile should be available as needed.

Sales resistance is noted in houses priced from $13,000 to $25,000 and upward. Therefore, it is believed that builders will emphasize good values in housing under $13,000 this year. The market for new houses may not be as great as had been anticipated. As of last April, some 2,500,000 families were doubled up. It is believed that only about 1,000,000 are involuntary—the others want to live that way and will continue to do so, even if housing is available.

Wholesale prices of building materials last fall had increased an average of 11 per cent over 1947, and were up 128 per cent over 1939. Except for lumber, little can be expected in the way of reductions this spring. Increased freight rates and a possible fourth round of wage increases will probably make an increase in prices of building materials inevitable, unless manufacturers, wholesalers and retailers begin to engage in price wars which have developed in other industries.

Weekly earnings of the average construction workman were $72 last fall as compared with $65.09 in 1947, an increase of 10 per cent. Average weekly hours dropped from 38.3 hours to 38.1, and average hourly earnings went up from $1.70 to $1.89 in a period of a year.

Electrical workers in construction made $85.52 per week in September, 1948, according to the Bureau of Labor Statistics compilation, the highest of all the trade groups. Next were plasterers and lathers with an average of $83.22 per week. Lowest on the wage scale were roofing and sheet metal workers at $66.08 per week.

Whether new houses will bear a higher price tag next summer and fall depends largely upon what happens to building material prices and labor rates. At the moment it would appear that they are likely to go upward rather than downward, even though some falling off in volume is anticipated.
What's the connection between a good road and a good roof?

**Answer:** High Quality ASPHALT!

...and TEXACO, one of the world's largest producers of high quality asphalt!

In a good road, crushed stone, carefully selected and graded, is combined with high quality asphalt—to produce a resilient, weather-, water- and wear-resistant surface. In a good roof, mineral granules, carefully selected, colored, screened and graded are imbedded in high quality asphalt—to produce a resilient, weather-, water- and wear-resistant surface.

A good road and a good roof must take year-in and year-out punishment. They can because the basic ingredient of each is high quality asphalt—the greatest weather- and water-proofing element ever known.

Today thousands of miles of U.S. roads are paved with high quality Texaco asphalt.

Thousands of U.S. homes, farm and commercial buildings are roofed with high quality Texaco asphalt shingles, roll or built-up roofing.

Texaco with its widespread petroleum producing and refining facilities has available and can select the correct grades of asphalt for every specific type of product. This asphalt know-how means mighty good roofs for America.

There's a Texaco high quality asphalt product for every essential roofing need. And each carries the name that millions know and trust—Texaco.

TEXACO ASPHALT SHINGLES and ROOFING

SOLID ROOFING ASPHALT

MEMBER OF THE ASPHALT ROOFING INDUSTRY BUREAU
OWNERSHIP COST—Construction Research Bureau says that the net average monthly cost of owning a $9,500 house is about $31.65. Down payment is placed at $1,800, mortgage, at $7,700. Monthly payments of principal and interest over 25 years at 4 1/2 per cent are $42.81. Average tax bill of $14 a month plus repairs, insurance and water brings total to $65.31. Subtract $8 monthly income tax reduction and $25.66 monthly equity, and $31.65 is average monthly cost.

1940 COST—Prewar the cost was about $25.45 a month over 20 years. The current cost, $31.65, avers CRB, is less than rent, and proves that in spite of increased costs, home owning is still the best investment.

DOWN PAYMENT — Granted that the CRB figures are correct, and they undoubtedly are on the average, it’s the down payment that is the large item. Actually, it is the down payment that is the only real cost. All additional payments are investments in personal estate and rent, the latter being lower under current homeownership requirements than on a straight rental basis.

MERCHANTISING—With this in mind, it would seem that the best way to merchantise home ownership is not to quote or advertise the price of the house, but to state the down payment and the monthly payments. After all, the prospect for a new $10,000 house is not confronted with the obligation of an immediate $10,000 payment. He is confronted with a down payment, and a decision as to whether or not he can reasonably hope to meet a definite monthly payment.

THE $10,000 HOUSE—It doesn’t involve an ultimate outlay of $10,000, anyway. The outlay is much more, almost twice as much with interest, insurance, taxes, repair and other items added, and somewhat less with income tax reductions subtracted. The prospect can be scared stiff with a $10,000 sale sign, and scared even more at the final total unless he is told the only two things that really make any difference to him—the amount of the down payment, and the monthly payments.

ADVERTISING—Why not advertise only the things he has to know—the down payment and the monthly payments? Whether the house is priced at $2,000 or $20,000 is of less concern to the buyer than the immediate and periodic cash outlays involved.

LOW-PRICE HOUSING—Few, if any, will quarrel with the intelligent and successful efforts of builders to produce houses priced within the means of low-income earners. Some builders are learning, however, that a house can be priced too low for the good of the owner.

BASIC SHELTER—At least one builder has found that he can build and sell a two-bedroom house for $6,500, which includes a maximum profit of $500 for himself. Average profit is about $400. The house is not insulated, has no door bell, no garage, no driveway, unfinished second floor, white interior walls. The houses sell as fast as they can be built.

BUT—This builder finds that within a few months, most of the buyers have obligated themselves on 18-month payments for door chimes, roof insulation, driveway strips, Venetian blinds, one-car garages, colored interior walls, and other items. Sometimes they get heavily involved, some too heavily to carry the house. This builder has decided that he hasn’t sold intelligently, that most of the conveniences his customers buy on short term payments could and should have been included in the original package as part of the down payment and mortgage plan. He got the price too low for the good of the people he sold the house to.
Provide for modern Electric Ranges in the houses you design and build, and you'll really have something to crow about! The facts show that your customers will want Electric Cooking. Another million American families switched to it last year. Conservative estimates indicate that the same thing will happen again this year.

So build houses that are modern today and will stay modern for years to come. During construction, include wiring for an Electric Range, leading to a range outlet in the kitchen. An Electric Range, like electricity itself, is now a “must” in every modern home!
THIS ISSUE features the organization and operation plans of a group of large, metropolitan operative builders. The builders were selected not because they are necessarily more efficient or more successful than many others. On the contrary, most of them were chosen because their organizations and operations are typical of those of many big builders.

PURPOSE of the presentation is two-fold. The first is that because these builders are successful, many of the design, construction and sales features they use are applicable to the operations of all other builders, regardless of whether they build one or two houses a year or several thousand. This is particularly true of the training and handling of personnel, and the sales methods employed.

THE SECOND purpose is to demonstrate to the industry that since the builders who are featured are typical of hundreds of others, the production of homes has become a collection of efficiently and scientifically organized local industries.

THE BUILDERS who are featured will all be in attendance at the NAHB convention, as will their equally well organized contemporaries who build everything from a few to a few thousand houses a year. It is hoped and expected that the series of operation stories on the pages that follow will stimulate discussion and constructive criticism among all builders who attend the convention in Chicago.

THE MARCH ISSUE will feature an array of duplex and apartment structures in various sections of the nation. It will also contain a special 12-page review of the NAHB convention with, of course, the usual carefully selected wide range of subject material designed to appeal to builders everywhere.

THE EDITORS have completed plans for issuing the Convention daily newspapers which will be distributed free of charge to all convention registrants. No advertising will be accepted, and the entire expense of producing and distributing the dailies will be borne by American Builder as one of its contributions to the success of the convention.

(Continued to page 92)
Best... for every home floor

WRIGHT RUBBER TILE

For homes, hospitals, churches... wherever noiseless floors are required, WRIGHTEX, soft-surface Wright Rubber Tile is preferred. But, for longest life and lowest maintenance... plus unmatched beauty... stores, offices, schools, public buildings, libraries and other institutions demand WRIGHT-FLOR, the hard surface rubber tile, made exclusively by WRIGHT.

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HOUSTON, TEXAS

Sales Office — 3050 W. Meinecke Avenue, Milwaukee 10, Wisconsin

EDITORS'
Round Table

(Continued from page 91)

DEADLINE for material to be included in the dailies is 3 P.M. American Builder editors will cover all convention sessions, and will be assigned to duty on the floor of the Exposition Hall throughout the day. They can be identified by a special badge that each will wear in addition to the convention registration badge. News items can be given to them or filed at the American Builder booth, directly in front of the entrance to the exposition hall.

MARCH REVIEW of the convention will be prepared through the night following the close of the convention. Deadline for American Builder regular issues is the tenth of the month. To get the 12-page convention review section in the March issue, a full form is held open, and a special press reserved at the print shop. Early Friday morning, following the convention, the completely edited section will be rushed out to the print shop, and presses will begin to print the 80,000 sections at noon. In this way, the March issue will not be delayed.

NATIONAL HOME WEEK—Two staff meetings this month, one in New York and the other in Chicago. National Home Week was an important part of the discussions. It was brought out that there are 640 separate trading centers in the United States, that NHW, after the start it got in 1948, can reach over half of these in 1949. The April issue will carry complete organizational outline plans for National Home Week in communities of all sizes.

A READER, who asks that his name be withheld, writes to say that he has analyzed the 15 houses built by the Milwaukee Builders' Association and presented in the December issue of American Builder. He says, "I am writing to you because I feel that the attitude of your magazine in connection with these homes indicates what I consider to be a very disturbing trend in the building field today—that is, that such houses are adequate and livable."

THE WRITER then says that the people he comes in contact with do...
Here's an L-type kitchen arrangement—made up of Curtis sectional kitchen units. Twenty basic unit types—a total of 70 sizes—give you a wide range in planning for individual needs and tastes. The dimensions of Curtis units have been standardized to co-ordinate with other standard kitchen equipment. Remember, these are wood cabinets—designed for durability—with the quality construction for which Curtis is well known.

In this U-type kitchen, note how the Curtis sectional units provide an efficient and step-saving arrangement. The Curtis kitchen cabinet line includes special units which "go around a corner" to provide extra storage space. Curtis cabinets come painted white and are used by some, temporarily, just as furnished. Others give cabinets another paint coat in the color of their choice.

This simple arrangement of Curtis cabinets is practical for the small home or apartment. Note the ample working space which these units provide. Curtis kitchen units are easy to install, in any size or shape of kitchen. The line includes such features as broom closets, pan units and snack bars. Beautifully styled hardware is furnished—to be applied after installation of cabinets.

Curtis kitchen cabinet units are available for prompt shipment
THE EASIEST STRIP IN THE WORLD
TO SELL and PUT ON...

Nu-WAY WEATHER STRIP

Anyone can sell Nu-Way Weather Strip. Anyone can install it. It's one strip that serves every purpose on any type of door or window, either double hung or swinging. Packed in attractive carton containing twelve individual 20-foot rolls, each with nails and instructions for installing.

HOW IS YOUR STOCK OF Numetal DOOR BOTTOM STRIPS?

This is the biggest door bottom strip value you can offer your customers. Made of extra heavy metal, and pure, preshrunk, all-wool felt 3/16" thick. Shipped prepaid on orders of three dozen or more.

MACKLANBURG & DUNCAN CO.

OKLAHOMA CITY 1, OKLAHOMA

SOLD ONLY THROUGH HARDWARE STORES, BUILDING SUPPLY DEALERS AND LUMBER YARDS

American Builder, February 1949.

EDITORS’ Round Table
(Continued from page 92)

not want such houses, that they may be forced to take them in an emergency, that the minimum $12,000 price is too high for workmen, that the houses are a failure, not a challenge, and that the private builder will have little chance to correct such an abuse of the term “adequate housing,” if the one most powerful voice (American Builder) in his field fails to act.

PRINCIPAL OBJECTIONS are floor area and prices. The writer says that total floor area should be minimum 1,300 square feet, living room 12x18, dining room 12x14, bedrooms 12x15 and 10x13, kitchen 10x12, and minimum of 10 closets. Price should be $9,000, and square foot price $7. Probably the Milwaukee builders want to say something on the subject.

A CALIFORNIA BUILDER recently took a trip east, and stopped at New York, Washington and Cleveland. When he got back home he told one of our editors that Southern California builders have something more than the climate to be proud of.

FASCIA BOARDS in the east, he said, generally are omitted on buildings using composition shingles; dry walls are not up to the California standard of workmanship; usually there are no doors between hall and living room, and between kitchen and hall; many large tracts do not have appreciable large tracts are rare; in many tracts garages and driveways are not included; prices and down payments seem to be higher.

“I SUPPOSE,” he said, “that if you print this, we will hear a lot about our ‘cardboard walls,’ our lack of attics and basements, and our inexpensive heaters. However, these items are not necessary in our country.”

WE SUGGEST that before the shooting begins, our readers carefully read the article by M. C. Huggett, which appears in this issue. Huggett is executive vice president of the Chicago Metropolitan Home Builders Association. He wrote the article after a tour of numerous building operations in Los Angeles and San Francisco.
Here's how Kaiser Homes, world's largest builders & developers, use TIMM Aluminum Windows for greater sales... faster turnover... more profits.
"Timm Aluminum Windows help sell hidden qualities of our homes"

"We use Timm Aluminum Windows as our No. 1 sales tool in selling Kaiser Homes. First of all, Timm Aluminum Windows look like quality construction and our salesmen can demonstrate their many sales features. We find that the natural aluminum color adds a lot of sales appeal, and above all these quality windows, used where people can see them, also help very materially in selling our prospects on the hidden qualities of Kaiser-built Homes."

Fritz B. Burns, President, KAISER HOMES* Builders & Developers of Panorama City, Van Nuys, California

*HENRY J. KAISER, Chairman of the Board

Interesting facts about Panorama City and Kaiser Homes

From October, 1946 to September, 1948, in just 660 days, Kaiser Homes has constructed and sold 5,319 two and three bedroom dwellings. This is conceded to be, among top builders and developers, a world's record in speed of construction, volume of sales and rapidity of occupancy. Kaiser Homes during this period have housed 20,672 people. 83% of Kaiser Homes were purchased by veterans. The average price was $9,703.00. The speed and efficiency with which Kaiser Homes has operated has been due, in great measure, to the completely open-minded attitude that Kaiser Homes executives have taken toward new construction methods, new products and innovations in the entire home building field. In addition to their present development, Panorama City at Van Nuys, Kaiser Homes has also developed large California residential tracts in North Hollywood; San Jose, Santa Clara, Ontario, West-Side Terrace, W 25th St. WH 2-2600.
"We like the beautiful narrow lines of Timm Aluminum Windows" say Kaiser Homes Architects, Wurdeman & Becket, A.I.A.* "From the standpoint of design, we consider Timm Aluminum Windows, with their modern, narrow lines, a real asset to the architectural appearance of Kaiser Homes."

* Architects for Bullocks Pasadena and Palm Springs, General Petroleum Bldg., Los Angeles, Jai-Alai Auditorium, Manila

"Quick installation, easy handling" says C. F. Herziger, Gen. Mgr. of Construction, Kaiser Homes "In a large project, such as Panorama City, every labor saving step is important. I find that Timm Aluminum Windows help cut installation costs considerably and, believe me, that's worthwhile. Their light weight and precision manufacturing also means minimum installation time per opening and the handling of large sizes a small problem."

"We make Timm Aluminum Windows work for us" says Fred Bauersfeld, * Kaiser Homes, Panorama City, Sales Manager "I find that getting the confidence of a prospect is necessary to make a sale. That's why I always make it a point to demonstrate Timm Aluminum Windows. Prospects figure that if quality windows are used then the parts of the house they can't see are of quality construction too. Timm Aluminum Windows have convinced more than one prospect to sign on the dotted line."

Special Demonstration At right is shown how Kaiser uses special demonstration models of Timm Aluminum Windows set up in double garage units of Kaiser Homes. Here prospects can operate the windows, and the Kaiser salesman can point out superior construction features which cannot be seen after windows are installed.

*Shown on left in group picture

Timm Aluminum Windows America's Finest Aluminum Casements
"Quick installation, easy handling" says C. F. Herziger, Gen. Mgr. of Construction, Kaiser Homes. "In a large project, such as Panorama City, every labor saving step is important. I find that Timm Aluminum Windows help cut installation costs considerably and, believe me, that's worthwhile. Their light weight and precision manufacturing also means minimum installation time per opening and the handling of large sizes a small problem."

C. F. Herziger

"Timm Aluminum costs 1/3" says Homes Direct. "The principal reason is the Timm Aluminum because they necessitate Timm Aluminum Windows to operate the models of Timm Aluminum Casements, which cannot be seen.

Inside view of living room. Inside view of living room. Inside view of living room.
“Timm Aluminum Windows cut painting costs $1/3 says Andy Marland, Kaiser Homes Director of Purchasing. “One of the principal reasons I put my okay on Timm Aluminum Windows for Kaiser Homes is because they never need paint. In cost studies we have made, we have proved that the cost of painting sash is about one-third the entire cost of painting a house. We can pass this saving along to our customers and give more home value at a lower selling price.”

Andy Marland

View of living room installation. Note that left unpainted. Natural aluminum blends any color scheme. Women like the ease with which aluminum can be cleaned.
**Outstanding Quality Features of Timm Aluminum Windows**

Your houses plenty of extra safety

- **Patented Interlock Riveted Joist**
- **Extra Heavy Extrusions** for extra rigidity
- **Extension Hinges** joggled for extra strength
- **Double Contact Sash** cuts air infiltration
- **Quality Sash Operator** holds sash rigid when open

- **Extra Heavy Extrusions**: For extra rigidity
- **Double Contact Sash**: Cuts air infiltration
- **Quality Sash Operator**: Holds sash rigid when open

Five-year warranty nineteen to twenty-two months after planned installation. Even during sales "know how" for Timm Aluminum Windows.

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Five thousand, three hundred and nineteen homes constructed and sold in 22 months; two thousand more homes planned and under construction at Panorama City; that's Kaiser Homes' record. Even during a housing shortage that takes sales "know how." And part of that sales "know how" is the fact that Timm Aluminum Windows help sell houses faster.

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Write Today for complete catalogue of details and stock layouts and name of nearest distributor for Timm Aluminum Windows. Complete line of both Standard and Modular Sizes available.
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What's more, this DeWalt can be equipped with legs for inside shop use. With this DeWalt, your men will help you set new standards of performance and quality in building your houses better, faster and at lower costs.

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

Popular Price... Easy to Sell
NAHB Convention Program to Seek Better Building and Selling Methods

Merchandising theme runs through both the exposition and meeting schedules

Some 15,000 persons will meet in Chicago this month to learn how to build and sell better. The program for the Fifth Annual Convention and Exposition of the National Association of Home Builders has been arranged specifically for this dual purpose. Meetings will be at the Hotel Stevens from February 20 to 24.

Both the exposition and the schedule of meetings are planned to spotlight the fact that there are two kinds of building and two kinds of selling to be done.

In building, the home construction industry must build more and better houses in the economy price brackets. It also must build more and better public recognition of what the industry has done and is doing to provide homes for America. NAHB executives feel that if the first building job is done, the second will be done at the same time—hence the program emphasis on the Economy House.

In selling, builders must learn how to make the public realize the extra values incorporated in higher priced houses today, and must learn how to sell these higher priced homes to those who can afford to buy them.

The exposition, arranged by Paul S. Van Auken of Chicago, exposition director, will include 130 manufacturers of building materials, equipment and supplies, occupying 208 exhibit spaces. Many of the exhibitors are reported to have made merchandising the main purpose of their displays—to show how new products and new methods can help builders do a better job of selling homes at the same time that they make the homes better.

On the meeting side of the convention, six technical clinics and four panel discussions, arranged by Frank W. Cortright and his NAHB staff, have been carefully set up to tie better building and better selling together.

As announced by Convention Chairman W. Hamilton Crawford of Baton Rouge, La., the technical clinics will be held Tuesday and repeated on Wednesday to allow builders to attend more of them. They will deal with dry wall construction methods, panel heating, the builder-erector's place in building and marketing prefabricated houses, the Economy House, FHA questions and answers, and merchandising houses through better design.

The panel discussions will deal with mortgage finance, merchandising, land planning and the Economy House.

Prominent among the government speakers who will appear are Raymond Foley, HHFA administrator, and Frank D. Richards, FHA commissioner. Other speakers will include Roy Wenzlick, St. Louis real estate analyst, and National Commander S. Perry Brown of the American Legion.

Recognizing the need for building for the future as well as for the present, NAHB this year has invited university students, who are studying light construction in schools and colleges where such courses are featured, to attend the convention and exposition.

Winners of the Neighborhood Development Contest are to be announced at the Chicago meeting.

Movies of a number of Economy House projects will be shown daily throughout the convention. Slide films, charts and other visual aids will be used extensively in the clinics and panel discussions. A special invitation has been extended to wives of the builders to attend the convention.

Seattle Group Names Coordinator For Carpenter Apprentice Program

FUTURE building tradesmen in the Seattle, Wash. area, are represented among this group of apprentice carpenters being taught in cooperative plan

Through the cooperation of the Seattle Master Builders Association and other interested labor and trade groups, a carpenter's apprentice coordinator has been appointed in Seattle to serve as liaison officer among the builders, apprentices and the apprentice school. K. N. Schoonover is the coordinator.

The apprenticeship enrollment is not so heavy as last year, and attendance at the school had been dropping off, even among those who were enrolled. In order to remedy this situation, and to make the apprentice realize that the continuance of apprenticeships and benefits under the G.I. Bill depends on attendance, a meeting was held recently at the A. F. of L. Carpenter's Hall. Talks were made by Carl Anderson of the A. F. of L. carpenter's union; by Harry Carr, president of the Seattle Building Trades Council; by V. H. Dent, of the builders association; by Robert Lyman of the Associated General Contractors and by a representative of the Edison Vocational School where the courses are given. After the business session, the boys were served refreshments provided by the Carpenters Apprentice Committee.

The job of the coordinator will be to see that each apprentice is trained properly, that he gets the right kind of instruction.
Cortright's Column

By Frank W. Cortright

Executive Vice President, National Association of Home Builders of the United States

Two figures buried in Washington reports have suddenly assumed considerable importance for the people in this country. Both have to do with rent. One is tucked away in an imposing report from the U. S. Bureau of the Census. It shows that the median rent paid for dwellings in the United States is $29.33.

The other can be found by applying a little arithmetic to the Administration's new public housing program. It shows that under the bills introduced in the House and Senate to establish the new million-unit public housing program, Uncle Sam is proposing to pay a rent subsidy of $37 per month to each family to be placed in the housing to be built.

In other words, self-supporting people living in privately-rented and privately-paid-for homes pay about $30 a month rent.

But the government, when it puts non-self-supporting families in public housing proposes to pay out $7 a month more for them for federal subsidy alone. To this $37 subsidy must be added the so-called "shelter rent" paid by privately-paid-for homes pay about $30 a month rent.

The present average shelter rent runs about $27—based on building costs of nearly 10 years ago. Even using that out-moded base, the total rents to be charged in the "low-rent" federal housing would be about $67 or more than twice as much as the median private rent in the United States.

Actually, the bill proposes to have the U. S. Treasury pay out $445 million a year for rent subsidies. This amount will go to the million families who are to be selected for the projects. This will be paid annually for 40 years. The total amount of subsidy, therefore, reaches the staggering total of $18 billion dollars over the 40 year period.

The average citizen may not understand just what is meant by socialization of rent. But he certainly can understand the plain and simple fact that a million families are to be chosen to have $37 a month paid by the government on their rent bill.

He can certainly understand that it will cost $18 billion of his taxes to meet a part of only their rent bill.

The fundamental question has at last been raised—and clearly illuminated. Just how much can we afford to spend out of the public treasury for housing a relatively small number of selected families? For now it can be seen that it costs a lot of money if the government is to undertake to provide housing.

Nor is the rent subsidy the only public cost involved. There is the matter of tax abatement and other tax losses. There is the overhead cost of building and operation. And there are other hidden costs that become apparent only after public housing has been built and saddled on the unsuspecting taxpayers who will have to foot the bill.

There is one good thing about this whole situation. It is simply that at long last the public housing advocates have come out with an indication of what they will cost the nation. Up to this time, they have camouflaged their efforts with pious talk about only housing a small number of families—those who need help most. Private builders have always known—and contended—that the public houses would not be content with less than 5,000,000 units. We know that this 1,050,000 units is only the beginning.

With the election tucked away, the public houses cost off constraints. They raised their initial program immediately to 1,000,000 units. And with it, the back-breaking costs inherent in such a program zoomed upward, too. The $1,750 per room cost (not including land and facilities) is to be augmented by another $750 if they feel it desirable.

Now the full preposterous facts are coming out in the open. It should not be so hard to make clear to people just what is involved in public housing.

American Builder, February 1949.

Portland Airs Pros and Cons Of Low-Cost Housing in Panel

Both opponents and proponents of public housing expressed their views at a panel discussion on low-cost housing in Portland, the Portland Home Builders Association reports. The panel was a representative one, including a member of the League of Women Voters, a former regional vice president of the National Association of Real Estate Brokers, the acting building inspection director of Portland, the president of the Portland Planning and Housing Association and the president of the Portland Realty Board. L. C. Simms of the Portland Home Builders Association served as moderator of the panel.

Despite diametrically opposite viewpoints among the participants, the

HERMAN A. SCHMITT
President, Portland Home Builders Assn.

association reports, opinions were expressed without acrimony.

Herman A. Schmitt was reelected president of the association. Other officers for 1949 include Palmer Biggins, vice president; Frank D. Evans, secretary-treasurer; Sanford Landon, sergeant-at-arms. The executive board includes T. B. Winship, Ralph L. Harris, and Arthur Hanson for the builders; Al Diesler for the material dealers; George Welby for the subcontractors and Frank E. Payne for other associates.

Lamberth Is President
Of Texas Home Builders

E. P. Lamberth has been elected president of the Texas Association of Home Builders. Others officers are: Sam Lemmon of Lubbock, vice president; G. E. McCredde of San Antonio, secretary; L. C. Munday of Amarillo, treasurer. Grover A. Godfrey of Dallas is executive secretary.
St. Paul Economy House Protected From Inflation

The St. Paul Home Builders Association has developed an Economy House plan which members are building to sell for $8,750, plus lot. An interesting feature of the St. Paul plan is the manner in which it is setting up safeguards to prevent each of these new houses from getting on the inflationary market after being built.

This is achieved by reserving to the contractor, in the sales contract, a three-year option to buy back the house if the owner desires to dispose of it within that period.

The home is conventional in construction, a two-bedroom design of frame construction. Designed by Norman R. Johnson, architect, it combines living room and dining area, and permits good room dimension in an exceptionally compact arrangement of its 708 square feet of space.

FHA has issued a commitment on the house for a 25 year mortgage of $7,600, based on a lot valuation of $750. That brings the total selling cost of the house to $8,900, exclusive of mortgage loan costs.

The association had begun 100 by the end of the year and expects to start 1,500 in 1949. Public acceptance has been excellent, and there is no difficulty in finding prospects. A. L. Keffer, executive director, reports.

Legion Certificate of Merit Given to Washington Builder

The American Certificate of Merit recently was awarded to Clarence (Goody) Gosnell, president of the Washington (D.C.) Metropolitan Association of Home Builders for the cooperation afforded the D.C. Veterans Housing Committee in finding homes for veterans. Since the program was inaugurated, housing applications have been taken from 25,000 veterans and more than 7,500 families have been placed.

Maurice J. Fishman Heads Cleveland Association in 1949

Maurice J. Fishman was elected president for 1949 of the Home Builders Association of Greater Cleveland. Other officers are: Peter D. Kleist, vice-president; Everett C. Andrews, treasurer; George N. Selzter, secretary.

Exposition Display to Feature Rare Tropical Hawaii Blooms

Ladies visiting the exposition hall at the NAHB convention on the last day of the show will have a chance to secure an exotic Hawaiian bloom from one of the exhibit booths. Timm Industries, makers of aluminum windows, plan to dispose of the floral part of their display in this manner.

During the week, the blooms and foliage will be used to decorate the exhibit space. Flown direct from the Islands, they will include exotic anthuriums and other spectacular blooms such as heliconia and torch ginger.

Minneapolis Chapter Cooperates With Newspapers on Survey

At the request of newspapers in Minneapolis, the Minneapolis Home Builders Association is making a survey of its members to determine the housing situation there. A questionnaire, mailed to members by Harold Boss, executive vice president, asks the number of houses started in 1948, the number completed, number remaining unsold, the price range, the starts anticipated in 1949 and that price range.

ST. PAUL Economy House is a two-bedroom design of frame construction. The house is built to sell for $8,750 plus lot. Compact floor plan is pictured at the left.

Long Island Builders' Unit To Study Ways to Cut Costs

The Long Island Home Builders Institute has set up a Committee on Construction Costs, headed by Leonard Frank who was subsequently elected president of the institute, to develop and uncover improved methods, materials and building regulations that could result in lower building costs.

While most such association committees have directed their efforts specifically at the Economy House, the Long Island group felt it was a broader purpose could give greater results. Such cost studies, it was felt, could be applied to building in all price brackets.

In terms of this broadened objective, Robert J. Rose, chairman of the Institute's Planning Committee, is preparing an analysis of Planning Commission rules and specifications through which savings could be effected if proper modifications could be obtained. Frank Clausen, chairman of the Building Code Committee, is preparing a similar analysis of building code regulations and the numerous variations that exist in the 65 political subdivisions within Nassau County.

Subcommittees of architects and engineers, of building materials manufacturers and distributors, and of mortgage brokers, financial institutions, FHA and VA officials, are being held with respect to the same project.

Other new officers, elected for 1949, include Patrick J. Callan, vice president; Fred Gibson, treasurer, and James Graham, secretary. Otto J. Hartwig is executive vice president. New three-year term directors are Charles M. Jaeger, Saul Sokolov and Sam Harris.

Sylvan King, chairman of Veterans' Housing Committee for Washington, D. C., Department of the American Legion presents Legion Certificate for Merit to Clarence W. Gosnell, president, Washington Home Builders Assn., for his work and cooperation in finding homes for veterans.

Rochester Uses Association Signs

The Rochester Home Builders Association has arranged with a sign manufacturer to provide its members with signs bearing the association insignia. Builders post them before houses under construction.
New Orleans Elects 1949 Chapter Officers

OFFICERS for 1949 elected at December annual meeting of Home Builders Association of New Orleans, Inc., are, left to right: W. E. Douglas, secretary; Paul B. Lemann, vice president; Harry B. Rainold, treasurer, and Harold I. Paillet, president.

All Women's Program Planned for Lady Builders At NAHB Annual Convention

An important new feature at the NAHB annual convention to be held in Chicago will be the inauguration of a program staged exclusively by the women builders for women builders. This will mark the first time such a meeting has been held, and it is anticipated that it will arouse keen interest among all women associated with the building industry. A program that is both lively and informative is being planned.

The meeting, titled "Women's Conference on Home Building" will run from 10:00 a.m. to 12:30 p.m. Monday, February 21, in the Grand Ballroom of The Stevens. Mrs. R. B. Butler, realtor and builder of Tulsa, Okla., has been appointed program chairman by Frank Cottright.

While details of the program are not definite as this is being written, a preview of the subjects to be discussed reveals such provocative titles as "How All Women Run Their Homes" and the "Defense Against Socialism in Housing." Mrs. Maxine Mollgaard of Milwaukee will talk on Interior Decorating, and Mrs. Henny Mollgaard of Milwaukee will discuss "The Furnishing of the Home." Mrs. Butler, who designed and built a home from ideas suggested by 3,000 American women, will tell what she learned from her survey.

Los Angeles Builders Elect New Officers; Urge Housing Measures

Arthur A. Beliveau, Alhambra subdivider and home builder, was elected 1949 president of the Home Builder Institute of Los Angeles at the board of directors meeting in December. He succeeds Spiros G. Ponty, who assumes the post of treasurer for 1949.

Lloyd S. Whaley, Long Beach, was named first vice president; E. Avery McCarthy, Los Angeles, second vice president; and Ralph M. Burgbacher, third vice president.

An eight-point resolution of housing recommendations to the new congress was passed by the retiring board of directors. This includes substitution of the Wagner-Elender-Taft bill with independent housing bills: classification and definition of "housing," a four-year housing plan; a 100 per cent secondary market and an adjustment of the reservation under me.

Arthur A. Beliveau

Gross Rental Housing Proposal Publicized by Association

While not advocating the program as a position of the association, the Long Island Home Builders Institute has publicized a rental housing construction bill, being proposed by Alfred Gross, one of its active and influential members.

Printing the proposed legislation in its association publication, the Long Island chapter of NAHB makes clear that neither NAHB nor the local chapter have considered the plan formally.

Gross declares his proposed bill is for a low-rent housing plan that will work within the framework of the private enterprise system if all the tools of government and finance that are given to public housing, short of direct grants, are given to private enterprise.

Gross presented a similar plan last year to the Joint Congressional Committee on Housing, but it did not survive all legislative obstacles. This year he is more confident. As he describes it, "Last year, I was off the reservation. This year, they've moved the reservation under me."

Briefly, the Gross proposal would divorce low-rent housing from any element of slum clearance or rehabilitation of slums or slum dwellers. These, he contends, are social and separate problems.

It would provide communities a chance to contribute limited tax exemptions which later would be more than made up by increased valuations and new taxable properties. It would extend to rental housing some of the financing advantages now enjoyed by housing built for sale.

If adopted, Gross believes the plan would reduce monthly rentals on 608 projects from 30 to 35 per cent. Details of the plan are printed in the December-January issue of the Long Island Builder.
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ALL ONE WIDTH 31\(\frac{1}{4}\) in.

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No change in floor plans needed—choose models by budget!

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HOME BUILDER'S SHOW

FEB. 20-24 STEVENS HOTEL, CHICAGO BOOTH No. 1
Performance Guarantee

In a competitive market the inept and the unethical opportunists who enter the building field are quickly eliminated. Since the close of the war, however, there has been ready sale for every house built, without too much scrutiny or inquiry on the part of the buyer. That might easily have resulted in a disastrous wave of jerry building through which the entire industry would have been discredited. But no such wave has developed, and much if not most of the credit for holding the amount of jerry building to a negligible minimum goes to the local chapters of NAHB. Membership in all of these chapters has been based on the demonstrated fitness of an applicant to meet certain ethical and technical standards. Mistakes in judging the fitness of applicants for membership have been made, of course. But, as the unfit have been discovered they have been disciplined.

So well have the membership committees in various chapters done their work that not even the professional defamers of the industry have been able to find enough cases of willful or unwillful dereliction on the part of home builders to create public hostility or public suspicion. The few exceptions to the rule of high ethical and technical standards of home builders that have been discovered have helped rather than hurt public acceptance because of the manner in which local associations have dealt with them.

Now, with the era of distress buying gone, 1949 probably will see a return to competitive selling. In such a market the misfits do not last long. There are however, always new misfits entering the field, and the next logical step for the associations is to find ways to keep the continuous stream of unfit and unethical operators from threatening the reputation of quality builders.

Is there any reason why both the public and the reputable builders cannot be protected by the establishment and advertisement of performance guarantees by the local associations?

Granting that most builders do stand back of their houses, and that failures of materials and workmanship are relatively rare, a performance guarantee by a local association nevertheless should be a profitable investment in public relations, sound merchandising and the solidification of public confidence. And it should further minimize unfair competition and the exploitation of the public by making selling in a competitive market too difficult for the unskilled and the unethical.

It is realized that there are many problems in the operation of such a guarantee which would have to be worked out carefully. It is also realized that a performance guarantee would require inspections and perhaps inspection fees and, conceivably, funds to make good the guarantee when and if that became necessary. The benefits to the builders and the public, however, appear to outweigh the problems of financing and operating the guarantee.
Eight Building Operations That Offer Ideas for All

The eight large home building organizations described on the following pages are representative of one phase of the nation’s industry—mass production of houses. These organizations are being featured because of the many ideas they present in management, planning, erection and sales which can be adapted to small home building operations. The men heading the organizations discussed will attend the NAHB Annual Convention and Exposition in Chicago February 20 to 24 and will take an active part in the business sessions, along with others who head much smaller organizations. American Builder urges all builders to attend this Convention, and ally themselves actively with the nation’s industry organization. The free and rapid exchange of ideas at the business sessions, plus visits to the Exhibit Hall, will not only bring everyone up to date on developments and problems in the industry, but will fortify those in attendance with knowledge and ability to capitalize to the utmost on their chosen field of activity—building.

BUILDING PRODUCTS ON REVIEW

New products and equipment, plus refinements and improvements in conventional items, not only enable builders to erect better houses and other structures, but make it possible to incorporate within the structures more value in usefulness and permanence. Material and equipment items illustrated and described briefly on the pages of this issue of American Builder are a few examples of the work of ingenious and far-sighted manufacturers interested in the building industry. Obviously it is impossible, in the limited space allotted, to present all the products of all manufacturers or even to list all the merits and outstanding features of those products which do appear. Supplementary information on most of the items will be found in the advertising pages of this and other issues. In addition, each product presented in the pictorial review has a key number and the coupon on page 181 can be used to obtain details. Many of the manufacturers’ products shown in this issue will be on display at the NAHB Convention and Exposition at the Stevens Hotel in Chicago, February 20 to 24.

Converting Dreams Into Realities

Good leadership plus fertile brains and nerve have enabled Nathan Manilow and his associates to complete more than 5,000 houses and conceive plans for 7,000 more in Chicago area.

"We work with him not for him," say those associated with Nathan Manilow in his multi-million-dollar home building activities in the Chicago area. Sharp-eyed, soft-spoken, cigar-smoking Manilow has achieved the ultimate ambition of the good executive—to assemble an organization which runs itself efficiently and profitably. He and those associated with him have completed more than 5,000 dwelling units and $20,000,000 worth of other types of construction and have now planned and under way projects which when completed will produce another 7,000 units.

Manilow is a promoter with a high batting average of success. He inspires a spirit of drive and accomplishment in the organizations with which he is identified. Key personnel on his staff do not spend a lot of time writing memos to the "boss". Reports and paper work are held to a minimum. Instead each individual is charged with certain specific responsibilities and from then on out it is up to him to produce. Manilow’s key men have the feeling they are running their own businesses. This feeling is bolstered by the fact that each year-end very substantial bonuses based on current profits are paid to employees.

Jeffrey Manor, a Manilow project, started during World War II under priorities and price ceilings, is now a community of more than 3,000 families and when completed will house about 3,800 families. The organization...
The land now occupied by Jeffery Manor was originally subdivided in the 1920's and underground utilities installed. It was platted in gridiron pattern, and in the late 1930's, Manilow became interested in building a community there. The property received special study by the Chicago Plan Commission and the land planning division of FHA with the result that the old gridiron pattern was completely revised into the present plat with curvilinear streets and large lots. While the revised plat necessitated the abandonment of certain utilities, this was more than compensated for by an increase of approximately 20 per cent in the number of home sites, plus an infinitely more attractive community. All homes in Jeffery Manor are solid masonry construction priced from $11,000 to $11,950.

JEFFERY MANOR, one of Manilow's large projects, now houses about 3,000 families and will house 3,800 when completed. Replating the old gridiron subdivision into modern layout increased number of building sites by 20 per cent. At right is the new layout with curvilinear streets.
TWO OF THE houses being built in Copeland Manor, a community of 400 homes northwest of Chicago. Prices—$11,500 to $15,750

The Manilow organization specializes in mass market housing and in conformity with that policy all effort is directed at producing houses which can sell for the lowest possible price and still embody the essentials to good living in an enduring structure.

Copeland Manor, a subdivision in Libertyville, north of Chicago, is platted for about 400 homes of which about 250 are now completed. This subdivision was likewise platted in the 1920’s, with concrete pavement, double sewage and beautiful landscaping. Houses here are all of masonry construction and have sold from $11,500 to $15,750. This is a particularly desirable community in the Chicago area because of good transportation to the loop and also because it is directly west of and adjacent to the North Shore area along Lake Michigan.
Nathan Manilow and his chief executive officer, C. F. Sweet, Sr., dreamed of and finally inaugurated huge Park Forest project. They enlisted Philip M. Klutznick to carry out the undertaking.

Manilow is big-hearted. He likes to see everyone live well, be happy, prosperous and well-housed. He noted the need for housing in Hammond, Ind., for steel mill employees. As a result his Carroll Construction Co. is now busily engaged building about 250 houses there, all in brick and dry wall, to sell from $10,000 to $11,000.

At Round Lake, III., the L. B. Harris Co., Inc., of which Manilow is chairman of the board, is now building about 200 frame houses a year to sell at $6,950. Up to the present time more than 2,500 homes have been built there. Two basic plans are used here. The smaller has a complete kitchen with dining space, living room, bath, one bedroom and a utility room on the floor with a built-in stairway to a floored but unfinished attic which can be completed to provide two more bedrooms. The other basic plan is similar to this except that there are two bedrooms on the first floor. At the Round Lake operation, a complete woodworking shop is used to precut and fabricate many of the house parts.

Manilow plans to erect 3,000 low-priced frame houses adjacent to Chicago in 1949. Plans are being processed by FHA and as soon as weather permits work will get under way in two separate subdivisions of 1,500 houses each. One will be on the southeastern edge of the city and the other on the northwestern edge. Houses will be of

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PHILIP KLUTZNICK, head of organization building Park Forest

PLAT OF Park Forest, covering 2,400 acres of wooded farm land 39 minutes from Chicago’s loop by commuter train. It will consist of 3,010 rental units, 5,000 single family dwellings, shopping centers, schools, churches and recreational facilities. Schedule calls for completion of 75 units per week each. One will be on the southeastern edge of the city and the other on the northwestern edge. Houses will be of

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AB29182—A new interior wood paneling known as Driftwood Paneling. Waynehauser Sales Co., St. Paul 1, Minn. Driftwood is precision machined to pattern and saw-kerfed to prevent cupping. Tongued and grooved for proper application. Available through retail lumber dealers in 6, 8, 10, and 12 inch widths.

AB29130—Built-in ironing board. Rieter Woodwork Speciality Co., Cedarburg, Wis. Eighteen adjustments for height. Dependable locking mechanism prevents wobble or tilt. Exclusive safety feature protects children. Can be installed between 2x4 studs, 16 inches on center. It is supplied with or without doors.


AB29181—Stanley-Carter “Wasp” Power Plane. Stanley Tools, New Britain, Conn. An electric plane with patented spiral cutter which produces smooth waveless surface. By substituting shaper cutters, it becomes a miniature planing mill and will make surface beads, tongue and groove, and other moulding cuts.
delivery of 125 turn key jobs each month after the fourth month.

Carroll F. Sweet, Sr., is chief executive officer of Manilow Construction Co., and subsidiary firms. Sweet, a former Grand Rapids, Mich., banker, who spent many years as an officer of the Home Owners Loan Corporation and, during the latter part of his term, was in charge of housing priorities in Chicago, has now complete charge of all personnel for Manilow. He is also president of L. B. Harris Co. Inc.

Joseph Goldman, an architect, is a vice president in charge of construction for Manilow Construction Co. and all subsidiaries. Goldman, who has been with Manilow for 19 years, makes regular trips to the jobs under way, checking with his superintendents on progress, labor and materials supplies. Once a week, the superintendents on the various jobs file a report with Goldman on the number of men working in the various trades, together with a report on the weather for each day. No other paper work is involved. With these reports at hand, Goldman can check on whether adequate progress is being made because of personal attention to jobs.

Goldman has tried progress reports and more detail on control of jobs, but has found that this took too much of the time of superintendents whom he wants on the job with the men. He finds that filing this one report each week keeps the superintendents conscious of progress being made and whether it is good or bad. The secret is, of course, in hiring efficient superintendents. The theory all through the Manilow organizations is to pay high salaries, above average for the industry. This, they find, is cheapest in the long term operation. The biggest dream of all to become a reality for Manilow and his chief executive officer. Sweet, however, is the development of Park Forest, just south of Chicago. To handle this huge $70,000,000 community-building job, a new corporatoin was formed and headed up by Philip M. Klutznick, as president. Klutznick was formerly Commissioner of the Federal Public Housing Authority.

The complete city of about 30,000 population, which it will have when completed, is being built on 2,400 acres of rolling wooded farmland with a maximum density of only ten families per acre and a building coverage limited to 11 per cent for the rental area. Steps in the construction involve, first, the completion of 3,010 rental units; second, construction of shopping centers; third, erection and sale of about 5,000 single family houses in low-price brackets; fourth, the incorporation of a nuisance industrial section. The whole idea was conceived as private industry's answer to the critical housing situation in the Chicago area.

The Park Forest rental section is the largest project ever processed by FHA where the commitments were issued at one time and where all commitments were closed simultaneously. The mortgages total $27,500,000 to be advanced by three life insurance companies—New York Life; Northwestern Mutual and Sun Life Assurance Co. of Canada. All the financing was done under Section 608 of Title VI of the National Housing Act.

The dwellings now being constructed are mainly five and six rooms, semi-detached and row types, in multiples of two, four, six and eight, grouped around garden courts. Emphasis in design has been upon generous-sized rooms, with 1,062 square feet for the five-room, two-bedroom units. Each unit will have a full basement. About 200 3½-room, one-bedroom units are planned for families without children. Each unit will have a full basement.

FLOOR PLANS of five and six-room apartments. Each unit will have a full basement. About 200 3½-room, one-bedroom units are planned for families without children.

American Builder, February 1949.

BUILDING PRODUCTS ON REVIEW — BUILDING PRODUCTS ON REVIEW — BUILDING PRODUCTS ON REVIEW
SIX frame units, for the six-room, three-bedroom units. Each apartment will have a full basement. About 200 3½-room, one-bedroom units with half basements are being included for couples without children. With the exception of the one-bedroom units, all of the units are two stories with basements.

Construction is brick veneer over wood framing, poured concrete foundation, gypsum lath and plaster interiors, metal casements and picture windows, oak floors and ample built-in features.

Exterior designs are simple and straightforward with more than 30 different basic types as assurance against monotony. Each unit will be equipped with an individually controlled, Mor-Sun, gas-fired, forced warm air furnace system. Other equipment will include a Magic Chef gas range, a seven-cubic-foot Servel refrigerator and a Combustion Engineering automatic water heater. Tapping of a major natural gas line will provide fuel for the entire project with no need for large storage tanks.

All utility lines are underground. Soft water will be available from the municipal water line. Electric power will be obtained from a central power station.

Building products on review — Building products on review — Building products on review

AB29150 — Jiffy Jaw hammer tackers. Fastener Corporation, Chicago, Ill. This new unit can be installed on any model HT-580 and HT-760 Dun-fast hammer tacker now in use. It features top performance of Tacker. Cleaning is easily done by slipping off a spring clip device. Access is gained to staple channel.

AB29178 — Stanley-Carter 25 Plane. Stanley Tools, Div. of Stanley Works, New Britain, Conn. Uses a patented spiral cutter which gives a shear cut either with or across grain. One H.P. motor produces cutter speed of over 5,000 feet a minute. Easily adjusted for taper cuts or bevel cuts up to 45 degree angles.

AB29148 — Es-nail shingle fastener. American Stop Nut Corporation. Designed to hold wood shingles to gypsum sheathing. Es-nail locks shingles to sheathing. Locking action takes place when shingle is heated. Are easy to work. Can be driven at any point on the roof.


This huge batching plant at Park Forest project will mix 850 yards of concrete a day. Sand and gravel are dumped directly from freight cars into a pit and carried on moving belt to the mixer.
RELATIVELY small, but flexible organization, employing modern building techniques and sales ability, permits the Long Island building firm of Frank Homes, Inc., to adapt its operations to changing conditions of market or material supply. A partnership team, the firm at present has a diversified operation under way—an economy house project in a small-sized subdivision and a luxury house development in an exclusive section of Long Island.

Leonard Frank is the construction man on the team, and his partner is Walter Stackler who handles the financial details. Operating from a small office in Hempstead, they retain a small key force of about a half dozen men and a flexible construction force of about 90 employees.

Economies in building methods are obtained through site precutting of the small houses, following a simple repetitive floor plan and design. The luxury house development is made possible through shrewd land purchasing and subdividing.

Frank has been very active in the Long Island Home
Builders Institute—having just been elected president of the organization—and his keen interest in finding ways to cut building costs is evidenced by the fact that he also is chairman of the Institute’s special committee set up to find ways of doing this.

Besides Frank and Stackler, the key force includes the construction superintendent, Phil Frank, brother of Leonard, and Carl Roesinger, his team-mate. Sales are handled under the direction of Jim Hickman who has three salesmen under him. Peter McKenna handles a consistent program of newspaper advertising. There is an office force consisting of a bookkeeper, an accountant and one general office worker.

The construction crew, under a carpenter foreman and a cement workers foreman, number about 90 employees. The carpenter crew, which is kept fairly steadily employed with a minimum of turnover, includes several groups of specialized workers. There are a half dozen well-trained, drywall applicators—some trained by the Frank organization and some trained elsewhere. There is a roofing crew and some skilled finish carpenters. Five bricklayers also are kept on the skilled labor force fairly steadily.

There are about 30 cement workers, less highly skilled, and in this group most of the labor turnover occurs. The other tradesmen, although they may go to other jobs in a slack period, usually return to

**Power wheelbarrow is popular with labor, builder reports. Scoopmobile speeds handling of foundation excavation and loading of other earth material. Large concrete mixer, two jeeps also are used**

the Frank operations whenever they have an opportunity.

All electrical work, plumbing and painting is done by sub contractors. Virtually all materials, except heating equipment, is bought through local distributors with whom Frank has done business steadily. He has maintained good relations with the distributors and received fine cooperation from them when materials were scarce.

**This Ranch style has three bedrooms with provision for future addition of two more. It was priced at $45,000**

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**AB29375—Keymesh reinforcement for Wire Co., Peoria, Ill. Unrolls flat and remains flat. Will not stretch or sag. Laps smoothly. Special Keymesh furring nails hold Keymesh at predetermined distance from wall. Open mesh design permits scratch coat of uniform and proper thickness.**

**AB29372—Amerwood, a decorative wood paneling. Latwood Corp., South Bend, Ind. Produced from low-grade lumber, it offers custom-built appearance at low-cost. Comes in widths of 6 to 12 inches and lengths of 8 to 16 feet. Panels are delivered stained, lacquered and waxed, and are ship-lapped for easy installation.**

**AB29188—Here with the latest addition to the Smith-Mills residential boiler series. H. B. Smith Co., Inc., Westfield, Mass. Known as No. 1500 Smith-Mills boiler. Is furnished jacketed and complete with a built-in tankless heater that supplies hot water instantly to fixtures. Boiler is finished in cream and black.**

**AB29363—'Waste King' incinerator, Incinerator Products Co., Detroit 17, Mich. A packaged unit that installs in chimney base flush with wall. Will burn most waste with scrap paper for fuel; is provided with gas hookup for wet loads. Of welded construction, has cast iron grates and doors, is thoroughly insulated.**
Frank believes that relations between employer and employee are important, and he has consistently tried to encourage apprentice training to as full an extent as the unions will permit. He always employs his full quota of apprentices on the job and takes an active part in the builder association apprentice training program.

While it is not possible to pay bonuses for quality work, under the union requirement that wages be equal for all, the firm does try to recognize special effort in little ways among those of its crew who do a conscientious job. The use of power tools where possible, to lighten the physical labor required, helps a lot in this phase of the program.

Stackler and Frank answer demand for economy housing with homes for less than $9,000

Power equipment includes two gasoline-powered generators which supply current to operate three power saws. A gasoline compressor and an electric compressor, each with pneumatic hammers, are used in road and foundation work. A power scoop speeds moving and loading of excavation and loam for grading. Two jeeps are used for all-around utility.

Frank reports very good acceptance of two gasoline-driven wheelbarrows which result in greater production for the men who operate them with much less fatigue to the workers.

The two small house designs, which are being built in quantity in Hicksville, Long Island, definitely are in the economy price range.

There are two bedrooms, living room, bath and kitchen for each design. One, which sells for $8,290, has no provision for future expansion. The other, selling for $8,500, has an expansion attic so that two rooms can later be finished on the second floor. There are no garages.

The lots are 60x100 feet on paved streets which are curving to take away the gridiron look so characteristic of many small house subdivisions. A model of each design is kept furnished, and selling is done from these.

The houses are frame, with exteriors of cement asbestos and on concrete foundations. Interior walls are dry wall construction. Sidewalls are not insulated, but the ceiling is insulated.

**BUILDING PRODUCTS ON REVIEW**

AB29377 — Newest addition to the Mall vibrating line. Mall Tool Co., Chicago, Ill. A universal electric motor-driven, one-man vibrator for use in tight spots. Will place concrete fast and efficiently with a minimum of operator effort. The complete line of Mall power tools are subject of booklet offered free.


AB29279 — Caulking putty in cartridge form, a caulking gun, and caulking putty in new tan color. Johns-Manville, New York, N.Y. Cartridge contains approximately 1/10 gallon. Caulking gun takes either cartridges or putty in bulk form. New tan color for use with tan, red, brown shingles or exteriors.

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TYPICAL floor plan was designed by Alvin Cassens, Jr. Houses have attractive kitchens.

Floors are of oak, except the kitchen and bath where linoleum asphalt tile is used. Double hung aluminum windows are easy to install, Frank reports. Heating is by oil or coal-fired, circulating hot air furnaces.

The kitchens are equipped with an electric range and combination sink. Plumbing is copper throughout. The lots are graded and landscaped.

The deluxe homes are being erected in Roslyn Harbor, L.I., on what formerly was a 75-acre estate. The first step was to make use of the facilities already existing on it. These included the main house, a butler’s house, a large garage and a sizable stable, a swimming pool with bath houses.

The garage has been remodeled into a house in which the developers are living at present. The main house has been redecorated and
improved and is on the market. Following a plan designed by Albert San Fanandre, the stable has been remodeled into a large house with four bedrooms and a maid’s room, as well as living facilities.

The butler’s house was improved and already has been sold. It is planned to build a new house adjacent to the swimming pool, and include the pool and bath houses with this new house in one package.

The remainder of the land is being subdivided into 1-acre lots and several new homes already have been finished in the $40,000 price range. The builder incorporates all possible conveniences in these dwellings to increase their salability.

Exteriors are of varied materials in each house—vertical siding, wood shingle, sandstone and weatherseal siding. Walls are of frame construction with insulating sheathing.

Interior walls are gypsum lath with three coats of plaster. Two-inch rock mineral wool batts are used to insulate the sidewalls, and 4-inch batts in the roof cap. The roof is Vermont slate.

 Heating systems are one-pipe, circulating hot water with oil-fired boilers. Double hung aluminum windows are used, except where picture windows are called for. All windows are fully weatherstripped.

Kitchens are equipped with an electric range and refrigerator, and the most modern of kitchen cabinets and sinks.

STABLE on estate purchased for subdivision, above, was made into modern house, left. Bay window was stable door.
Continental Village
Three Way Development

Sales idea based on giving clients a place to live, and at the same time, a place to play.

Two-bedroom houses have stairs to expansion attic.

Exteriors are finished with stone veneer, wood siding, asbestos shingles and other materials. Space is available to add two extra bedrooms in the future. Heating ducts run to the attic and are capped so that heating can be conveniently connected. Interiors are drywall construction. Prefinished oak or maple floors are used.

Continental Village is a community being built around a double-barreled sales idea—that people want year-round homes, but also a place to play close to home. The shelter plus recreational features in this development makes it unique. The village nestles in a Westchester county valley convenient to New York. It is also accessible to a private lake which is community property.

A bus operates for commuters to churches and shopping in Peekskill, N.Y.

The development has a community center which includes a clubhouse, riding stable, restaurant, theatre and several connected cabins for unexpected guests of property owners. This is called the Village Green.

One part of the 2,000 acre development has been set aside for a local shopping area; another exclusively for summer cabins. A third section is for year-round homes.

The summer section is segregated from the all year-round homes but both will share equally all conveniences and improvements.

N. K. Winston is the developer.
AB29107—Prespine panels. Curtis Companies, Inc., Clinton, Iowa. Door panels are cut and machined just like wood. Composed of sawdust mixed with a chemical compound, it comes out of heat press in large sheets resembling in color the natural wood. Material is used for all doors and kitchen cabinet panels.

AB29102—A triple-duty winter air conditioner. Conco Engineering Works, Mendota, Ill. The three models of series F units are engineered for gas or oil. Streamlined package, factory wired and assembled. No structural changes in unit is necessary to convert from gas to oil, only substitution of the burner. Economical to use.

AB29110—Styrofoam, low temperature insulating material. The Dow Chemical Co., Midland, Mich. Material is Styron, expanded 40 times. Expansion produces multicellular mass, foam-like, with low thermal conductivity, structural strength, resistance to moisture. Light weight. Material is easy to work with, easy to cut.

AB2993—Portable hoist. King Manufacturing Co., Chicago, Ill. Produced in four models, they are light enough in weight to be loaded and unloaded without difficulty. Handles like a barrel or bag truck. Are ruggedly built, compact, and easy to operate. Supplied with an air-cooled motor, economical and easy to run.

PANORAMA CITY will include 2,000 homes with commercial, recreational and educational facilities.

Kaiser Homes—
Building 8 Houses a Day
For 660 Days Establishes Record

How a Master

Building Products on Review
THE COMPLETION of 5,319 two
and three-bedroom dwellings in a
period of 660 days is a record in new
home construction. The time was
from October 1946 to September
1948, and the job was done by the
Fritz Burns organization operating
as Kaiser Community Homes in the
Los Angeles area. This is not only
a record in completions. It is also a
record in volume of sales and rapid-
ity of occupancy. A total of 20,672
persons were housed—a number equal
to the population of a good-sized city.
These 5,319 homes constituted the
second group of about 5,000 homes
built by Burns. Before and during
World War II, he built more than
5,000 units in the Los Angeles area,
making a total of 10,000 in the last
decade.

When Kaiser Community Homes
(now Kaiser Homes) was organized
in 1945, the housing shortage in Los
Angeles had reached emergency pro-
portions. Kaiser and Burns set out
to build the largest possible number
of houses for veterans in the shortest
possible time. They felt this could
best be accomplished by mass-pro-
ducing wall, ceiling, floor panels and
other parts of houses on a produc-
tion line basis in a factory designed
especially for that purpose.

Burns had his misgivings about the eco-
nomics of the venture and frankly
stated that he did not expect to pro-
duce houses at less cost. For that reason a plant was
erected covering about 16½ acres.

Today that plant is closed down. In
speaking of it, Burns made the fol-
lowing statement: "We found that
prefabrication enabled us to build
houses in four months when the cus-
tomary time was from ten months to
a year. . . . However, we did find that
this acceleration cost us money, and,
therefore, we terminated our plant
operations as soon as a more regular
flow of conventional materials and
labor was available. We learned a
great deal in our prefabrication ex-

WESTCHESTER, another
complete Kaiser Homes
community, planned to
include more than 4,000
low-priced small homes

SAN JOSE, a community
of 700 homes. Note con-
sistent land planning
with curvilinear streets
and large lots at the right

AB2999—Ornamental iron screen door
grille. The R. G. Coffman Co., Inc.,
Orlando, Fla. Hand wrought, pack-
aged product, complete with all in-
stallation accessories, shipped and
distributed throughout country. Prod-
cut has been indolized to give long
life and freedom from rust. It is fin-
ished in white enamel. Standard size.

AB29109—The Triangle, automatic gas
storage water heater. Day & Night
Manufacturing Co., Monrovia, Calif.
Boiler constructed of heavy gage
steel. Fiberglass insulation. Standard
equipment is Tank Saver, magnesium
rod which delays or prevents boiler
corrosion. Positive snap
action thermostat. No exposed parts.

AB29101 — Protektosite. Columbia
Protektosite Corp., Carlstadt, N. J.
Decorative plastic bricks are used to
obtain an effect in interior partitions.
Used for temporary or permanent
interior panels. The bricks are avail-
able in colors or clear. Interlocking
features on four sides for quick as-
sembly. Attractive in all type homes.

AB2996—The Circulaire. Bryant Heat-
er Co., Cleveland 10, Ohio. Gas
fired radiant-panel heater is suitable
for year round service or for auxil-
ary heating of rooms or offices.
Fits flush against wall. No cutting
of floors or coverings necessary.
Venting only is required. It is 5½
inches thick. Three sizes made.
BUILDING PRODUCTS ON REVIEW — BUILDING PRODUCTS ON REVIEW — BUILDING PRODUCTS ON REVIEW

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But the difficulty was that for every economy there was a counter-balance: "It seemed to be necessary to have a separate department head for every function and every department head had to have an assistant and both had to have good-looking secretaries." Today all Kaiser Home projects are operated on the site-fabrication basis. Practically all work except rough and finish carpentry is sublet. Lumber is purchased in carload lots and assembled at a central yard located on the tract. The yard man loads the exact quantity needed for a house on a Ross carrier and dumps it at the foundation. A portable saw is moved to the various foundations and lumber is cut to exact size whenever possible. Many of the mechanics are equipped with powered hand saws to facilitate cutting on the job.

Carpentry work is broken down into specialty crew operations. Crew No. 1 installs mudsills, posts and girders; Crew No. 2 lays and nails subfloors; Crew No. 3 consists of men who lay out partitions and openings; Crew No. 4 is the raising crew; and so forth. The raising crew lays out studs and headers on the subfloor for an entire wall section and nails them. The entire wall section is then raised into position and propped while the other walls and partitions for that same house are similarly prepared. When all four walls are completed, they are tied together with a double plate at the tops and corners. This entire crew setup is a system which moves specialists past the work in contrast to plant operation where work is moved past the men.

Another deviation from usual procedure is the "plank and girder" system used here. In place of floor joists, 4x6 girders are covered with 2x6 subfloors, laid diagonally in place of the usual one-inch boards. In this area, joists have to be chemically treated against damage by termites and dry rot. This construction makes a very strong floor.

As soon as the foundation has been stripped, garage and porch slabs are

BUCYRUS-ERIE Co., South Milwaukee, Wis. Model AB2997 — Hydrocrane. Bucket is hydraulically; load hoists hydraulically; outriggers are set hydraulically; bucket dips hydraulically. Safe system. Simple to maintain and operate.


A829100 — Master water heater. The Coleman Co., Inc., Wichita, Kans. Model 178-179 is the new automatic gas-fired economy line of heaters. It is finished in gleaming white plastic enamel. Construction is sturdy. Tank is made of heavy gauge galvanized steel. Insulated with fiber glass. Has full thermostat control.

FLOORS are of 2x6 t&g on 4x6 girders

American Builder, February 1949.

poured to permit immediate erection of porch posts with framing to eliminate the necessity of propping up porch roofs for an indefinite period.

The Kaiser-Burns program includes the latest techniques in procurement, planning and development of land. Panorama City, the latest and largest, is an example of a typical Kaiser Homes community project. The land is flat which permits low cost building. It is in the San Fernando Valley, only a short distance from Hollywood, and when a new highway is completed, it will be approximately 30 minutes from downtown Los Angeles. Shopping facilities, schools, churches, theaters are five minutes away in Van Nuys.

When the tract is completed, it will have its own business center, recreational and educational facilities. There will be 2,000 homes in Panorama City including 97 duplexes. The land is divided into 11 tracts, seven of which are completed or under construction.

Commitments on the first two tracts were obtained before Title VI expired. The balance are being financed under Title VI. In this project, as in previous ones, Burns is concentrating on two floor plans—one two-bedroom and one three-bedroom—to achieve maximum speed and economy. Variety in elevations has been so painstakingly worked out that visitors to one of these subdivisions never get the feeling of monotonous appearance which labels many communities less adroitly handled. The houses being currently offered vary considerably from those which were put on sale just a few months ago. Ordinarily after building 10,000 houses, any company would be apt to conclude that the ultimate in standardization had been reached.

But Burns is never satisfied. He is a firm believer in the old adage that “unless you are going forward, you are sliding backward.” That is why he retained Wurdenman & Beckett, A.I.A., a prominent architectural firm, to collaborate with his own architectural department on design and color treatment.

The two-bedroom houses in Panorama City contain 780 square feet and sell for $9,150 to $9,295 with down payments for veterans of $500 plus escrow and impound charges. Monthly payments are $59. Non-veterans pay $2,000 down and $52 per month, including interest and taxes.

Three-bedroom houses contain 1,020 square feet and sell for $10,150 to $10,900 with the same down payments as above for veterans. Both the two and three bedroom models are available in “right” or “left-hand” plans and in many models, each varying from the other because of the “fundamental variables” worked out by the Burns organization. All houses have two-car 18x20 garages. Lots average 6,000 square feet or more in area, and the price includes walks and driveways. The prices above hold only in the first two tracts financed under Title VI. On the third tract, under Title II, down payments go as high as $920 on some houses. Duplexes are priced at $15,950 with $500 required as down payment.

Kaiser Homes sales programs are centered around beautifully and tastefully furnished model homes which are kept open from 9 a.m. to 9 p.m., Sundays included. “Let the supper dishes go” is the suggestion in the firm’s advertising urging people who cannot visit the models during the day to come in the evening. Attractive hostesses trained to answer ques-

W.O.R.E.M. is concentrating construction as well as furnishings and to put those interested in buying in touch with salesmen promptly.

Burns has found that in addition to the furnished models, it is necessary to have “as is” models to prevent prospects from becoming confused as to just what is included in the house when it is purchased. When visitors show enough interest to warrant it, salesmen conduct them to the “as is” models on the tract so there will be no misunderstandings as to what is included in a Kaiser Home.
The location, erection, furnishing and operation of model homes approach a science with Fritz Burns. Every effort is made to locate them as close to the main highways as possible to make them easily accessible and also to permit passing motorists to get a good view of the houses and the crowds milling around. Plenty of easily accessible parking space is always provided. At Panorama City three model homes are located at the main highway. When the tract is completed, the houses will be moved to residential lots, and the present sites of the houses will be occupied by commercial structures.

Burns has found that a model home can be a liability instead of an asset unless constant vigilance and pains-taking care are exercised in the selection, training and supervision of attendants and in the maintenance of the houses. A careless, disinterested or even sometimes rude hostess can discourage a prospect and lose a sale.

An untidy house will give a negative impression and a house which is not open when people want to visit it will not do the job. Burns expresses the opinion that a builder is better off without a model house unless he is willing to maintain and manage it at all times to the extent necessary to keep it immaculately clean and with an atmosphere cordial to visitors.

Sales at all tracts are under the jurisdiction of a general sales manager who has been with Burns ever since he started selling homes on a large scale ten years ago. This man sets the policies together with Burns and supervises all selling work. Under him are individual sales managers for each tract and at the largest operation, Panorama City, the tract manager has crew managers, each of whom is responsible for the work of six salesmen. The crew manager trains his men and does the closing when necessary.

Every morning at 9:30, the entire sales force is assembled for a sales meeting at which the previous day's work is discussed. Two or three times a week the meeting is handled by one of the top construction or technical men who answers questions and points out the features which will give the men selling ammunition. The salesmen work on a flat commission per house. The supervisory men receive overriding commissions on all sales.

The interest of Kaiser Homes in buyers does not cease when they move in the houses. This is evidenced by an attractive 28-page booklet entitled "Keeping Up With the Joneses" which was compiled and published exclusively for home purchasers. It is well illustrated with cartoons and the text is informal. It treats subjects such as planning and building fences; planting lawns; fixing fans and caring for floors. The majority of purchasers are young couples, most of whom have never had the responsibility of maintaining a home before.

Kitchens are well planned, well lighted
Research is a continuing operation at Kaiser Homes. Under construction at all times are from one to six models embodying the newest ideas and latest thinking in both materials and techniques. As rapidly as these new factors are established as practical and economical, they are injected into the actual program. As an example, one model has been built using the new Kaiser aluminum siding as the exterior surface. A careful study was made of construction detail to adapt this material to mass production. Public reaction is now being measured. In connection with research, three models of two-bedroom houses are now under construction embodying a new type of roof construction. These houses are also being built on concrete slabs. The low-pitch roofs—2 in 12—are constructed of 2x6 tongue and groove roof decking carried by purlins spaced as much as 6 feet apart. The underside of this decking is finished semi-natural and constitutes the exposed ceiling. For good appearance with such low-pitch roofs, wall heights have been dropped to approximately 7 feet, 6 inches at the plates.

Latest model houses have no service porches. Experience indicated that the public prefers a larger kitchen with space for an automatic washer. Additional storage space is provided with floor-to-ceiling broom closets, large linen closets and storage wall spaces in bedrooms. An overhead suspension “in-the-wall” sliding door is used between kitchens and dining alcoves.

The model homes erected by Burns have consistently drawn tremendous crowds. The reaction of visitors to new ideas and techniques has been an important factor in the firm’s sales program and its success. The famous Burns’ “Postwar House,” located on Wilshire Boulevard in Los Angeles, has been visited by more than 1,000,000 persons in the three years it has been open to the public. Along with model home promotion, other types of public relations are carried out.

Last Christmas the firm sent greeting cards to all home owners in Panorama City as well as to prospective purchasers of homes there. In addition a huge candy cane was painted on plywood and mounted on two 40-foot telephone poles erected near the model homes.
Irvin A. Blietz
Operative Builder Caters to Seekers of Deluxe Homes

PINE TREE VILLAGE, development of 36 ranch-type houses during construction near Winnetka, Ill., downtown area.

Recipe for sales is ingenuity and know-how, sprinkled with liberal insight into his client's demands.

AB29184—Herewith is illustrated the standard line of Richkraft papers. Included is 10-foot roll of Skuf-proof. This is an unbroken sheet of paper 10 feet wide. Ideal for curing concrete and closing in since the 10-foot width covers 40 per cent more area than a 7-foot width. The Richkraft Co., Chicago 1, Ill.

AB29193—Durall aluminum tension screen. New York Wire Cloth Co., 441, Park Ave., New York 22, N.Y. Features unique tension design that eliminates side frames. On bottom bar a tension catch attaches to window sill and makes screen fit snugly. All metal. Never needs painting. Will not rust, streak or stain.

AB29217—Stran steel framing members. Great Lakes Steel Corp., Detroit, Mich. Joints for floor and roof rafters come in 6, 8 and 9 inch depths, and three gauges, 16, 14 and 12. Studs for framing walls are 3 3/4 inches deep, have 2-inch flange. Narrow studs for walls 2 stories high are 2 5/16 inches with 2-inch flange.

AB29222—H & A 14-inch band saw. Heston and Anderson, Fairfield, Iowa. Designed to permit operator 45 per cent more working area and 33 per cent more vertical clearance. Has 20x20-inch tilting table with 12 1/2 inch vertical and 13 1/2 inch horizontal clearance. Durable construction assures long life for band saw.

Building Products on Review.
REVIEW BUILDING PRODUCTS ON REVIEW — BUILDING PRODUCTS ON REVIEW — BUILDING PRODUCTS ON REVIEW

TAKES good construction to make a good house, but to show its fullest dollar and eye value—convincingly—a house must be properly decorated and surrounded by proper landscaping.”

This statement by Irvin A. Blietz, in general, explains his method of construction and sale of houses to home-seekers of deluxe dwellings in north side suburbs of Chicago, Ill.

Building homes that appeal to higher income groups means building homes to suit more exacting tastes. Knowing what these clients will likely demand is difficult, mainly because a clientele with more money can afford to be more particular—can afford to demand a home with more individuality. Blietz is meeting these exacting demands. He is achieving sufficient individuality in homes in two large subdivisions—by using only two basic floor plans in each. His homes are finding ready sale at prices between $22,500 and $45,000.

His subdivisions are Pine Tree Village, with ranch style houses near Winnetka, Ill., and Williamsburg Village with colonial houses near Skokie, Ill. How they are finding ready sale is answered in sales and construction techniques used by Blietz. His techniques form a carefully worked out plan, and revolve around the phrase, “dollar and eye value.”

Each of his subdivisions represent a distinct theme, meticulously planned to accent appeal. The “theme” of Pine Tree Village, as the name implies, is uniformly sustained through the careful application of pine trees to the plat. The colonial atmosphere of Williamsburg Village is heightened by the application of shrubbery and trees.

Landscaping at each subdivision was started the same time as construction of the houses, and by the time the houses were finished, the appearance of each was accentuated by its setting.

It is well worth the added expense, to Blietz. Landscaping is one of his most important methods of achieving eye-appeal in the high-cost market.

In order that Blietz may be assured that home owners in his subdivisions will retain the landscaping effect that has been achieved, he retains ownership of a strip of land 10 feet wide around the outer perimeter of the main street and entrances to the subdivisions.

Color combinations to be used on

STORAGE SPACE problem is eliminated in Blietz ranch-type houses through provision of ample closet space

BUILDING PRODUCTS ON REVIEW — BUILDING PRODUCTS ON REVIEW — BUILDING PRODUCTS ON REVIEW

AB29213—Stanley cabinet pulls. The Stanley Works, New Britain, Conn. Smooth-flowing lines provide ample finger room. Chromium finish over steel will last a lifetime. Washer head screws hold pulls securely against woodwork. Pulls may be applied single or in pairs. Can be used on cabinets in any part of home.

AB29218—Fluorescent fixture called “Guth-Lite.” The Edwin F. Guth Co., St. Louis 3, Mo. Equipped with “Jackknife” hinge which permits maintenance from floor. A maintenance rod releases latch which permits entire assembly to swing down on Jackknife hinge. Entire assembly can then be cleaned and repaired.

AB29214—High-boy model, forced warm air, oil-burning furnace. J. L. Gillen Co., Dowagiac, Mich. Is 25 inches wide by 31 inches long by 46 inches in height. Is a vaporizing type furnace. Features continuous warm air circulation, accomplished by three-stage flame which is controlled by Mercoid thermostat.

AB29212—Handy kitchen cabinet. Geneva Modern Kitchens, Geneva, Ill. Only 9 inches wide, can be utilized for three different uses: for utensil cabinet, pictured; for tray cabinet with hooks from center panel removed, for storing can goods. This space-saving unit aids the kitchen planner who must utilize small space.
exteriors of houses are important to Blietz. He stresses the value of exterior color in achieving individuality in houses. Variations of houses in Williamsburg Village are achieved mainly by use of several basic floor plans and varied front elevations, but the value of subtle emphasis on exterior color, here, cannot be minimized. Few houses in Williamsburg Village have the same color exterior paint, but all exterior colors in the subdivision blend. The same applies to Pine Tree Village.

In achieving eye-appeal, Blietz does not believe in mixing single and two-story dwellings in the same subdivision. Irregular heights of houses in a subdivision, he says, detract from the appearance.

In addition to landscaping, Blietz provides interior decorating. Mrs. Blietz helps new home owners in the subdivisions to select wallpaper and interior paint colors. The owner's selections are used by Mrs. Blietz who directs the decorating.

LANDSCAPING, well developed by the time houses are finished, add exterior “eye-appeal” and sales value

INDIVIDUALITY is achieved for more exacting clients—with only two basic floor plans
INTERIORS as well as exteriors must have “eye-appeal,” according to Blietz who offers complete job of interior decorating. Mrs. Blietz, in charge of this job, achieves attractive interiors on this one above in Pine Tree Village home.

By this system of landscaping and interior decorating, Blietz establishes and sustains a distinct theme in his subdivisions—eye-appeal that dresses up construction to show it to its best advantage.

Behind the dressed-up appearance in Williamsburg and Pine Tree is good construction, the part of Blietz’ phrase which he calls “dollar value.”

The ranch style houses in Pine Tree Village are basementless. A trenching machine that digs a 6-inch trench to below the frost line is used first. This trench is filled with concrete as a frost barrier. A fill of sand and gravel is placed over this, which is puddled and tamped. Over the sand and gravel, 15-pound asphalt felt is laid, and covered with hot pitch. The purpose is to keep out moisture from the concrete slab.

The concrete slab for the ranch style houses becomes the foundation and footing. The trench wall is not relied upon to carry any weight. Over the slab, 2x3-inch sleepers and clips are placed; then Bruce streamline flooring. Between the flooring and the slab is an air space of 1-inch to 1½ inches. Air is taken from the rooms through metal grilles in the baseboards, drawn under the entire area under the floor to a central duct formed in the concrete slab, and brought to the heating unit in the utility room. Warm air is blown into the room through regular warm air ducts above the floor. Heat is supplied by Bryant forced air gas-fired units.

First floor construction of houses in Williamsburg Village is concrete joists on 33-inch centers with a 2½-inch reinforced concrete slab. Over the slab, Bruce block flooring is laid in mastic. The second floor is of wood joist construction.

Wall and roof construction, as
MATERIALS USED IN BLIEFTZ SUBDIVISIONS

Bruce block flooring, E. L. Bruce Co.
Mueller forced, warm air, oil-fired furnaces
General Electric steel kitchen cases
U. S. Plywood, Stanley door hardware in garages
Armstrong linoleum
Bird & Son 210-pound asphalt shingles
General Electric dishwashers, counter tops
Kohler bathroom fixtures
Rockwool vapor seal batts
Bryant forced air, gas-fired furnaces
Ceramic tile

FIREPLACES in Williamsburg Village living rooms have heavy molding around marble.

TYPICAL home in Williamsburg Village. Doors for single-car garages were made on site.

well as insulation of both Williamsburg and Pine Tree Village houses are generally the same. On the exterior surface, all types of materials are used; and all combinations of brick, stone, vertical siding, horizontal siding, and flush plywood siding. The exterior walls are insulated with Bldrite sheathing, with one-inch of Balsam wool between the walls for insulation. The interior walls are of dry wall construction, using two 3/8-inch sheers laminated with U.S. Gypsum adhesive. The second floor ceilings in Williamsburg Village are insulated with 4-inch Rockwool vapor seal batts. Roofs of houses in both subdivisions are asphalt shingles.

Houses in both subdivisions have wood-burning fireplaces. Oil-fired, forced warm air Mueller heating plants are installed in the Williamsburg village living rooms have heavy molding around marble...
Blietz takes advantage of natural landscaping features, and augments them with additional trees and shrubbery at the time construction starts. This picture was taken shortly after home was occupied.

Bathrooms contain Ceramic tile for sidewalls and floors. Walls above the tile are papered.

Garage doors are manufactured on the building site, using two 4x8 plywood, waterproof U.S. Plywood and Stanley garage door hardware.

With this kind of construction, Blietz attains the important objective—dollar-value. It is well done, and appeals to the home-seekers of deluxe dwellings. But to Blietz, the "dollar value" is no more important than the "eye value!" As he says:

"Even a diamond is hard to recognize—unless it's polished."

**BUILDING PRODUCTS ON REVIEW**

**AB29225 — Circulating type single wall heater.** Holly Manufacturing Co., Pasadena, Calif. New Holly "25" heater fits in standard 4 inch walls with studs on 16 inch centers. Louvers completely hide all internal heating elements and direct heat into room. The "25" will burn natural, manufactured or liquefied gas.

**AB29198 — Leatherback all-purpose building paper.** Protective Papers, Inc., Union, Ill. This product is a heavy base stock with an asphalt impregnation. Is lightweight, easy to handle and to install. Can be applied between wood sheathing and exterior materials, over sub-flooring, and to weatherproof buildings.

**AB29219—Medicine cabinet No. 1420.** The Hamilton Metal Products Co., Hamilton, Ohio. Features glass shelves, stainless steel frame. Is of 22 gauge bonderized steel construction, has sanitary, baked-white enamel finish, piano hinges, door stops, razor drops, and is resistant to rust. Sizes 11½x14½x4½ inches.

**AB29197—Steel for brick or stone veneer.** Pittsburgh Steel Products, Pittsburgh, Pa. The brick or stone is built into and thoroughly bonded to a 1-inch slab of cement mortar which is reinforced with a network of heavily galvanized copper-bearing steel wires. Produces solid wall without other sheathing.
W. P. "BILL" ATKINSON of Oklahoma City, one of the Southwest's leading home builders, doesn't claim to be a miracle man. Nevertheless, many who have watched him build Midwest City into a lusty community of 11,000 inhabitants in the short period of six years have chosen to call his work miraculous.

Miracle or not, Bill Atkinson's "baby" was conceived in long hours over drafting boards and nurtured in a program of hard work and enthusiastic drive. Situated nine miles southeast of the center of Oklahoma City and four miles from the city limits, Bill's famed Midwest City now all but covers a full square mile, and with the completion by mid-1949 of blocks of homes now under construction, will have passed that first "square-mile" stone.

This does not mean the job of building Midwest City is finished. It is only the first step. Plans for the expansion of home building adjacent to the present boundaries of Midwest City are as big or bigger than any in the past. Land has been acquired—hundreds of acres—to the north and west.

Atkinson is at the starting line of a major low-cost housing sprint. It will be his springboard for the next square mile of home development for Midwest City—a community that has not "just grown" but one that has been "planned and built." He prefers to look ahead, not back. He likes to plan for greater deeds as a home builder. He is willing to review the past, but only as a means of setting his sights more accurately for the future.

In one phase of the Midwest City development, he led a group of 16 builders in a co-operative effort to meet the housing challenge. This program was carried out on 160 acres of the Midwest City site. A later joint phase with nine other builders developed another 160 acres of Bill's dream city. The other 320, he has built up alone.

"Bill" is now completing 256 duplex units. He is proud of the fact that he was able to use only one floor plan. Though the use of architectural design, varied color schemes, setbacks, and orientations on the lots, he obtained a pleasing and attractive street arrangement. All the duplexes are double-built with masonry veneer, dry walls, clear oak flooring, full vitreous tile bath and kitchen drain, heated with floor furnace, wood shingles. Each consists of 1,483 square feet, placed on lots valued at $1,500 each, and the total sales price of the property is only $13,500. All interior walls are painted and much attention is being given to the interior and exterior use of color, for Atkinson believes that the proper use of color is one of the best sales features.

Atkinson has under construction a project of 100 homes, 50 of which are two and three-bedroom, brick and stone veneer, which will sell from $8,000 to $9,500, and 50 of which will be two-bedroom, double built, asbestos siding economy homes consisting of 740 square feet, which he hopes to sell on a $1,000 lot for less than $7,000.

Midwest City was envisioned as a complete city in every phase, and has shaped the development accordingly. Modern, attractively designed shopping centers provide convenient services to the families of Midwest City, as well as to an immediate area in which 20,000 persons reside. The stores are well-equipped, well-lighted, attractive and stocked with a diversity of goods. There are now 49 tenants doing business in Midwest City including a bank, a postoffice, and theaters. Atkinson owns the buildings and leases them to the store operators.

The plan gives Midwest City the...
merchandising service of a large city, yet the convenience of the neighborhood store. Nine churches, three grade schools and a junior and senior high school, housed in modern brick structures, serve the religious and cultural needs of the community.

Bill Atkinson puts color and life into home building. There is an over-all symmetry to his operations, a continuous thread of plan and purpose. Unlike most home builders, he believes in applying good advertising and merchandising principles that have proved suc-

STREET SCENES in Midwest City, where 11,000 people have been housed in six years

MAIN SHOPPING center with bank, postoffice and theater. Atkinson insists there be a grocery store every half mile

BUILDING PRODUCTS ON REVIEW


AR920145—Waterproof reinforced paper named Sisalkraft. The Sisalkraft Co., Chicago 6, Ill. Applied over fill in radiant heated floor job, as illustrated, it prevents small fingers of concrete from dropping down into the fill. These fingers carry moisture and cold up from ground into the concrete. Sisalkraft protects floor.

AR920141—New range ventilating hood for the modest home. Vent-A-Hood Co., Dallas 9, Texas. Hidden tube light across inside front provides indirect lighting of hood and range. Patented "magic lung" separates steam and grease before forcing heated air outside. Finish is baked enamel in white and colors.
THE DUPLEXES shown in this street view are selling for $13,500 each on $1,500 lots successful in building other businesses to the home building business. For example, the first thing that he did when he went into home building was to adopt a trade mark, a slogan, and a color scheme which he has consistently used during his rapid rise in the business. Whether it be his personal card, letterhead, outdoor advertising, signs in front of homes, trucks, or newspaper advertising, his name and slogan is quickly and easily identified. He believes that this type of continuity in advertising and publicity is essential if a builder expects to get the maximum results for the dollar he spends.

Atkinson has carried his usual showmanship to his 250-acre Red Ranch near Midwest City where all animals and buildings carry out his red color scheme. For example, sorrel riding horses, sorrel Shetland ponies for the children, red cattle, red turkeys, chickens, dogs and every other type of red animal that can be found, and which are many, can be seen by those who visit the ranch.

In addition to the many small parties given on this ranch, there are two annual affairs which attract upward of 400 people each year. One of them is the annual barbecue for all of the employees and their families, and the other is a barbecue for his business associates and their families, including state, county and city officials.

In the beginning of the development of Midwest City, Atkinson took the lead in organizing flower clubs on each of the streets. As an incentive to help beautify the yards and the streets, he offered substantial cash prizes each summer for the prettiest front yard, back yard, and the most beautiful street. As a result, Midwest City is known throughout Oklahoma as one of the cleanest, and most beautiful cities in the state. The prime reason for Atkinson being in the nursery business is to boost and maintain beautification of Midwest City. The nursery manager, J. A. Maddox, formerly headed the state department of agriculture nursery division.

In the first square mile of Midwest City, homes have been built from varied plans and elevations, in price ranges from $7,000 to $25,000. By late 1946, Atkinson had erected a large plant for assembly line production of building products. This plant, located along the line of various small factories, houses which he has named the Home Construction Company, shown on map, is a model for home building and related enterprises. It employs fifty-eight military veterans, and Atkinson's sons have taken an active part in the construction of many homes and buildings as a result of the development of Midwest City.

TYPICAL duplexes being built by Atkinson. One floor plan with varied elevations, color schemes, setbacks and orientations on lots bring attractive street arrangements.

BUILDING PRODUCTS ON REVIEW - BUILDING PRODUCTS ON REVIEW - BUILDING PRODUCTS ON REVIEW

AB29171—An ingenious 3-way lock for cabinet, cupboards and drawers. The Yale & Towne Mfg. Co., Stamford, Conn. Lock has a patented rotating cylinder that permits it to be adapted to any one of three different uses. Can be used as a drawer lock or as cabinet and cupboard lock for right or left-hand doors.

AB29165—A tile-lined, insulated, re-inforced lightweight masonry chimney. Van Packer Corp., 138 S. Laffite St., Chicago 3, III. Features flashing plate that is adaptable to all roof pitches. Can be suspended from floor or ceiling. Carries U.L. and F.H.A. approval for use with coal, oil, wood and gas as the fuel.

AB29172—New Reese Cable Lok with aircraft-type flexible steel cable, and five disc tumblers key security. Reese Padlock Co., Lancaster, Pa. Especially suitable for small tools chests, sheds, gates, power tools and equipment. Regularly supplied with 36 inch cable but other lengths can be supplied on special order.

W. P. "Bill" Atkinson believes in developing and maintaining good public relations. He makes picnics, ponies and turkeys pay dividends in public good will and easy home sales.

Production of houses. Economies of production and efficiencies of operation have been worked out all along the line, from the construction of structural sections in the factory, through the erection of houses in the field, to the point at which the key to good living is handed to the future occupants of the home. A surprising disclosure came recently in a survey which showed that 73 per cent of the homes in Midwest City are owned and occupied by families whose employment is in Oklahoma City rather than at the huge Tinker military aviation base adjacent to Midwest City, where 12,000 persons now work. This information has spurred the staff of Bill's architectural and engineering departments to a re-doubled effort in the interest of the economy home. The department has produced five sets of floor plans and the same number of elevation designs for substantially-built houses to sell for less than $7,000. The first block of 50 of these homes will get under way this month. Their sale will be coupled with an inducement—a typical Bill Atkinson inducement to the buyer, again reflecting Bill's showman touch. He will have a Shetland pony, saddled and bridled, and tied in front of the home, waiting for a youthful master to take over as soon as dad completes the deal for the house. And Bill already has 87 Shetland ponies on Red Ranch, pending the time when the small ranch-type homes will go on sale in Ranchett addition.

Bill's big pre-cutting and pre-assembly plant is located on a rail siding of the Oklahoma City, Ada and Atoka railroad, which serves Midwest City. The plant is all ma- sonry-constructed, fireproof, with overhead forced-air heaters and air circulators. Four carloads of materials can be unloaded at once from the rail siding alongside the plant. Fork-lift trucks which handle 100 to 150 pieces of lumber at a time move materials from the storage yard into the building. Smaller loads move in on dollies.

"Bill" Atkinson encourages his men to find ways to increase efficiency and reduce costs. R. W. "Bob" Andruss, plant manager, constantly strives to achieve savings in operation. Fortunately, he has an ingenious young production manager, whose name is Norman Young. It was Young who originated a mass conveyor system in the plant. He also applied his production genius to the door section. There doors are hung in jams and frames and all hardware applied. Young speeded up the installation of locks by inventing an inexpensive electric drill press. He built it by taking one complete drill press and a drill press head, putting them together on a single drill press stand. The work of boring for the latch set and the spindle which goes through the door horizontally is performed in one operation. The operator pulls an overhead lever to make the hole for the spindle of the
ABOVE: R. W. Andruss, fabrication plant manager; Elmer J. Hedge, chief architect; Norman Young, production manager

MODERN, fire-proof clear-span masonry fabricating plant has 25,750 square foot area, lock set. At almost the same instant, by pushing on a foot pedal, he makes the bore for the latch set. Thus, with the aid of inexpensive equipment, the cost of this operation is reduced and the time element is held to a minimum.

The front loading dock is 50 feet in width. Nearby is the truss assembly section of the plant. Attached to the main plant is a cabinet shop, in which all brackets, porch columns, shutters and cabinets are built. Atkinson has his own architectural department, in which all of the drafting, blueprint work and modulation are performed. Elmer J. Hedge is the chief architect. Hedge is responsible for all of the plans laid out for prefabrication. With each house goes a complete set of erection drawings. Each part is numbered. This simplifies the erection of the house to such an extent that the work can be done satisfactorily by an unskilled mechanic.

Andruss, Young and Hedge have spent much time lately on plans for low-cost homes. By using precut methods and partial assembly, they have been able to figure out a double-built house containing 740 square feet of floor space with shingle roof and asbestos siding to sell for less than $7,000, including a $1,000 lot. Their economy house will have oak floors, floor furnace, two bedrooms, and an insulated ceiling.

Five different exterior elevations give a varied change of appearance with a minimum of additional cost. Adequate variations of floor plans and designs will not change the cost of any house more than $25 from that of another. With the aid of Atkinson's precut and partial assembly method, the roughed-in structure of a 5-room house can be erected in 72 man-hours. The plumbing costs are held to a minimum by the operation of a plumbing and heating department, a separate Atkinson company, under the management of W. F. Lyons. Plumbing fixtures and materials are bought in carload lots, some directly from the manufacturer.

Atkinson is quick to point out that, although his factory operation has effected savings in carload buying, the minimum in waste of materials, and use of labor-saving devices and equipment, and other means, he would not recommend that a builder erect such a substantial building for the purpose of precutting and reassembling parts of homes. He states that in view of his experience, these same savings can be effected in a temporary type of structure.
of structure on site location, and possibly to a greater advantage to most builders. He states that the reason he is willing to make such a substantial investment in his modern fire-proof, clear-span factory building consisting of 25,750 square feet, is that it was built as an all-purpose factory building to open up a new 160-acre industrial tract which is being developed by him and his associates. At the present time there are two additional factories—a furniture manufacturing plant, and a food-processing plant—located in this area. One of the prime considerations in building this modern plant three years ago for precutting and preassembling homes and building cabinets was to expedite the building of homes as much as possible to meet the rapidly-growing demand in Midwest City. During the past three years, this plant has averaged two houses for every working day.

At present, Atkinson's field force, under Howard Thornton, field superintendent, and Clark Taylor, field foreman, is erecting a house a day. Thornton is credited with the introduction of valuable ideas for increasing production in the field. Practically every one of Thornton's craftsmen, except the erection crew members, holds the position of a sub-contractor—that is, he earns on a piecework instead of an hourly basis.

After a detailed study of costs, Thornton proposed an incentive plan which the men readily accepted. Concrete blocks, for example, are laid for so much a block. The brick men work at a certain rate of pay per 1,000 bricks laid. The trim men get a building unit rate. The footings are dug at a unit price per footing, and so on. This method allows Thornton to figure his costs ahead more accurately. Also, the mechanics know there is a premium on results. They are inspired to be more diligent and efficient.

Atkinson places a great deal of importance upon the selection of his key personnel. He takes delight in telling about his field superintendent. Contrary to the belief of most builders that it is necessary to get an old experienced superintendent, two years ago Atkinson brought into his organization one of his proteges, a 36-year-old university professor, who—Bill says—is now one of the best home building field superintendents in the business. He says it can be proved with facts and figures. All key employees are on a percentage or profit-sharing basis. Such methods have enabled Bill Atkinson in nine years to build an organization that is recognized the nation over as one of the most efficiently operated in the country.

A SPECIAL roller conveyor arrangement makes it easy to load completed house sections from the fabricating plant to a truck with special roller-conveyor equipped bed.
Crawford Corporation —
From Forest to Home
Complete Building Service

A HOME BUILDING organization with operations extending all the way from company-owned timber tracts to the presentation of keys to house owners is making it easier for the American public to purchase low-priced dwellings. In addition to the manufacture of houses and house parts, the Crawford Corporation services to builders and dealers include project development advice, mortgage service, architectural and engineering help and business counsel. Although the main offices and plant are located at Baton Rouge, La., operations are being extended to serve home builders and dealers in all sections of the United States.

Firm not only manufactures houses but offers a dealer and builder service that includes planning, financing, business counsel and intensive promotion.

Crawford Corporation, Inc., at Baton Rouge to the Louisiana timber company, has grown to the largest builder in the Louisiana area, with the largest volume of sales of any company in the South. The Crawford Corporation is the largest wood house manufacturer in the South, and the largest in the world in terms of production and sales of prefabricated houses.

The Crawford Corporation is the largest producer of floor trusses, floor joists, floor joist hangers, wall trusses, roof trusses, and other building materials in the United States. The company is also the largest manufacturer of prefabricated houses in the United States, and the largest producer of prefabricated houses in the world.

Crawford Corporation is also the largest producer of prefabricated houses in the world, with more than 200,000 houses produced each year. The company is also the largest producer of prefabricated houses in the United States, with more than 100,000 houses produced each year.

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Crawford Corporation is the largest producer of prefabricated houses in the world, with more than 200,000 houses produced each year. The company is also the largest producer of prefabricated houses in the United States, with more than 100,000 houses produced each year. The firm not only manufactures houses but offers a dealer and builder service that includes planning, financing, business counsel and intensive promotion.
garages and other buildings of conventional size and appearance was started in February of 1946. The Baton Rouge plant, located adjacent to timber tracts and sawmills, contains more than 150,000 square feet of floor space and is capable of processing millions of feet of lumber, plywood, wallboard, millwork and other essential house components annually. The plant is so established that at almost any processing stage material can be removed from production lines for shipment to builders, or the components of a complete house can be assembled at the plant and shipped as a single package.

Crawford features a variety of prefabricated houses similar in design, construction and appearance to those built by conventional on-site methods. House models now range from a two-bedroom economy house selling for as low as $4,500, without land, to an attractive six-room ranch-type home priced to sell between $8,500 and $14,000, depending on style and special features. Between the low-priced house and the ranch-house, are three other distinctly different types. There is a wide variety of elevations for every Crawford home, even on the economy house. This makes it possible to erect an entire subdivision of

**W. HAMILTON CRAWFORD**

ONE of the production lines in the Crawford Corporation plant at Baton Rouge, La. Here men do specialized tasks in assembling precision-cut lumber and other parts into complete wall sections for the houses.
these houses and still maintain good variety in appearance for both the two-bedroom and three-bedroom models.

At present the line of house designs is being expanded along with an expansion in the degree of factory fabrication. This improved plan of operation is based on the manufacture of standard size house panels which can be converted into houses of an almost unlimited variety of sizes and designs. The possible variations will range from a simple square or rectangular structure to a multiple number of "L," "T," "H" and other plans. By using standard Crawford panels and house parts, houses can be erected according to plans furnished by the firm's engineers or can be erected according to individualized plans, subject to modest limitations.

As part of its plan of operation, this house manufacturer keeps the feel of the home building business by maintaining his own building company in home territory. Shortly after the end of World War II, Legion Village, comprising 283 low-priced houses for veterans was completed in Baton Rouge. A large-scale project of two and three-bedroom houses to be available for low-income groups is now under way in Baton Rouge. Brookstown, as the project is known, is laid out for 400 homes to be completed in 1949 to sell at prices of $5,000 to $6,750, including lots. The firm has, of course, supplied thousands of houses for other builders in all sections of the nation, although the company's principal activities have been centered in the Gulf and Southern Atlantic states.

Although the house manufacturing phase of Crawford's activities has received most emphasis in the past, another phase now being expanded rapidly is the "house parts" department. This is an adjunct to the house manufacturing division. Material such as siding, precut studs, joists, moulding, trim, complete door and window units and other components are fabricated for delivery to builders. In some cases, builders erecting Crawford houses combine their operations to include both the construction of conventionally-built houses as well as the erection of the factory-
made houses. Crawford dealers are not required to confine themselves to the erection of Crawford-Built houses, except that they are not permitted to associate themselves with a competitive manufactured house line. The expansion program calls for establishment of fabricating and distributing plants in strategic locations throughout the country.

The firm is most widely known as a producer of factory-made houses but actually its activities are far more diversified. The Crawford Builders Service division, primarily established to serve its dealers, is also offered in its entirety or in part to all builders. This service falls roughly into four main divisions: (1) project development; (2) mortgagee service; (3) architectural and engineering service; (4) business counsel. The project development help includes such work as investigating sites for proposed development, land planning, cost analysis, topographic and property surveys, planning and coordinating the installation of public utilities and arranging for contract placements.

The mortgagee service includes processing FHA and VA loan applications, assisting builders in their relations with FHA and VA, providing interim construction funds, preparing progress inspections for lending institutions, handling progress payments, providing speedy closings of permanent mortgages, servicing permanent mortgages and providing a complete insurance program to builders.

The architectural and engineering service includes such aids as preparing renderings, explaining fabrication techniques, writing specifications, landscaping and interior decorating and others. The business counseling service includes installing cost control systems, preparing work progress charts and reports, technical training and providing selling and advertising services.

The Crawford Home Loan Corporation and the Crawford Operative Builder Corporations operate as separate units of the parent company. The Builders Service Division is a part of the Crawford Corporation, working with and supporting the sales and construction divisions. Under the Builders Service Division, the departmental setup includes dealer service, project development, architecture, product engineering and construction contract sales. The Manufacturing Division includes such departments as personnel, sawmill, purchasing, warehousing and yards, plant engineering, production traffic and shipping. The Construction Division supervises

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**A PORTION of the modern millwork plant where house parts are fabricated**

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**AB29123**—Gas or oil-fired domestic boiler, fully automatic. Bryan Steam Corp., Peru, Ind. Seamless copper tubing circulates water over flame, giving rapid transfer of heat from flame to water. Unit enclosed in green synthetic enamel cabinet. All parts factory assembled making installation efficient and economical.

**AB29111**—Huttig gliding door unit. Huttig Sash and Door Co., St. Louis, Mo. Primarily for general home building. For standard 2x4 stud walls. Assembled on job, without using rule, in about 10 minutes. Installed in shudding with pocket portion covered with same material as wall surfaces. Unit easily installed.

**AB29116**—Self-priming centrifugal pump. Marlow Pumps, Ridgewood, N. J. The 10EV series have but one moving part. With 35 foot total head will deliver 34 gpm with 1/2 horsepower motor. Made in three sizes—1/2, 1/2, and 1 1/2 HP. Does a score of pumping jobs with minimum of attention. Positively self-cleaning.

**AB29121**—Portable electric hand saw. Skilaw, Inc., Chicago. Now available in nine different models with cutting capacities up to 4 1/2 inches. In addition to cutting lumber, used for grooving, cutting, scoring stone, tile, marble, slate, glass, asbestos cement, and for cutting all types of metals. Economical. Lower costs.
ILLUSTRATIONS of one of the models manufactured by Crawford Corp. Models range from two-bedroom economy house priced as low as $4,500, without land, to six-room ranch-type marketed in price range between $8,500 and $14,000. There are three other distinctly different types between lowest and highest priced models. Wide variety of elevations permits individuality

field erection work, primarily as an aid to builders of Crawford houses. It undertakes housing project construction where not in conflict with, but sometimes in cooperation with, its dealers. This division also handles local building activities. The Sales Division encompasses sales, customer service, sales administration and advertising and publicity. Crawford-Built Home dealers are given exclusive territories. District sales managers cover the various states in which the corporation operates to maintain close dealer contact and service.

Management personnel of the Crawford Corporation includes W. Hamilton Crawford, president; Raymond A. Toups, vice president and treasurer; J. M. Powell, Jr., and L. L. Tyson, executive assistants; Carl A. Walters, vice president in charge of Builders Service Division; Homer H. Harris, vice president in charge of Construction Division; H. J. McMillan, plant superintendent; L. G. MacTaggart, sales manager; Julian R. Carruth, manager of mortgage loans, and T. R. Walker, comptroller.

When measured on a cost-per-man-hours basis, about 25 per cent of the Crawford "product" consists of service to builders, dealers and customers. The balance of the time goes into production of tangible products such as the houses, house parts, and other factory products.

The firm, under the direction of W. Hamilton Crawford, takes an active part in the activities of the National Association of Home Builders, and the Prefabricated Home Manufacturers Institute. Membership is also maintained in the Mortgage Bankers Association, National Retail Lumber Dealers Association, Associated General Contractors, National Association of Real Estate Builders, and the

BUILDING PRODUCTS ON REVIEW

AB29142—Aluminum wall tile. Metal Tile Products, Inc., Hastings, Mich. "Aluminite" made in a variety of shapes and sizes in 14 colors. Special finish is highly resistant to household acids. Easily applied to any smooth wall surface with a special waterproof mastic. Special process assures a good control of all color.

AB29122—Truss-Wing corner bead. Bostwick Steel Lath Co., Niles, Ohio. Corrugations run longitudinally to provide rigidity. "BB" perforations easily snipped for curves, arches. Made of tightly-coated galvanized steel, perfectly straight. Comes in 8, 9, 10 and 12-foot lengths in strong cartons for easy storage and handling.

AB29139—Circulator fireplace. Majestic Co., Huntington, Ind. Made to fit any mantel design. Will heat like a warm air furnace and air may be piped to other rooms. Built in one unit, assembled at factory and shipped complete. When used, guesswork is eliminated in proper proportioning of all the fireplace parts.

AB29116—Standard hollow metal door. Detroit Steel Products Co., Detroit, Mich. Made in standard sizes. Stocked by local dealers complete with frame and hardware. Installation is quick and easy. Upper panel may be glass or metal. Doors provide fire safety between house and garage. Prime painting in factory.
firm has worked closely with the Division of Housing Research of Louisiana State University, and other such institutions.

During World War II, the company was engaged in producing essential war needs such as pontoon bridges, barracks, hospital buildings and multiple dwelling units—plus 1,300 bungalows for Britain under Lend-Lease. In addition to other extensive home building activities since the war, the firm has worked with a number of its dealer-builders to develop several sizable factory-employee housing projects. Whitmor Homebuilders, Inc., of Tulsa, Okla., has completed housing for the Cities Service Gas Co., the Kansas Power & Light Co., Kerr-McGee Oil Industries and Stanolind Oil & Gas Co. In less than six months, a sizable village of prefabricated houses along with schools, shopping and recreational centers was erected on a Kansas prairie where there had been no roads, no trees and no utilities.


AB29128 — Home freezer. Deepfreeze Div'n., Motor Products Corp., North Chicago, Ill. Model B6 shown. One of many models and sizes available. Features of model shown include temperature control; counter-balanced lid; "kicker" toe space at cabinet base and metal storage dividers for easy separation of foods.


AB29119—Modular building units. Durisol, Inc., New York, N. Y. This material provides insulation, fireproofing, sound absorption and structural rigidity. It is a lightweight, precast concrete slab moulded in special shapes and sizes for sheathing and exterior veneer. Building time is cut through use of slabs.

Frank Corace—
"Organization Is Key"
To Successful Operation

Changing times are met with changing techniques in home building. Assembly line methods, the answer

RIGHT: Corace, in center, discussing operations with group of his superintendents. Weekly evening meetings with all superintendents present, where costs, production and distribution are analyzed, is a feature of this firm.

THOMAS GABRIELLI, left, of Gabriel Plan Service, has worked together with Frank Corace, right, for fourteen years. Both are specialists in low-cost housing. Below: Part of office force in conference.

BUILDING PRODUCTS ON REVIEW


AB29137—Yardlift 60, fork truck. Clark Equipment Co., Bettel Creek, Mich. Equipped with 112-inch lift, 42-inch standard forks, slide shifter, pneumatic tires and condensing muffler. Gas-powered; machine has 6,000 pounds capacity. Firm has many sizes.


A SUCCESSFUL large scale building operation is predicated on a well-knit and smoothly functioning organization.

This fact was forcibly brought to the attention of Frank Corace of Baldwin Homes, Inc., one of the younger subdividers and builders in the Pittsburgh area, when he attempted to pick up where he had left off at the beginning of the last war.

In 1946 when Corace started building activities again, he found that all his former skilled employees were in the army or war plants. It was then necessary to start developing his organization again from scratch.

With the prevailing shortage of manpower, this was not easy. An attempt was made to re-organize using the same methods that were in vogue in 1942. This could not be done, as the skilled mechanic continued to stay on his job in the war plant.

Later, men who had been trained in war plants as bricklayers, carpenters and plumbers began to be available. Their training prepared them for service along definite lines. Therefore, they could not be considered as skilled building craftsmen.

This created a difficult situation for Corace. He realized that if the men could not be adjusted to the job, it was evident that the job had to adjust itself to the men. He chose those men who were mechanically minded and who could be trained to do a single job well. Thus, when one man became an expert in hanging doors, he did nothing else. Another would be chosen to hang cornices and downspouts, becoming a specialist in this line. Carrying through with this thought in all phases of the work, a smoothly running organization was soon established.

It was not the type of organization that was operating before the war, when skilled carpenters and plumbers were available, but the changing times were met with changing techniques. The answer was assembly line methods.

Among the permanent employees of Corace's organization are seven superintendents who are well-versed in the application of the assembly line method to the low-cost house field. Each of these men are specialists in their own line. They have been taught efficiency on the job. It is their responsibility to see that materials and time are not wasted; and, to insure the proper and exact distribution of all supplies. They have developed into excellent teachers. The workmen, through these superintendents, are taught to do one thing, and to do it well, whether it is laying floors, hanging doors, or assembling a wall section on a "jig." The entire organization becomes one of specialists where each one does his own job well.
ARCHITECT, center, and group of superintendents discussing methods of procedure in large assembly room of prefabricating plant. Woodworking machinery in background.

While delegating full authority to all key assistants, Corace maintains close contact with all phases of the work. When planning a new subdivision, this builder gets together with Thomas Gabrielli, architect, for two or three days of intensive study, after which the drafting of plans is quickly completed.

A basic plan is used for each project with a number of variations for the exterior treatment. This type of set-up simplifies the cost and work distribution. Corace acts as his own purchasing agent. He goes direct to the manufacturer and buys in carload lots. When Corace first resumed operations, it was only by personal contact and delivery that supplies were brought to the job. Every possible method was used to obtain short items, so that construction delays could be avoided. Now, however, permanent contacts have been established, and a free flow of materials is assured.

In 1946-47, site fabrication methods were used. Wherever possible, power tools were employed on the site for cutting, excavating, grading and hauling. In the Pittsburgh area this type of operation is rather limited, due to weather conditions which discourage all-year-round building. Construction in the field between the months of November and April are very costly.

In 1948 this builder erected a large structure to house all his activities, including a prefabricating plant. In a large unobstructed area in the building, permanent "jigs" are set up together with heavy machinery and a large space for storage of rough material. Jigs are manned by un-

**INTERIOR**

skilled labor, who are kept on the job at all times. When the house is completed, skilled labor is released. On current jobs, hourly wage rates are required in order to keep the work force productive and costs low. A complete calculating computer is used on each project to determine the cost and labor required.

In 1947-48, this builder erected a large structure to house all his activities, including a prefabricating plant. In a large unobstructed area in the building, permanent "jigs" are set up together with heavy machinery and a large space for storage of rough material. Jigs are manned by un-

**BUILDING PRODUCTS ON REVIEW**

- AB29356 - Convector-Radiator, Type T. Young Radiator Co., Racine, Wis. Warm air circulated by convection, augmented by radiation. No wall recess required. One of line which includes four standard and two special styles in wide range of different sizes.
skilled laborers, who fabricate the necessary wall sections required for the houses planned for the current project. Corace has recognized that labor wants steady jobs. By the assembly line method, year-round employment can be assured, with an hourly wage rate under the amount required for spasmodic or irregular employment. With sixty percent of the workmen unskilled, this method produces a considerable saving in costs.

A crew of seven men in the fabricating plant can turn out one house per day regardless of the weather. A crew of five men can erect and close in completely in one day a unit in the field, regardless of the weather. These units can be protected from weather conditions effectively, and are easily stacked on the site.

The type of houses built by Corace are one-story, brick veneer homes. Sixty percent of the job is done in the factory. The organization is streamlined and set up to produce 290 $9,000 houses a year. When all work on a group of houses is completed in the warehouse, the sections...
are taken out to the job site on a truck. There are three truckloads per unit. The units are so designed that they are easily handled by not more than four men. No handling precautions are necessary during transit because the finishing process on panels is done on the job. Each project on a job is completed before the next one is started.

The time schedule of operations coincides with the weekly payroll distribution. Costs, production, and distribution are analyzed and set up at a weekly evening meeting with all the superintendents present. This system has proved most effective. In a system of this type, weather conditions must be considered. A typical weather report could be drawn up from a scrutiny of the time sheets. For instance, the unit cost for plumbers during a rainy week may run double the cost of work done during clear weather. The additional cost in time and labor is charged against the individual unit in process of work.

In the selling of these homes, Corace maintains a sales organization within his own company. This consists of two persons. These employees interview prospective home buyers and gather statistics for a market analysis. Statistics are kept on every house built and sold. In this manner Corace knows how much the buyer can reasonably be expected to pay for a home. He also knows the size that the home should be, and the type of environment in which the buyer wishes to live. With these figures as his guide, he can know with assurance the type of house to build that will sell easily and quickly.

To qualify the above statement, the builder cites the example of the present project now under construction, located in an industrial area. He has found that a three-bedroom house is a necessity, because the statistics tell him that there are two and a half children per family in the project area. The average weekly income of the prospect is $61.50. This allows $60 to be made as a reasonable monthly home payment. Thus, the company does not need an outside sales organization, because they have analyzed the market to determine the most popular type of house, and the most popular price on that house.

Corace's organization builds specifically for the industrial worker of the Pittsburgh area. From statistics, he finds the average saving of the industrial worker to be $750 per family. He gathers from this, that the down payment must be kept low. This builder has found it important to consider the financial condition and possibility of the area's potential prospects, before starting the planning of a project.

Working upon the facts that had been gathered, Corace, immediately after the war, started building homes with a 1,071 square foot area, plus 250 square feet for the garage. These were sold for $8,900. The second group were built in 1947 with an 875 square foot area, which sold for $8,800.

Confronted with the round of wage increases in 1947, the third and present project was reduced in floor area to 837 square feet. This was considered the minimum size to meet the industrial worker's requirement. In spite of the area reduction, the builder was forced to increase the price $200 per unit, making the sales price of the 1948 house $9,000.

Corace supervises the work of both the productive and non-productive departments. The superintendents are directly responsible to the builder. Each superintendent employs, dismisses and trains his own men.

Plans for 1949 include a 290 unit project to be built in the same manner.
ARCHITECT'S rendering of the 1948-49 version of house now in process of construction. This house contains 837 square feet and will sell for $9,000. Basement under house contains garage with space for utilities.

ANOTHER version of the 1946 house with all features on the ground floor. For comparative purposes refer to 1948-49 version at left.

THIS HOUSE built in 1946 contains 1,071 square feet plus 250 square feet for garage. The sale price is $8,900. Plan of house at left.

THIS HOUSE built in 1947 contains 875 square feet complete with basement and garage. The sale price is $8,800. Plan of house at left.

BUILDING PRODUCTS ON REVIEW — BUILDING PRODUCTS ON REVIEW — BUILDING PRODUCTS ON REVIEW — BUILDING PRODUCTS ON REVIEW

AB29348 — Hettinger's Triple Test combination sash balancers and weatherstripping. The Weatherproof Products Corp., Kansas City, Mo. For double-hung sash not exceeding 42 x 22 inches, glass dimension. Also bulk purchases for mill installation possible.


AB29276 — Standard Youngstown Kitchenaid kitchen sink, 42-inch model. Mullins Manufacturing Corp., Warren, Ohio. Double bowl sink top. Sliding drainboard which can be moved to cover either bowl and provide work space. Undersink storage.

AB29290 — Zephyr All-Season awnings. The National Ventilated Awning Co., Dallas, Texas. Beauty, ventilation and protection for homes or commercial buildings. Aluminum or California redwood. Variety of sizes, shapes and colors immediately available.
HOW TO achieve quality low-cost housing, one of the builder's number one 65-dollar questions, has recently been answered by this firm. It is explained, mainly, in three words: short cut methods.

In every detail of construction, from basement to roof, this firm takes advantage of short cuts. The firm, Mills and Sons, recently completed the 191-house Sunset Park project, in Elgin, Ill., the first housing project in the state financed by an insurance company. Low-cost housing was a must here, since the project primarily was for G.I.'s and their families. Mills and Sons had the opportunity to employ most of their short cut methods on the project.

Impetus for this subdivision came from the Mayor of Elgin, Walter E. Miller, who appealed to Illinois' Governor Dwight H. Green to stimulate insurance company interest in financing housing in that state. Governor Green went to Roy Tuchbreiter, president of one of the largest financing organizations in the state, the Continental Assurance Co. The company financed the project.

Mills and Sons completed and sold the houses for $9,325 and $11,750. Why they were selected for the job was answered by this firm. It is no coincidence that the first insurance company to finance a housing project in Elgin, Ill., was chosen. This firm has been in business for 65 years.

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the job is partially explained by the
long building reputation of their
firm. Mills and Sons Construction
Co. was started in 1887. The firm
is now represented by second and
third generation members, who
combine 60 years of home building
experience in working out short
cut methods.

Coordination of men, equipment
and materials to take advantage of
time is represented in their work.
Because of the rolling nature of the
ground at the Elgin project, about
80 per cent of the area had to be
gone over with heavy dirt-moving
equipment. Immediately after-
wards, the first major short cut
method was employed in Sunset
Park—the construction of all
foundations before any other prog-
ress. This was done to take ad-
vantage of favorable weather.

Concrete forms were made on
the building site at a centrally lo-
cated mill or shop that was set up
immediately after the ground was
cleared. The forms, specially made
from directions supplied by a con-
crete form manufacturer, were
equipped with factory-made ac-
cessories. Half of the concrete was
ready-mix; the remainder, mixed
on site. Six sets of forms did the
complete job. They were made of
2x12 clear-grade fir, scored down
back to prevent tendency to
curl. Accessory value
of the forms was 20 per cent.

Streets were "roughed-in" after
the foundations were completed.
Here an economy was achieved by
laying pit-run gravel, and allowing
it to be used for teaming and
trucking, so that by the time the
project was almost completed, the
streets were well compacted. The
streets were the last to be com-
plicated. Pavements were provided,
with rolled curbs and sidewalks.

All framing for the project was
done in the central shop. This

SIX sets of forms made on building site
were used to complete 191-house project.
Forms had 20 per cent salvage value

FORMS, made of 2x12 clear-grade fir, were
scored down back to prevent tendency
to curl. Accessories were factory-made.

TWO LARGE portable generators on trucks were used to run total of 18 power saws. At
this shop, centrally located in Sunset Park, precutting made greatest time-saving

SMALL trailers saved costly tie-up of trucks. Load of materials can be left in front
of house where needed until trailer is empty, then one truck can pull trailers back
major time-saving procedure was done by power saws run from portable generators mounted on trucks. One large generator powered twelve power saws; another smaller unit, six. Besides cutting all framing members, the shop also turned out all back porch stair assemblies and basement stair assemblies.

A short cut method was used to prevent tying up trucks on the job. Small trailers, pulled behind trucks, transported all materials from the shop to the building fronts. A trailer with materials needed at a particular house was unhooked, and the truck pulled the next trailer on to the house where it was needed. Later, when trailers were empty, one truck could go back to pull them all to the shop. The result, fewer trucks needed, and a lower height for workers to reach in unloading and loading, and the resultant savings in time.

To streamline the job of house framing, one carpenter crew for Mills and Sons assembles the first floor framing, while another crew follows up by finishing the roof. As much as possible, all labor crews worked on the Sunset Park project in this manner. The theory, of course, that greater specialization means greater skill and more speed. In other words, another short cut method.

Flooring for bathrooms and kitchens in Sunset Park are linoleum. The remainder of the floors are Bruce pre-finished streamline.

TWO basic floor plans, 27 front elevations were used. Lot sizes, 50x135 feet
Exterior wall finish is cedar siding; interior, two coats of plaster, sand float finish.

Roof covering is 210 pound asphalt shingle. Standard wood sash windows are installed, and white pine 6-panel doors.

Insulation material used in the houses is Sisalation, by Sisalkraft. In preparing this material, a special jig, used to cut the Sisalation, speeded up application. The jig is another short cut device.

Gas-fired, gravity warm air furnaces were installed, as well as modern kitchen and bathroom equipment. All hardware is solid brass finished.

MATERIALS USED IN SUNSET PARK PROJECT
LeTourneau dirt moving equipment
Sisalation reflective insulation and
Mineral Wool batts
Flintkote, 210-pound asphalt shingles
for roofing
Skil saw power saws
Bruce Streamline, prefinished
flooring
Bryant gas-fired, gravity warm air
furnaces
Youngstown kitchen equipment
Crane, Kohler, and American
Standard bathroom equipment

Power saws with power supplied from generator mounted on truck, were used anywhere on the site they were needed. The men worked in specialized crews.
BUILDERS and architects everywhere recognize the fact that the year 1949 will usher in a period of building, where the emphasis will be definitely placed upon low-cost housing. All efforts are being pointed toward producing a house that will offer the maximum livability for the minimum cost. While prices still remain at a high level, the builder is encouraged to attempt a solution, through the return of the competitive market, as it applies to both labor and materials in various markets.

Presented with the challenge of designing a house to meet these demands Architect Walter T. Anicka, Ann Arbor, Mich., responded with one basic plan and exterior, with three alternate plans and four exterior arrangements. The alternate plans do not in any way change the basic room layout. They supplement the original design through the addition of garage or porch and garage. These elements are placed in various positions with relation to the body of the house, thus creating a group of inexpensive yet interesting exteriors.

In the original and two of the alternate designs, the living room faces toward the front of the property. In the other two designs, the kitchen side of the house, together with the garage, is oriented toward the street.

With these simple changes in the alternates, Anicka has been able to produce four distinctly different de-

(Continued to page 161)

THE SIMPLE lines of the basic low cost house design, are further enriched through its well-balanced proportions. Standard building materials are effectively employed.
DESIGN 2

WOOD COLUMNS
BRICK

EQR PLYWOOD
RED EAVE

GROOVED EDGE
ALUMINIUM TRIM

OVERHEAD DOOR

GABLE END

4:12 PITCH

PRESERVED CEDAR
WOOD FRAME

OVERHEAD DOOR

TYPICAL WALL SECTION
SCAL 1/2 - 1/10
ALTERNATE design No. 1 is similar to basic house, except that garage and extended shelter replace small open porch. Orientation is the same. Plan below.

(Figure of a house layout)

IN ALTERNATE design No. 2, kitchen and dining room side-wall is oriented to street with garage extended. Roof arrangement is same. Plan above.

ALTERNATE design No. 3 not shown, is same as basic house, except for gable over bay. Treatment of garage and porch alter design No. 4.

(Continued from page 156)

This has been accomplished by changing the character of the roof, the nature of the weatherboarding, and the alternate positions of the garage and porch. A feature that indicates good, sound planning, and one that produces economy in building, is the fact that in all the designs the windows and door fenestration remain the same, yet avoid a sameness in appearance.

Typical of the Anicka houses, are the economies built into the structure, such as the use of standard joist dimensions with a minimum of cutting, fabricated roof trusses, and dry wall construction.

Complete flexibility is contained in this 720 square foot house. Rooms are of average size.

BUILDING PRODUCTS ON REVIEW

AB29318 — Sargent Integra-Lock. All design. Sargent & Co., New Haven, Conn. Mortise lock with small compact lock case. Key in the knob control. Offers decorative harmony through many different attractive finishes and the use of a small round rose.


AB29314 — Raynor Graduated Seal for Up and Over wood sectional doors. Raynor Manufacturing Co., Dixon, Ill. Used in conjunction with tapered track. Seals each section of the door against jamb or molding when the door is in a closed position.


AB29332—Janitrol, redesigned water air conditioner. Surface Combustion Corp., Columbus, Ohio. Two horizontal, cabinet-ventilating scoops in cabinet front direct air over all controls. Six sizes, 40,000 B.T.U. input to 180,000 B.T.U. Attractive appearance.


East Side ... West Side .

VISIT THESE MODERN HOMES
built by
Progressive Cleveland Builders

Each home is equipped with a
MODERN GAS WATER HEATER
Automatic . Underfire . Insulated
HOME WEEK Is Paying Off

A RESTORATIVE review of such statistics as could be collected on the results of National Home Week, held in September of 1948, reveals much more than that. Despite a much-too-late start in undertaking the program—due to the fact that the idea was only suggested to the National Association of Home Builders in February—the NAHB public relations department got the formal effort going in early spring and secured a remarkable amount of support from its local chapters.

The overall effect of the National Home Week programs, even though they were carried out only at local levels, was to develop a surprising amount of newspaper advertising and editorial space, scores of radio broadcasts, thousands of exhibit homes and hundreds of thousands of visitors to these homes. The quantity of statistics, incomplete though they are, is impressive. And the quality is significant. Reports from 40 cities and towns where observances were held reveal that approximately 3,000 homes were exhibited in those communities. These were visited by just about one million people, based on actual counts in the majority of cities and conservative estimates in others.

That means that just about 3 per cent of all the homes built in 1948 were on display during National Home Week, some complete and furnished, some complete and unfurnished, and the others in the construction stage.

An estimated 19 per cent of the completed homes were furnished with furnishings whose value totaled around two million of dollars. The value of the houses themselves is estimated to have exceeded 35 million dollars.

No accurate figure is available on the amount of newspaper editorial and advertising space used, but there are accurate figures on these two items from 36 cities which reported. In the Sunday papers alone, approximately 50,000 column inches of editorial and advertising space was used. This does not include space used in the daily papers, both in advance of the week and during the week.

In addition to this newspaper publicity, only a small fraction of which was paid for by the builders themselves, there were about 60 radio broadcasts and two television shows covering the program.

These are the statistics that indicate that the first National Home Week was more than a small success. And instead of the mistakes pointing the way to improvement that would be the case, it is the successes that hold the key to greater effectiveness.

For, so far as can be learned, the only errors were those of omission—things which might have been done, but were not. Apparently none of the efforts that were undertaken developed anything adverse to the industry, the public or the promotion.

At least 25 mayors issued proclamations for National Home Week, and so did the governors of nine states.

Examination of the individual efforts behind the statistics yields a fund of information on why the successes were achieved. This information combines into a pattern that can lead to an immeasurably more effective National Home Week in September of 1949.

There can be no question but that the Chicagoland Home and Furnishings Festival was the biggest single effort of all. The association gives the support of the Chicagoland Home and Furnishings Festival was the biggest single effort of all. The results in Chicago, therefore, are of great interest to home builders in other parts of the country who want to increase the effectiveness of 1949 programs.

Martin C. Huggett, executive vice president of the Chicago Metropolitan Home Builders Association, reports that the Festival was the most gigantic public relations program ever staged for the en-
couragement of home ownership, the promotion of confidence in the home building industry and the actual mass selling of homes. The effects of the promotion still are being felt—both by the builders and by the furniture and department stores who participated. According to Huggett, the results also revealed a lot of misconceptions about advertising of materials and equipment going into new homes. It showed that much national advertising of such products in consumer publications was ineffective at the local level where the builder controls material selection.

Four significant facts emerge from the analysis, which Huggett has stated as follows:

1. Complete cooperative efforts are far more effective than those thinly scattered for the alleged purpose of producing the illusive "public demand."

2. "This is an age of Operative Builders. They buy where and when they please and the public takes what reliable and responsible builders hand them without question because such builders possess public confidence.

3. "It is far more potent and effective to support home builders through advertising in their local newspapers, in the trade journals that serve them direct and in builders' local home shows.

4. "In such a practice, advertising and publicity are brought to the doorstep of sales, the builders are gratified and befriended and the advertisers wares are used, visibly displayed as preferable and visibly sold to the ultimate consumer, knocking the 'consumer demand' idea into a cocked hat."

Huggett then sets forth some sales suggestions for the consideration of national advertisers. He points out that there are approximately 40 good home shows conducted throughout the country by builder organizations each year. The population centers where these are held, he states, include about 80 per cent of all the non-farm housing built in the nation, and the builders buy every brick, stick and stone that goes into these houses.

National advertisers, he holds, should take these facts into consideration when they make up their budgets, and should plan participation in these events to concentrate advertising effectiveness.

The teaming up of builders and furniture dealers in the Chicagooland festival was one of the things that made the effort more productive for both groups. It indicates the wisdom of this kind of joint endeavor to other associations who can use a similar plan next year.

And the tremendous advertising secured by the Chicago Tribune should help other associations to make more effective bids for newspapersupport in 1949. The Tribune experience is in startling contrast to that of the New York metropolitan newspapers which scarcely recognized National Home Week, and whose real estate sections looked no different than usual.

Equally good jobs in following out the "Parade of Homes" idea was done on a smaller scale in many of the smaller cities. Notable among these were Indianapolis and Fort Wayne, Ind.; Cleveland and Cincinnati, Ohio; Rochester and Albany, N.Y.; Detroit, Mich.; Amarillo, Texas; Sacramento and Los Angeles, Calif.

A number of associations took National Home Week as an opportunity to let their public officials find out what the building industry really was doing in their communities. They arranged bus or auto caravan tours of the various projects, explaining operations as they went along.

Such tours were reported very effective by Jim Funaro of the Cleveland Home Builders Association, by Joseph Entress of the Rochester (N.Y.) Home Builders Association and C. G. Yagel of the Richmond Home Builders Association. In Rochester, a local radio station made a recording of interviews during the bus tour for rebroadcast at a later time. The bus tour idea for officials and the press had been used successfully before National Home Week in California and Ohio efforts in 1947. Tours were held also in Salt Lake City and Shreveport, La.

Another effective stunt that was used advantageously in several cities was to enlist the cooperation and support of the building tradesmen in making the demonstrations a success. This made the builder's employees a definite part of the programs—as they had a right to be. In Rochester, each tradesman was given a printed pamphlet, explaining the purpose of National Home Week as an opportunity to let their public officials find out what the building industry really was doing in their communities.

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Home Week and asking this cooperation. The response was very gratifying, association officials reported. In Memphis, Tenn., the building trades held similar demonstrations of roofing, plastering, and plumbing.

Tulsa, Okla., which exhibited 25 homes, to some 4,000 persons, also held a "Public Affairs Forum" which attracted 600 people. Memphis, Tenn., conducted an essay contest to arouse public interest. In Pittsburgh, the week was tied in with the Free County Fair.

The variety of newspaper treatment of National Home Week was interesting. In nearly every city where special sections were printed in the Sunday papers, real estate and building materials dealers ran advertising along with that of the builders.

In a few cases, however, the papers did more than this. The papers in Fort Wayne, for example, each had a full page of short articles about various features in a home, each feature relating the progress and improvement made in the particular item with which it dealt. There were full pages of similar items about paints and varnishes, storm-doors and other items.

Some newspapers showed construction techniques in pictures—others showed how power tools and equipment are used in modern building. Two newspapers had special pages dealing with subdivision planning and zoning. A number of papers went into some detail concerning local building codes, and whether they were, or were not, considered obsolete by builders.

The Public Relations Division of NAHB, for which Walton Onslow is consultant, already has sent out announcements about the 1949 dates, together with initial suggestions to locals of NAHB.
California in Retrospect

By Martin C. Huggett
Executive Vice President, Chicago Metropolitan Home Builders Association

The following impressions of California building operations and techniques were noted by Mr. Huggett while participating in conducted tours as part of the program for visiting builders attending the annual fall NAHB Board of Directors meeting in Los Angeles.

Climate and local materials exert a determining influence upon construction methods in the State of California. Wood is the preeminent factor in practically all housing structures and stucco the chief external embellishment. Every school of design, every classic renaissance and modern motif, every color combination, and every building and construction material find expression and simulation in external plaster work, until the countryside with its setting of flowers, takes on the appearance of enchanted villages built to house the people of fairyland.

Striking Contrasts

This impression is made the more emphatic at this time of the year because that part of the entire area which remains untouched by man and water is one vast desert seared and baked by a tropical sun until all semblance of life is obscured. The state, particularly the south-ern portion, appears like an unending series of man-made oases, built to house, employ, educate and entertain the fastest growing population in the world.

Los Angeles a City Made of Cities

Los Angeles, whose population is now approximately two million, sprawling over an area of 488 square miles, and containing within its city limits at least two complete mountain ranges, is a creature of the automobile age, and private motor cars and public busses constitute its chief means of transportation. It is an unending series of smaller cities, villages and population centers each more or less independent and self-sufficient, with shopping centers, churches, schools and places of amusement, each contributing to its own community. In the newer sections, many shopping centers, scientifically and beautifully planned to care for parking and all other public needs and facilities, have been developed. These centers and their surrounding residential areas executed in bold modern design with an eye to attractive display and public...
convenience, provide food for those whose thoughts are bent upon converting our large cities into appropriate neighborhoods as well as builders whose projects are located in suburban areas away from the city shopping facilities.

Wood the Chief Building Material

Everything in the housing line is put together with wood. Dig below the surface of the most monumental structure and you find wood. Apartment houses, up to three and four stories in height and housing up to eighteen or twenty families are framed in wood, while the nobility of exterior stucco transforms them, in appearance, into massive and substantial structures.

Foundations and Under Structures

Practically all single family and duplex residences are of similar construction. Basements are a rarity and a curiosity. Some homes are built on concrete slabs which appear to be gaining in popularity, but most have floors of wood construction with ventilated crawl spaces underneath. To guard against the inroads of termites all floor supporting members must by law be Wolmanized. Supporting concrete floors and footings are buried not to exceed 12 inches in the ground. Standard joists, 16 inches at centers, supporting one inch subfloors are usually found, but one progressive builder spans, wall to wall, with 4x6 girders, spaced approximately 6 feet apart, resting at intervals, in the span, on small concrete piers. Over the girders, he lays a 1½-inch tongued and grooved subfloor.

Super Structure

On such platforms the house structures are quickly built of 2x4 studs and plates, braced, not more nor less than required in our own area. The difference lies in the fact that no houses in California are sheathed. Instead the entire structure is covered with asphalt saturated fifteen pound felt. If stucco is to be the exterior finish, the felt is covered with chicken wire for reinforcement. If wood siding or molded batter boards are to be utilized, either in combination with stucco for design variety or as complete finishes, they are nailed through to the studs or blocking is provided where joints appear in open spaces.

Roof Construction

Almost without exception, new homes are ranch-type one-story in height, and roofs rest on the double plates of the outside walls. Rafters are usually 2x4's but supported at right angles midway in their span from wall to ridge by a single 2x4 or 2x6 resting on posts going to the tops of internal partitions or by additional 2x4's running across the attic space and spiked to the rafters on each side of the pitch, thus forming a sort of improvised truss. No snow load need be calculated with these roofs. Cedar shingles laid on spaced roof boards are quite prevalent, but asphalt shingles on tight sheathing are also used. For roofs of very low pitch, insulating granules are sown on hot asphalt.

Insulation and Heating

In the better homes, ceiling insulation is provided and often the south and west walls are similarly treated as protection against the sun's rays. In the less expensive homes little or no insulation is provided. Heating plants are usually floor furnaces or wall furnaces, using gas as fuel, though in some more elaborate construction, forced-air furnaces rated as high as
THE 4x6 girders and the 2x6 t&g subflooring used on this job are chemically treated as insurance against termites.

OTHER BUILDERS use conventional floor joists and framing with good success for low-priced houses.

EVEN THOUGH climate is mild, framing for both one and two-story dwellings is of exceptionally good material, well braced. Basements are rarely included in this section as 95,000 B.T.U.'s are utilized. These are vented with insulated flues except in cases where fireplace chimneys are provided.

Interior and Exterior Finishes

Drywall is the usual interior finish though many new houses still adhere to two-coat plaster. Exterior stucco is all put on in three coats and runs from 3/4 to one inch in thickness.

Kitchens

Kitchens are usually well equipped with cabinets, but here again wood, and not metal, is the usual material utilized. Counter tops are of ceramic tile, linoleum and formica, floors of linoleum, with sinks and other utilities up to the minute in design, equipment and color treatment.

Bathrooms

Bathrooms are variously treated with ceramic tile throughout or with linoleum floors and simulated tile of various kinds, according to the price class of the particular house.

General Floors

General floors are of hard wood over subfloors and asphalt tile where concrete slabs form the base member.

City of San Francisco

In the city of San Francisco, quite another problem is presented. The city and county have the same

Decoration a Fine Art

Then come paint pots and wallpaper, and in respect to the final touches, California has taken a leaf from the studio books or studied color and decoration or just naturally been inspired, for in this regard the builders step ahead of all others, the country over.

Prefabrication

In construction methods California has given as much or greater consideration to volume production than other parts of the nation. One prominent builder of national repute built a prefabricating plant at a cost of approximately a half million dollars, ran it for a spell and then converted it into a mill for cabinets, trim and the cutting of framing members. It was found that houses could be put together by carpenters on the job with less expense than the handling of sections by truck and cumbersome machinery. However, street grading and the handling of earth in general is still the work of bulldozers and large equipment.
limits and are confined within boundaries at the point of a rocky peninsula eight miles long and five miles wide. Construction within the city proper is confined almost exclusively to row type houses on lots that appear to be from 20 to 25 feet wide and are said to be form 50 to 60 feet deep. As in Los Angeles, wood construction prevails. The usual masonry party walls between dwelling units are omitted. Each house has a separate wood frame side wall standing one inch away from its adjoining neighbor.

One Low-Cost Project

One project in the Oakland-Berkeley area that comes nearer to qualifying as low-cost housing than anything else seen by our group, should be given special mention, since it involves methods heretofore unused, so far as we know, by any builder in the nation.

The Under Structure

The exterior foundation of the structure is 12 inches wide in the ground and 12 inches high with a 4x8 shelf formed on the inside to hold the edges of a concrete slab. Eight by twelve footings are then formed to support interior partitions. Gravel is dumped in and leveled to the top of the shelf and footings. Over the gravel, shelf and interior wall footings is laid 15-pound saturated felt, mopped down with hot asphalt. A four-inch concrete slab is then poured, reinforced by a six-inch steel mesh. In the platform layout, the center across from side to side is one inch higher than the two opposite ends.

Super Structure

The house is then framed on the site with precut lumber in the usual manner with a double plate at the top. Across each room, spaced for proper design and approximately 6 feet apart are 4x6 beams supported by blocking between studs, the tops of which are level with the tops of the plates. At right angles with the beams are laid 2x6 or 2x8 dressed, V jointed, kiln-dried planks, also spaced so that the V joint pattern forms a proper ceiling design. These planks are the roof structure and the undersides are the room ceilings. Over them is laid ½-inch, fiber insulation board covered with saturated felt, wiped with asphalt and sown with gravel or insulating granules. The rise of one inch across the center of the floor provides an equal pitch to the roof to drain it front and back.

The exterior walls are covered first with Kraft duplex and then with matched siding. The interior is drywall finish, painted or papered with wood beams, ceiling stained. The two-bedroom house containing 870 square feet sells for $7,300. The three-bedroom house containing 1,000 square feet sells for $7,800. All houses have been sold to veterans. We are advised by the builder that FHA appraisals on these houses ran slightly over the actual selling price.

SHEATHING is rarely used on houses in California. Stucco is a popular exterior finish and is applied directly to studs over felt paper and chicken wire for reinforcing.

DELUXE DIVISION

AB29253—Halis trough conveyor and car unloader. George Halis Manufacturing Co., Inc., New York, N.Y. For unloading coal, coke or aggregates from hopper bottom cars. Supplied with electric or gasoline engine. Mounted on 10x6-inch all-steel wheels.

AB29242—Eight-inch built-in ventilator. ILG Electric Ventilating Co., Chicago, Ill. For small kitchens, baths and sitting rooms. Designed to discharge fumes, moisture, etc., in bathroom or powder room. No vibration, quiet operation. Weathertight door. Cabinet in French grey.


AB29274—Kresky fireplace furnace. Kresky Manufacturing Co., Petaluma, Calif. Casing fits into fireplace opening, with oval hole on top of casing for running stovepipe up fireplace chimney. Two sizes, deliver 40,000 or 60,000 B.T.U.'s per hour.

Let Electrical

Combination of adequate wiring, reserve circuit capacity and installed appliances make a potent appeal to home buyers.

FULLY-equipped laundry area in a house designed to sell for $23,500 includes an "electrical package" worth $1,342.

Can a builder make it easier for his customer to buy a house by increasing the cost of that house? It is being done by careful planning and use of the package mortgage. The idea can be expanded beyond its present scope in the opinion of some of the electrical appliance manufacturers—and they have facts and figures that merit study by the builder. Especially do they deserve study now when the need for stronger merchandising tools is being felt.

The new theory is just the reverse of the one under which a lot of builders have been trying to meet a price market by putting up a "stripped house."

Those who favor slightly higher costs to encourage package mortgage selling point out that trying to get people to buy a new house, stripped of a lot of present-day essentials, is a lot like trying to sell a horse and buggy instead of an automobile. And it is just as hard to get lending institutions to finance purchases of the stripped house as it would be to get an automobile finance company to lend against the purchase of a horse and buggy.

Few home buyers want or expect to go back to living in homes without closet doors, with open shelves and sinks instead of closed-in kitchen cabinets, and without a provision for mechanical refrigerators, washing machines and modern cooking ranges.

Recognizing this fact, some builders already have been meeting a known demand by selling a pre-equipped house with a number of

ELECTRICAL control board for ideal home services 17 circuits with 123 outlets, including outdoor receptacles. No fuses

BUILDING PRODUCTS ON REVIEW - BUILDING PRODUCTS ON REVIEW - BUILDING PRODUCTS ON REVIEW

AB29202—Zinc panel. Chromite Co., Chicago, Ill. Practical wall covering for both commercial and residential purposes. Panel is 12 by 16-inch sheet on which a hard, durable finish is formed through special lithographic processes. There are twelve rich colors from which to choose. Panel is flexible, durable.

AB29208—Combination refrigerator home freezer. General Electric Co., Bridgeport, Conn. Upper compartment is 2 cubic foot home freezer, with own door. Lower compartment is 8 cubic foot refrigerator. High humidity prevents uncovered food from drying out. Defrosting is completely eliminated in refrigerator.

AB29209—Twin-cushion weather strip. The Macklanburg-Duncan Co., Oklahoma City, Okla. Strip is solid unit side jamb cover that slips into place without special machinery or equipment. Usable with any type sash balance. Used with T-12 weather strip, as pictured, no grooving or machining is necessary to fit.

AB29203—Portable electric tool. The D-6. Porter-Cable Machine Co., Syracuse, N. Y. A 5-in-1 tool that will sand, polish, cut, drill, and stir paint by simple attachment changes. Will drill wood, plastics and compositions up to 3/4 inch hole, metals up to 3/16 inch hole. Weight 5 pounds 13 ounces. Used overhead or vertically.
Installation Serve as SALES TOOL

Photos and chart courtesy Westinghouse Electric Corp.

TYPICAL home is adequately served for first degree of electrical living. Careful analysis of wiring diagram indicates that builder has used advanced planning in wiring harness, which will enable prospective purchaser to utilize three basic essentials of electrical living—preservation and preparation of food, laundering and cleaning, and good lighting. Second, third and fourth degrees may be added for families that can afford them.

The fact is, that many of these appliances are going to be sold anyway to the home builder's customers. Moreover, the installment purchases on the appliances will compete with the home mortgage finance charge for a share of the monthly pay check.

The package mortgage idea is very similar to the old idea of removing the competition from a field by buying out the competitor. But there are important differences.

Including appliances and conveniences in the mortgage does remove the competition for the builder’s portion of his customer’s pay check. But it does not put his competitor manufacturer out of business, nor take over the business of the manufacturer’s distributor. Here are the reasons:

1. The home builder can buy the appliances from the manufacturer’s distributor at a price lower than the retail price, taking his normal builder’s markup. He still sells them to the home buyer cheaper than at retail.

2. The distributor can afford to sell to the builder at a dealer discount for several reasons. He is assured of faster turnover, he cuts out sales expense, and in many cases saves handling and storage cost.
BUILDERS of higher priced homes should not neglect sales appeal of outdoor electrical convenience. Outlets on terrace demonstrate outdoor living possibilities to buyers by delivery direct to the builder's site without passing his appliances through his warehouse.

1. Spreading out the installments on the appliances over 15 or 20 years in the mortgages means a very small monthly payment per appliance, in contrast to what that installment would be on an 18-month plan, such as the buyer has to use when buying appliances at retail.

2. The home buyer, therefore, can include more appliances in his home immediately than he would be likely to do if each one were bought on the installment plan at retail.

3. That means an immediate increase in the demand for the total number of these appliances from the manufacturer and comes at a time when their inventories are piling up and they are having to think about cutting back production.

4. This, in turn, prevents production cutbacks and insures the continued steadiness of the jobs of the

BUILDING PRODUCTS ON REVIEW — BUILDING PRODUCTS ON REVIEW — BUILDING PRODUCTS ON REVIEW

AB29204—Power saw. The Kett Tool Co., Cincinnati, Ohio. Has three interchangeable cutting heads. One cuts hard metallic; another, materials like carpeting; the third cuts rigid objects like plywood and plastics. Can cut to a hairline, straight or contour shapes speedily and easily. Leaves edge that requires no filing.

AB29175—New Servel W-700 gas refrigerator. Servel Inc., Evansville, Ind. Features frozen food storage compartment, 3 ice cube trays, dessert tray, 3 large shelves, 2 porcelain vegetable pans. Same size cabinet as 6 cubic foot refrigerator but provides an excess of 6'/2 cubic feet of storage. Smooth operation.


AB29191—Gas-fired hot water boiler for small dwellings. A. O. Smith Corp., Milwaukee, Wis. Will operate on any type of natural, manufactured or liquefied gases. Is 3 feet high, 2 feet wide, and 18 inches deep. Especially suitable for radiant heating, it operates equally well with other systems.

COST of kitchen in a $17,000 house included in $1,100 electrical package. Note provision for plug-in of small appliances and undercabinet lighting, which is supplied by portable fluorescent units that plug into convenient units...
workers of appliance manufacturers. How much could this amount to? There is no way of telling exactly, but suppose there are 900,000 new homes built in the United States in 1949. Suppose that in half of these, builders felt they could profitably install—not just a refrigerator and range which are appliances many home buyers already possess—but an electric garbage disposal unit, a water heater, a ventilating fan for the kitchen, an automatic laundry and an automatic dishwasher. This would mean a guaranteed market in 1949 for 450,000 of each of these units in addition to an increased demand for similar products in homes already completed.

If all this looks academic, let us look at some specific figures that tell the builder whether or not it is just high sounding mathematics or something he can use practicably. The particular figures used are supplied by Westinghouse Electric Manufacturing Co. and are used by that company to show how the whole electric installation can be used as a sales tool. They serve to illustrate the practicability of the package mortgage idea, and it will be obvious to the builder that the same principles can be applied to other than electrical conveniences.

Since refrigerator and range are two appliances that the home buyer often has already, other appliances are used for the purpose of the illustration. If the customer desires, or the builder thinks it practical, he can also install a refrigerator and range and use them as sales tools in addition to the less commonly installed items mentioned in the illustration following.

The accompanying chart lists five electrical appliances which can be used in various combinations to form a number of different electrical packages—nine combinations are shown in the chart.

The chart makes it clear that a minimum of two of these appliances can be added at a cost that will add from 80 cents to $2.30 to the monthly payments on the house—based on a fifteen year amortization. All of them can be added for a monthly carrying charge of only $4.59.

What does this mean to the builder as a sales tool? He can find out the things that home buyers want most—want badly enough to figure on paying for them in installments in addition to paying for the house—or that they would buy on installments if they could afford these items.

The highest cost package cited, which includes all built-in units that (Continued on page 238)
Giving Customers What They Want Is the Best Way to Sell

HOW MANY dealers can report an increase in sales every year for 23 consecutive years, through boom and bust, and in war and peace?

How many dealers with that record also can say they have nurtured a business, destroyed by fire in 1925, into an enterprise with sales exceeding a million dollars in 1948?

There is at least one. His yard is in South Windham, Maine; a town of 2,300 people, about 15 miles from Portland. His name is L. C. Andrew. That is also the name of his firm—"L. C. Andrew."

Lean and hard, L. C. Andrew appears even taller than his 6 feet, 2 inches. Erect, military in carriage, he moves swiftly and with precision. One quickly notes a determined jaw, and almost as quickly the kindly twinkle in his eyes. L. C. Andrew is warm, human and understanding; a man who expects hard work from his employees, but who demands far more of himself.

He grew up in a family of lumbermen, and decided to go into an allied line, the box business, and built a small factory in South Windham in 1915. It was not until 1923 that he made a start in the lumber business. It happened this way, according to Andrew. "I was hiring truckers to go out 40 and 50 miles into the country to pick up lumber for my box factory. The trucks went out empty and came back loaded. This was one of the factors that helped me decide to sell a limited line of building materials—lumber, asphalt roofing, and wall board. I went after rural business, built up country trade, and soon had the trucks carrying pay loads both ways—building materials going out and lumber coming in. Trucking costs increased a little, but profit increased a good bit. That was my start in the building material business."

After fire destroyed the box factory in 1925, L. C. Andrew rebuilt the planning mill and warehouses and concentrated entirely on the handling of lumber and building materials.

Today, L. C. Andrew owns a fleet of 14 trucks which are constantly engaged in delivering building materials to nearby Portland, which accounts for 50 per cent of his sales, and in a trading area extending 60 or 70 miles from South Windham. These same trucks are just as busy hauling rough lumber into his mill where he turns out 35,000 board feet of finished lumber a day. He has seen his business grow into an organization of about 90 employees with gross sales running well into seven figures. And he has done all of this with no help other than that provided by the system of free enterprise. He is still "L. C. Andrew," an entrepreneur.

What are the important factors in his success? Ask, and Andrew will explain, "Twenty years ago, lumber dealers weren't merchandisers. An order was for so much lumber, so many squares of asphalt shingles, or so many bags of cement. It was an order to be filled, and that was that. All I did was to add selling and merchandising technique to the usual dealer operation.

"For example, I was ready to estimate how much lumber, cement, roofing or nails a customer would need. A good order filling system is a guide to the inventory required."

"In the same way, customers knew how to order from me how many nails of nailing well into seven figures. That was my start in the building materials business."

"A company that keeps its address book up to date knows his customers better than any other factor in his work."

"Andrew is warm, human and understanding; a man who expects hard work from his employees, but who demands far more of himself."

Small display room, sales and architectural office is maintained by L. C. Andrew.
would need to build his home or barn. And I was ready to give him a guaranteed price for all of his requirements, down to the penny.

"In other words, when a customer came in with a plan, he left knowing how much and what kind of materials he would need and how much his materials would cost. That was new in merchandising building materials in Maine."

"Did my competitors like it? Not at all, but the customers did, and still do. Today, of course, we go even further. We do no building or contracting, but we do keep two architects busily employed the year around, designing new homes, working on remodeling plans, and other types of light load construction. It's a good way to give customers what they want, which is always the best way to sell."

"Another thing," Andrew continued, "we went out after the business, and didn't wait for it to come in to us. For example, take roofing. In normal times, rapidly returning in my opinion, we don't wait for a customer to tell us his roof leaks, or for a carpenter or contractor to give us an order. We make calls and sell the jobs ourselves. Then, we give the business to carpenters we know will do a good job of application. We know that it takes two men to make a good roof; the manufacturer and the carpenter or contractor who applies it. We control jobs better and earn the carpenter's business when we go to him with a job. Outside of Portland, our business is largely rural and farm."

"Percentage-wise, there's been a complete reversal of our roofing business in 20 years. People in this area have become highly conscious of the danger of fire. Forest fires, such as those of a couple of years ago, have been reminders of the importance of fire resistant roofing."

L. C. Andrews lists "pay loads," advertising and a reputation for fair dealing as three other factors he considers important in the growth of his business. "Milling lumber and selling building materials makes a natural team in L. C. Andrew, building material dealer Maine. One helps sell the other. Our trading area is far greater in radius than it would be if we didn't need rough lumber for the mill, and it would cost much more to truck the lumber into South Windham if we didn't deliver building materials enroute to the logging sites."

L. C. Andrew spent $25,000 on advertising in 1948, and points with particular pride to his catalog. "We distributed 40,000 copies last year. We printed our first edition during the war when we couldn't get to see customers frequently. We found it paid then, and it continues to pay today, largely, I think, because we display our prices in the catalog just as prominently as we do our merchandise."

SEVEN of a fleet of 14 trucks which deliver building materials in a radius of 60 or 70 miles from South Windham, and which bring back rough lumber for the mill. Pay loads both ways played big role in building L. C. Andrew's business

L. C. Andrew, building material dealer

Sliding door. Door, paper, or hardboard. Inserts and cheap look good. Costs secret. One of our positions is to keep our doors."

AB2931—Pyro-Grill, outdoor fireplace form. Price Fireplace Heater & Tank Corp., Buffalo, N.Y. Complete unit, around which construction desired may be used. Heavy gauge steel. Removable steak grill. Two position grate 4 inches from grill.


AB2946 — Model FC-101, light duty pick-up truck. General Motors Corp., Truck & Coach Div., Pontiac, Mich. One of a line of light, medium and heavy duty GM trucks which provides a model for every type hauling operation in the home building business.


AB29252 — Ingersoll panel utility unit. Ingersoll Unit Division of Borg-Warner Corp., Chicago, Ill. Provides plumbing, cooking, refrigeration and hot water facilities, plus all basic accessories and fixtures. Built around narrow, low-wall core. Economical.

AB29264 — Model FC-101, light duty pick-up truck. General Motors Corp., Truck & Coach Div., Pontiac, Mich. One of a line of light, medium and heavy duty GM trucks which provides a model for every type hauling operation in the home building business.


AB29252 — Ingersoll panel utility unit. Ingersoll Unit Division of Borg-Warner Corp., Chicago, Ill. Provides plumbing, cooking, refrigeration and hot water facilities, plus all basic accessories and fixtures. Built around narrow, low-wall core. Economical.

AB29242 — Driv-Rite-In automatic garage door opener. Era Meter Co., Chicago, III. Operates single or double width upward acting sectional doors or one-piece lifting doors, residential or commercial. Fool-proof outside key switch control optional.

AB29231 — Mastiff Asphalt's panel-type, shingle design siding, Insulwood. Distributed by Jones & Brown, Inc., Pittsburgh, Pa. Fourteen-inch panels overlap, give appearance of real shingles. Self-sealing metal corner is panel high and needs no nails.


AB29252 — Ingersoll panel utility unit. Ingersoll Unit Division of Borg-Warner Corp., Chicago, Ill. Provides plumbing, cooking, refrigeration and hot water facilities, plus all basic accessories and fixtures. Built around narrow, low-wall core. Economical.

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AB29242 — Driv-Rite-In automatic garage door opener. Era Meter Co., Chicago, Ill. Operates single or double width upward acting sectional doors or one-piece lifting doors, residential or commercial. Fool-proof outside key switch control optional.
AB29245—Built-in cooking top, SU-3. Thermador Electrical Manufacturing Co., Los Angeles, Calif. Consists of three Thermo-Klean heating units, 35 inches long, 17½ inches wide. Rough-in box, including drip trays, is 10¼ inches deep. Separate oven.

AB29255—Prefabricated houses. Harischlager Corp., Houses Div., Port Washing- ton, Wis. One-story, 2x62 feet, two or three bedroom, with or without basement. Living room, 11 feet, 7 inches by 17 feet, 4 inches. Panelized and insulated throughout.

AB29256—Sta-Tile steel brace for wood joists. Beloit Steel Industries, Inc., Rockford, Ill. Flanged-grip ends simplify installation, holding nail in place while it is driven. One nail required at each end, as ½-inch flange grips joists. Bases hold firmly in place.

AB29271—D-shaped section. Sauer Co., St. Louis, Mo. Complete line of windows, doors, awnings and hardware ready to install. Dimensions, 24 feet, 8 inches by 17 feet, 4 inches. Panelized housing flange creates tension when casing is nailed, holds nose of casing tight against the jamb. Made of steel. Firesafe and highly durable.

BUILDING PRODUCTS ON REVIEW

AB2961—Bilt-Well line, part of complete line of woodwork. Carr, Adams and Coller Co., Dubuque, Iowa. Line includes every item from basement windows to attic louvers. Kiln-dried Ponderosa pine, prefabricated or K.D. semi-assembled for handling.


AB2914—Boice Crane spindle shaper. Boice-Crane Co., Toledo, Ohio. Two models for 7,700 and 10,000 r.p.m. operation. One-inch spindle handles 11/4-inch bore cutters to 6 inches diameter. Large table opening, nested filler-rings for safety. No adaptors.


AB2959—Cabinet for Pyrofax gas cylinder installations. Type A. Carboide and Carbon Chemicals Corp., New York, N.Y. For use where fully enclosed cabinet is desired. Jointer planes or rabbets 1/2 inch deep. Saw cuts stock up to 3 inches thick, and ripped up to 21 inches wide.

AB2995—Fluorescent lighted bathroom cabinet. The American Tissue Prod., Cincinnati, Ohio. A resin-based plastic caulk, applied direct from tube, then smoothed with applicator. Tub-Tite dries within an hour. It remains flexible, expands, contracts with joint.

AB2905—Cabinet for Pyrofax gas cylinder installations. Type B. Carboide and Carbon Chemicals Corp., New York, N.Y. For use where fully enclosed cabinet is desired. Jointer planes or rabbets 1/2 inch deep. Saw cuts stock up to 3 inches thick, and ripped up to 21 inches wide.
American Builder, February 1949.

BUILDING PRODUCTS ON REVIEW

AB2923—Model B portable pipe and bolt threading machine. Beaver Pipe Tools, Inc., Warren, Ohio. Threads 15/16-inch bolts, and with drive shaft and geared tools will thread up to 8-inch pipe. Weight is 225 pounds.


AB2909—HT mortar board stand. Hurbert Thomson Co., Drexel Hill, Pa. Compact unit can be quickly set up or taken down. Light, portable. Two wing nuts lock four steel legs in place to support any size mortar board. Height, 29 inches. Two sizes.


AB2906—Spray-O-Bond, concrete sealer. Spray-O-Bond Co., Battle Creek, Mich. Wide drive axle, dual tires. For high lifts more than 25x33½ inches. Maximum distance right of blade to fence, 26½ inches; 8-inch table surface to left of blade; and 12½-inch table surface ahead of blade; 191 pounds.

AB2905—All-metal buildings. Rotor Manufacturing Co., Kansas City, Mo. Sixty foot wide building. Boyer: truss is recent addition to complete line. Rigid frame types have no trusses in roof area, have straight sidewalls, large interior space.


AB2903—Heatform, circulating fireplace. Superior Fireplace Co., Los Angeles, Calif. Guides around whichiente agitator on clothes washer permits use of small amount of water. At setting of dial, washer operates automatically through entire cycle in about 30 minutes.

AB2902—Door knob lock. LaBelle Industries, Inc., Oconomowoc, Wis. Keyhole in door knob. Tumbler-type cylinder lock in outer knob. When locked, outer knob spins without drawing latch, while inner knob is not affected. Prevents accidental locking.


AB2899—Doorknob lock. LaBelle Industries, Inc., Oconomowoc, Wis. Keyhole in door knob. Tumbler-type cylinder lock in outer knob. When locked, outer knob spins without drawing latch, while inner knob is not affected. Prevents accidental locking.


AB2896—Spray-O-Bond, concrete sealer. Spray-O-Bond Equipment Co., Battle Creek, Mich. Wide drive axle, dual tires. For high lifts more than 25x33½ inches. Maximum distance right of blade to fence, 26½ inches; 8-inch table surface to left of blade; and 12½-inch table surface ahead of blade; 191 pounds.

AB2895—Heatform, circulating fireplace. Superior Fireplace Co., Los Angeles, Calif. Guides around which..


AB2943 — Park Lane fluorescent-lit medical cabinets. The Bennett Manufacturing Co., Alden, N. Y. Equipped with full-length, chrome-plated, brass-light brackets and 18-inch fluorescent bulbs. Diameter is 15 inches. Operated from wall.

AB2975 — Marvel-Lift, upward-acting, residential, commercial or industrial garage doors. Crawford Door Co., Detroit, Mich. All hardware cadmium plated. Die-cast, zinc alloy, rustproof cabinet drums grooved to guide cable so that it winds flat.


AB2924 — CMC Handy-Hoist. Construction Machinery Co., Waterloo, Iowa. For lifting, loading, unloading or moving bulky, heavy equipment or supplies. Counterbalancing method utilizes weight of towing vehicle. Boom raises objects to height of 15 feet.

AB2971 — Block-Lift, the Block Lift Co., Mt. Vernon, Ohio. For handling building blocks. Sturdy cast aluminum. Weight 32 ounces. Acts as handle to lift, place, and true up blocks. Jaw grips when handle is raised. Provides leverage. Permits easy handling.

AB2918 — Colonial cabinet hardware. American Cabinet Hardware Corp., Rockyford, III. Amerock push button type cabinet, semi-concealed hinges for flush or offset doors, reversible H.L. hinges for right or left hand doors. Matched American patterns.


**American Builder, February 1949.**

**Building Products on Review**


- **AB2916—Hi-Lo transport mixer.** Concrete Transport Mixer Co., St. Louis, Mo. Full open top. Stationary drum. Visible mixing action. High speed mixing. Requires a minimum of maintenance. Light weight. Large capacity, mixer is designed for high production.

- **AB2917—Utility structures.** Steel-Bilt Construction Co., Inc., Bridgeville, Pa. Provides insulation as integral part of structure. Combine packaged steel framing with Celotex Cemesto structural insulation panels. Wide variety of sizes are offered now.


- **AB2920—Built-in wall ventilator.** American Blower Corp., Detroit, Mich. White plastic grille, propeller-type fan, 115-volt, 60/50 cycle single phase motor, rust resistant wall box, weather door equipped with automatic latching mechanism.


- **AB2922—Clipper masonry saw.** Clipper Manufacturing Co., Kansas City, Mo. Adjustable cut control for quick one man adjustment of cutting head. Streamlined ball bearing conveyor cart. Snap-on blade guard cover. Cuts all masonry. Is also portable.


- **AB2924—Richmond winter air conditioner.** Richmond Radiator Co., New York, N.Y. Oil or gas by changing from gun-type oil burner to gas burner and baffle. Furnace unit, 23 inches wide, weighs less than 350 pounds. Burner units are packed separately.

**For further information about Products on Review, write serial numbers of products on lines below and mail coupon to:**

American Builder, Readers' Service Dept.
105 W. Adams St., Chicago 3, Ill.

**Name**

**Address**

**City**

**State**
How to Install Wood Thresholds

This suggestion is submitted by ERWIN SCHWATT, Atlantic City, N.J.

American Builder, February 1949.

dotted line in figure (3), and cut off bottom of door.

How to Cut Sheathing to Size

The METHOD used by JOHN A. ZOLLINGER, Sayreville, N.J., in cutting floor and roof sheathing, has been found to be simple and effective.

The end of three or four sheathing boards are butted against one of the joists or rafters. The trimming of the end of the boards is made against the succeeding joist where the board will be placed. After the cut is made the boards will fit center to center on both end joist.

How to Remove Asphalt From Concrete Surface

JESSE H. SHELTON, Lake Wales, Fla., has used this method successfully in removing either pitch or asphalt from the finished surface of concrete floors. Place a piece of ice upon pitch or asphalt and let it freeze. When either of these substances become frozen, they can be lifted directly from the concrete surface and will not leave a stain or mark of any kind. Methods that employ the use of gasoline or other fluids will always leave a stain.

Roughing-in for Interior Stairs

By R. J. Alexander

This MONTH'S detail sheet is to acquaint the designer and builder with some of the essential information required when a finished stairway is ordered from a manufacturer.

Finished stairs are sometimes made on the job, but more often they are made at the mill from specifications furnished by the builder.

The stairway is one of the most difficult and technical jobs encountered in residential building. Therefore, the manufacturer must have complete and detailed information if he is to set up the finished stairs to fit the rough framing.

When the manufacturer furnishes the millwork from a set of plans, it is customary for him to submit details of the work to the builder for dimensions. This information is best obtained after the building is plastered. Because of the time required for the manufacture of the millwork, it may be necessary to take measurements as soon as the rough framing is completed.

When stock items are used, such as newels, railings and balusters, the catalog number of each item should be given to the mill. The manufacturer should know if easings and goosenecks are to be included.

The type of starting tread should be noted. The manufacturer should know if square, quarter circle, half circle or volute type are to be used. If stringers are to be housed and risers and treads rabbeted, then this should be clearly indicated. Thickness and width of base, kind of wood to be used, information as to finish of the stair should also be included.
AMERICAN BUILDER'S BETTER DETAIL PLATE

NO. D-51. ROUGHING-IN DETAILS. STAIRWAYS.

SECTION THRU STAIR AND WELL.

SECONDFLOOR. FIRST FLOOR. STAIR WITH LANDING. ALTERNATE PLANS. BOX STAIRS.
30-Day Dealer Training Courses Are Announced for Balance of 1949 Term

The 30-DAY training course program for retail lumberyard personnel sponsored by the various regional and state associations is a continuing valuable feature of the industry's plans to improve the calibre of its people and their work. During the 1948-49 school terms 23 classes were scheduled in various colleges and universities all over the United States.

Generally, the 30-day courses cover four main topics, with variations in the individual schools offering the work. These topics are building products, general business procedures, construction and estimating, plus some miscellaneous subjects.

The building products group includes courses in plywood, shingling, paints and finishes, cement and concrete, insulation, glass, roofing, and siding, brick and tile, hardware, floor and wall coverings. Among the business subjects are advertising, business law, transportation, purchasing, pricing, accounting, salesmanship, telephone selling and insurance. Courses in construction and estimating include blueprint reading, and preparing bills of materials. The miscellaneous subjects include FHA regulations, trade associations, business papers, store and yard arrangements, sanitation, and new ideas and trends in the lumber and building materials field.

Two of the most notable features of the courses have been the enthusiasm of the students and the tremendous interest of industry in the success of the program. Generally, the students find the courses both profitable and inspiring. Many of them express a desire to complete the program if possible. A few are beginning to do this, and it is expected that more will be able to do so in the future.

Shingle Bureau Lays Plans to Expand Market

The development and expansion of markets for red cedar shingles in the United States was the theme of the 32nd annual meeting of the Red Cedar Shingle Bureau in Seattle, Wash. First announcement was made at the meeting of the Bureau's plans to promote on a national scale during 1949 an attractive all-shingled house design, known as the Certigrade National Home. R. V. Winters, vice president of National Plan Service, Chicago, described the program to the 200 Pacific Northwest shingle manufacturers assembled for the convention. Winters presented an attractive model of the home to W. W. Woodbridge, secretary-manager of the Bureau.

Officers of the Bureau, elected at the meeting, are: E. R. Scott, Edmonds, Wash., president; W. W. McLallen, Vancouver, B.C., vice president; W. W. Woodbridge, Seattle, secretary, and Virgil G. Peterson, Seattle, treasurer. Woodbridge estimates that about six million squares of shingles were manufactured in 1948. Headquarters of the Shingle Bureau are in Seattle, Wash.

The President's Column

By C. B. SWEET
President, NRLDA

Government financing and budget balancing is completely over my head—guess I was born 30 years too soon to understand modern methods.

Just recently I made a trip through a very rich agricultural area, one that is famous for its fine potatoes—the big potatoes that you like baked. The crop this year was one of the largest this area has ever produced. But alas, the market was weak, a condition anyone in the lumber business will understand. However, at that point the comparison ends. The potato grower, instead of selling his crop at the current market or holding his crop for better prices, called on his benevolent Uncle in Washington. The result of this call was that the potato grower sold his crop to the government for $2.53 per 100 pound sack. The government then proceeded to sell the same potatoes back to the growers for 10c a sack, the potatoes never leaving the growers' warehouses during these transactions.

The theory back of this transaction was that the potatoes were to be fed to livestock. Wonder if anyone knows whether cows like their potatoes baked or hash-browned? This same area also has a big hay production, but then maybe modern cows demand a more varied diet. I rather suspect there are millions of human beings in the world who wouldn't be too particular just so long as they had something to eat.

From the time the potato crop was harvested in late October, up to December 9, the growers in this region
When it came to the question of 64 doors for its 700-foot inbound freight terminal in Kansas City, Missouri, the Santa Fe Railway found the answer in Ro-Way Overhead Type Doors.

It's easy to see why. Ro-Way Doors are made to order for commercial and industrial installations. Scientifically engineered for smooth, easy operation. Ruggedly built to take the continuous "ups and downs" of punishing service.

On large sizes, for example—or for extra hard service—Ro-Way uses heavy duty, friction-reducing track, 3" wide and 3/8" thick...husky 2½" ball bearing track rollers with double-thick tread...spring hookup of two or four power-metered springs...sections reinforced with U-Bar stiffener or U-Bar truss...bottom rails made from 8" stock, with end stiles, muntin bars and meeting rails proportionately heavy.

All this brawn, and beauty, too. For every Ro-Way Overhead Type Door—commercial, industrial or residential—is designed with clean, simple lines to blend with any style of architecture.

For a single door...or 64...specify Ro-Way. You'll find it the answer to everything you want in an overhead type door.

There's a RoWay for every Doorway!

ROWE MANUFACTURING COMPANY • 747 Holton Street, Galesburg, Illinois, U. S. A.
Equitable Life's
"CLINTON HILL"

Kitchen Maid Cabinets in famous Clinton Hill are of modern Flo-Line design—flush panel doors, gently rounded door and drawer edges. Solid hardwood construction, quiet, aluminum drawers and many other features.

When Kitchen Maid is chosen!

More and more architects, builders and owners are learning the many advantages of Kitchen Maid Cabinets of Wood. The warmth and friendliness, the modern Flo-Line design, the flexibility, durability, and economy of wood; aluminum drawers, cushioned door action—these and many other features make Kitchen Maid rank high wherever kitchens are discussed. Kitchen Maid representatives are generally the oldest and most experienced in their localities, and are able to render valuable service to architects and builders. Consult them regarding your requirements.

30-Day Training Courses

(Continued from page 184)

The courses are open to veterans and non-veterans alike. Most of the students have been veterans, although in many instances men who have been working in yards have taken the courses with interesting results. One experienced yardman reported that a newcomer to the business can learn as much in one of these 30-day training courses as he would ordinarily learn working around the average yard for three years.

The 30-day training courses scheduled for the balance of the 1949 school term, together with the name of the sponsoring association, are as follows:

- City College of New York—February 14 to June 6 (evening) ; February 14 to March 21 (day). New York Lumber Trade Association and New Jersey Lumbermen's Association.
- Ohio State University—February 7 to March 4. Ohio Association of
Note the attractive appearance of this suburban home protected with #57 "Century" Asbestos-Cement Siding and #30 "Century" Side Lap Roofing Shingles.

Build customer good will

with K&M "Century" Asbestos-Cement Siding

The building material that resists fire, weather, rot and termites, and at the same time retains its attractive appearance. It’s easy to apply on new construction or for renovations. Never needs protective painting.

You’ll appreciate the convenient labor-saving large units, 12 x 24 inches. Your customers will appreciate the long-lasting quality of "Century" Asbestos-Cement Siding and the pleasing effect of the cypress grain finish.

"Century" Asbestos-Cement Siding is available in shell white, graytone or mottled graytone to blend in every setting. For complete information get in touch with your K&M dealer... or write directly to us. We’ll attend to your inquiry promptly.
SAVE TIME and MONEY on Every Job!

Contractors Agree... 1949 Features Make CLIPPER More Outstanding than Ever Before!

Yes, builders everywhere are choosing the 1949 Clipper Masonry Saws with their faster than ever cutting action—you too will be amazed when you see them perform. The Model HD will answer requirements for DUSTLESS Wet and Dry cutting all in one saw! Really the 100% Answer to ALL Masonry Cutting. The HD and all of the 1949 Clipper Models FEATURE “ADJUST-A-CUT” Control; “STREAM-LINED” Ball Bearing Conveyor Cart; “PRESSURE EQUALIZER” Spring; and the Improved “SNAP-ON” Blade Cover.

You can have any one of the nine 1949 Clipper Models on FREE TRIAL... each designed with outstanding features and within a price range convenient for you. Problems of masonry cutting are a thing of the past with CLIPPER on the job. New and better features combined with “Multiple Cutting Action” make CLIPPER’S superior on jobs of skyscraper complexity and on jobs with the simplicity of cutting brick and marble for Fireplace trim.

Contact your nearest Factory Branch, located from COAST to COAST, and ask for a 1949 CLIPPER on FREE TRIAL. Priced from $195... write for descriptive literature!

Federal Grand Jury Indicts Kansas City Coal Dealers

A FEDERAL GRAND jury at Kansas City, Mo., recently returned an indictment against 15 retail coal dealers, five of their officers, a coal dealers’ trade association and its executive secretary, all doing business in the Kansas City area.

The indictment charges the defendants with having fixed prices and suppressed competition in the coal business in the Greater Kansas City area. It also charges that the defendants have enforced their plan by preventing dealers who refuse to adhere to the conspiracy from obtaining supplies of coal.

In announcing the action taken by the grand jury, Attorney General Tom C. Clark said: “Inasmuch as coal is an essential commodity heating a large percentage of homes and various public and private institutions, it has a direct effect on the cost of living. This case has been brought in connection with the program of the anti-trust division to prosecute illegal conspiracies which affect the cost of living.”

In addition to the 15 dealers and five of their officers the indictment covers the Greater Kansas City Retail Coal Merchants Association, Inc., and Burdette Yeo, its executive secretary and manager.

(Continued to page 186)
Thanks to the heating contractor who recommended *Convection Heating ... and Tuttle & Bailey Recessed Convectors!

A combination that meets every requirement home owners demand from heat distribution equipment ... efficient heat transmission that means real comfort ... economical operation that saves on fuel costs ... appearance that harmonizes with modern furnishings.

And a plus value to you, Tuttle & Bailey Standardized Convectors (Recessed or Cabinet Types) are stocked for quick delivery ... conveniently packaged for easy handling on the job.

**ALL-COPPER HEATING ELEMENT**

Makes a difference!

Fins, tubes, headers... Tuttle & Bailey heating elements are constructed entirely of copper. With conductivity approximately seven times faster than iron, twice as fast as aluminum, copper means quicker transmission of heat from boiler to rooms, raising room temperature levels faster. Elements are light in weight, durable, sturdy... engineered for minimum resistance to air flow, maximum contact with fins.

"Inside facts" that mean better heating... assure lasting customer satisfaction.

TUTTLE AND BAILEY, INCORPORATED
NEW BRITAIN, CONNECTICUT

ASK YOUR JOBBER TODAY

Standardized COPPER CONVECTORS
If you want EASY LAYING get—

BERMICO SEWER PIPE

YOU GET LIGHTNESS. Faster-laying BERMICO Sewer Pipe is 2/3 lighter than other types. Economical 8-foot lengths are easy to handle on the truck and at the job.

YOU GET SPEED. BERMICO joins tight—for keeps—with a few quick hammer blows. No joining compound needed. And you can back-fill immediately.

YOU GET TOUGHNESS. BERMICO is corrosion-resistant, built for a lifetime of trouble-free service. Stays tight, leak-proof, root-proof. Stands up under temperature shifts and soil settlements.

FOR HOUSE-TO-SEWER OR SEPTIC TANK Specify BERMICO. Made in a full range of sizes, connections, bends, reducers, adaptors, etc. Nationally advertised. Use BERMICO Perforated pipe for drainage purposes. For further information write Brown Company, Dept. A-12, 500 Fifth Avenue, New York, N. Y.

American Builder, February 1949.

Dealer Review

(Continued from page 188)

Lumber Manufacturers Elect A. J. Glassow President

LUMBERMEN representing all sections of the United States gathered in Washington, D.C., in December for the annual meeting of the board of directors of the National Lumber Manufacturers Association, board of directors of the Timber Engineering Co., and board of trustees of the American Forest Products Industries. One of the resolutions passed asked that the government immediately lift all export controls on lumber.

Officers of NMLA elected for the coming year are: A. J. Glassow, Bend, Ore., president; H. M. Seaman, Houston, Texas, first vice president; John B. Veach, Washington, D.C., vice president and treasurer; Homer B. Jarison, Fresno, Calif., vice president; C. W. Ingham, Marcola, Ore., vice president; Omar Hilton, Warren, Ark., vice president; R. A. Colgan, Jr., Washington, D.C., executive vice president; Henry Bahr, Washington, D.C., secretary.

Oklahoma Group Officers And Directors Meet

OKLAHOMA Lumbermen’s Association new officers and directors conducted their first meeting in late December in Oklahoma City to set the legislative objectives and projects for 1949.

The officers and directors heard of the progress OLA, an independent state association, made during the first two years as an organization, from the secretary, Bill Morgan. During the first two years 315 members have joined the Association and new members are being added every month. The Association has set an objective of 400 members as its goal by the third anniversary of its organization.

Dates for the 1949 convention will be October 18 and 19 in Oklahoma City. Walter Kelly, the new president, presided over this first meeting of the board.

Tennessee Convention Dates Changed

THE TENNESSEE Lumber, Millwork, and Supply Dealers Association has announced that the 1949 convention of that group will be conducted at the Andaluca Johnson Hotel in Knoxville, March 28, 29 and 30. The dates had been previously announced for early in April. There will be manufacturers' exhibits.
NOW!

READY-MADE SASH
FOR Thermopane

DOUBLE-HUNG

—Offered in a wide choice of standard sizes in wood, steel or aluminum.

CASEMENT

—Thermopane® offers the easiest way to insulate casement windows.

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NOW . . . SO EASY . . . Thermopane In Every Window of the House

You get the sash complete, in wood or metal, either glazed or ready for glazing with Thermopane. You install it in the regular way.

SEE YOUR DEALER—30 manufacturers are now making standard sash for Thermopane. More manufacturers will soon be in production to meet the demand. If your dealer does not yet have ready-made sash for Thermopane, urge him to stock it or write us for a list of sash manufacturers.

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Architects and Builders of Quality Homes know that **Radiiluxe STAINLESS STEEL SINKS**

*by Just* meet the most exacting requirements of their customers.

Custom built of heavy gauge solid stainless steel and electrically welded throughout, **Radiiluxe Sinks** not only add a final touch of charm and beauty to any modern kitchen, but assure the utmost in sanitation, high efficiency and a lifetime of service.

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**Catalogs and HOW-TO-DO-IT INFORMATION**

Information on any of the printed matter listed here will be sent FREE on request. Please use coupon on page 194.

502—RESINS AND PLASTICS—37-page, four-color catalog is informative guide which describes forms, properties and uses of Vinylite. Illustrations and charts are included. Distributed by Bakelite Corp., 30 E. 42nd St., New York 17, N.Y.

503—SECTIONAL UNIT CABINETS—for multiple use are described in an eight-page catalog issued by Carr, Adams & Collier Co., Dubuque, la. "Nu-Style" cabinets, the new line of Bilt Well Wood Work cabinets, are fully illustrated.

504—METAL WEATHERSTRIPS—catalog No. 46, issued by Zegers Inc., 5617 Harper Ave., Chicago 37, III., presents detailed drawings and illustrations of the "Dura-Seal" window and door weatherstripping. Specifications are given, as well as explanations of cross-section drawings presented in the six-page catalog.

505—INSULATION FOR LOW TEMPERATURES—The Pittsburgh Corning Corp., 632 Duquesne Way, Pittsburgh, Pa., has issued a four-page brochure on the use of Foamglas cellular glass insulation for low temperature work. Application recommendations are included, plus illustrations.

506—"DREAM KITCHENS FOR A SONG"—is the title of a 19-page, four-color catalog issued by Mullins Manufacturing Corp., Warren, Ohio, describing Young-town kitchens and kitchen equipment.

507—"INSULATION AND LIGHTWEIGHT AGGREGATES"—is title of an eight-page catalog issued by the Zonolite Co., 135 S. LaSalle St., Chicago, Ill. The catalog describes new methods of construction with vermiculite lightweight aggregates. Subjects covered are insulating fill, insulating concrete, plaster, and acoustical plastic.

508—A NEW LINE OF HEATERS—called circular "Vertiflow" unit heaters, are described in a 16-page catalog released by the Young Radiator Co., Racine, Wis. The catalog contains complete descriptive and illustrative data on the "Vertiflow" line; includes diagrams and performance data.

509—CAST IRON BUILDING SPECIALTIES—fireplace dampers, ventilator grates, ash dumps, bell traps, and others are illustrated and described in a four-page brochure issued by the Vestal Stove Co., Sweetwater, Tenn. Specifications are included.

510—BRASS FITTINGS—"For A Lifetime of Service" is the title of a small booklet just released by Eljer Co., Ford City, Penn. Typical group of Eljer's complete line is attractively illustrated and interestingly described. Plumbing fixtures described feature "renewable units" of two types, one for concealed body fittings, the other for exposed body fittings.

(Continued to page 194)
CONCO Means...

THE PRACTICAL ANSWER TO HOUSING PROJECT Heating

- Fine quality combined with lowest possible cost.
- Models for closet, utility room or basement installation.
- Both oil-fired and gas-fired heating units.
- (Series F oil/gas burners and controls interchangeable.)
- Economical to install, units factory wired, assembled, tested.
- Compact construction, require minimum floor space.
- Ample output capacity for the modern home.

CONCO Series F WINTER AIR CONDITIONERS

The CONCO series F in one unit, 25" wide, 43" deep and 57½" high, engineered for oil or gas. No structural changes necessary to change a VF unit to either TF or GF—just change burner and controls.

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The thrifty CONCO-BREESE vaporizing oil burner. Bonnet output, 100,000 B.T.U.

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The exclusive Magic Spray oil burner uses less costly No. 3 oil Bonnet output, 100,000 B.T.U.

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Designed for utility room, closet, hall or basement installations. Cabinet is 25" wide, 36" deep, 69" high.

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The economical Mono-Flame gas burner, readily adaptable to natural, manufactured, mixed or L. P. gases.

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BRICK—TILE—STONE
royal jet-flow
outperforms heating units
costing three times
as much*

HENRY I. FLINN JR.
says: "The Royal Jet-Flow is doing a stupendous job . . . . The unit has far exceeded our greatest expectations. We have had nothing but praise from each one of the 200 tenants . . . ."

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*Proved by tests conducted in America's Finest Independent Laboratory. Royal Jet-Flow uses jet principle and high outlet delivery to achieve a velocity of 300 feet per minute. Heats entire average size house with a minimum differential from room to room. Royal Jet-Flow costs only slightly more than a floor furnace - much less than forced air.

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ALHAMBRA, CALIFORNIA

Catalogs
(Continued from page 192)

511—STEEL ROLLING DOORS—of many different types and uses are described and illustrated in 27-page catalog issued by The Kinnear Manufacturing Co., 820-870 Fields Ave., Columbus 16, Ohio. Six sections include discussions of service type doors, fire doors and shutters, Rol-TOP doors, hangar doors, steel rolling grilles and special doors. Complete construction details and operating methods are included.

512—ONE HUNDRED FIREPLACE IDEAS—handsomely illustrated, including types from old to modern in catalog by that title issued by Price Fireplace, Heater & Tank Corp., Buffalo 7, N. Y. Ideal book of information for builders, regardless of what architectural design he employs.

513—BUILDER'S HARDWARE LINE—by H. B. Ives Co., New Haven, Conn., is displayed in color in small brochure recently issued by that firm. New type casement window operators that control outswinging casement windows without removing screens are featured, showing detailed methods of installation. Other hardware of Ives's complete line is shown.

514—THIRTY-ONE PAMPHLETS—are available on request, plus a new 32-page two-color catalog on the Weldwood fire door and fire-resistant door, Plankweld, Weldwood moldings, Honeycomb; several new wood species, Korima, American elm, and Vertical grain cedar and two new finishing materials, Firzite and Satinlac. Issued by United States Plywood Corp., Weldwood Building, 55 West 44th St., New York 18.

515—FACTORY-WAXED ASPHALT TILE FLOORING—Bulletin presents accurate Hako tile colors in 8-color printing process used. Installations, and possible tile designs, including calico-weave, eight-to-one, basket weave and others are shown. Bulletin is available to architects and builders by writing to Hachmeister-Inc., 2332 Forbes St., Pittsburgh, Pa.

516—BRICK AND TILE CAVITY WALLS—Much information is presented in a short, amply-illustrated amount of space in catalog by that title published by Structural Clay Products Institute, 1756 K Street, N. W., Washington 6, D. C. Properties of cavity wall construction; construction requirements, and details are discussed.

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THE HOPE'S _LOK'D BAR_ FACTORY SASH recently installed in this Power Station building are made to special size and layout. Their height, 63', 0", is indicated by the size of the figure in the lower right foreground. The mullions are 10 gauge pressed steel reinforced by structural members. Hope's _LOK'D BAR_ Catalog describes, with full-scale drawings, the exclusive principle of their design, and Hope's Engineering Department will be glad to submit details for similar installations on request.

HOPE'S WINDOWS, INC., Jamestown, N.Y.

THE FINEST BUILDINGS THROUGHOUT THE WORLD ARE FITTED WITH HOPE'S WINDOWS
How to ECONOMIZE WITH LUMBER

By H. V. Simpson
Executive Vice President
West Coast Lumbermen's Association

SOMETHING big is happening in the lumber industry. We are witnessing a change as fundamental as the adoption of grading rules or the introduction of power machinery.

What is happening is that we are no longer taking lumber for granted. Because economic circumstances compel us to, we are beginning to examine lumber for what it is and for what it can do. We are becoming scientific about lumber. This is not, of course, because any of us have suddenly seen a great white light. It is something we must do if lumber is to maintain the competitive position it has enjoyed, free of charge, for so many years.

This change that is taking place centers in a relatively small percentage of the lumber industry's production. Roughly 25 per cent of this production is low grade lumber. It is this 25 per cent that has become more or less abruptly important.

In the Douglas fir region of Washington and Oregon, for example, our annual production is approximately 8½ billion board feet. Of this about 6½ billion feet is top quality, high grade lumber. About 2 billion feet is lower grade lumber.

Those 2 billion feet are important because they stand for a basic change that is taking place in every major lumber producing region of the United States.

They are important because they stand for economy in home building and for conservation of our forest resources.

Since the first settlers landed in America, standing timber has been in surplus, and lumber has also been almost without exception in surplus. It has been at all times a cheap building material.

Increased values, however, now

(Continued to page 198)
WHY THIS Galvannealed STEEL DOOR IS
AMERICA’S GREATEST GARAGE DOOR VALUE

THE PROTECTION OF GALVANNEALING, added to the strength of steel, assures lifetime durability and makes this door an unequalled value (see illustration at right). Galvannealing provides a hot galvanized zinc coat for rust protection, PLUS high temperature heat treating that effects a perfect, permanent bond between base metal and zinc coat. Assures a smooth, uniformly coated surface and a clinging base for paint, without the need for a special priming coat.

BUILT FOR STRENGTH—welded all-steel one piece door leaf, and welded all-steel frame and braces, provide outstanding strength for a lifetime. (Steel will never sag, warp, shrink, swell or rot.)

OPERATES EASILY. A child can open the Strand Door. Simple, efficient hardware is designed for trouble-free service.

INSTALLED QUICKER—an experienced man can install the Strand Canopy Door in a prepared opening in minutes; the Receding (track-type), too, is quickly and easily installed.

AMERICA’S GREATEST GARAGE DOOR VALUE—Give your customers the durability and performance of this galvannealed steel door—at an amazingly low price. This is the result of volume production in one plant and standardization on two models.

Strand Doors are available without waiting and without limit. Order today from your dealer, or mail the coupon, giving dealer’s name.
A note to builders who know a good thing when they see it

The record of Paine Rezo doors is countrywide — in buildings of every type, everywhere. From the arid plains to the humid sea shore, these 1\(\frac{3}{4}\)" flush doors perform... perform because their patented, ventilated interlocking air cells check warping and shrinking, while they add great strength to lightness in weight. Back of this best-engineered construction is a guarantee of trouble-free service by America's largest exclusive producers of flush doors — a company that has over three million installations to prove that these time-tested doors are the best flush doors of all.

Your dealer is now getting more Paine Rezo doors. Order from him, and write for an informative engineering bulletin.

Manufactured by the

PAINE LUMBER CO., LTD. Oshkosh, Wisconsin

Lumber Economies

(Continued from page 196)

prevail on timber lands. Lumber is no longer available in such large surpluses, with the result that it fits into its competitive position on a higher level.

Lumber has always been used extravagantly. Generally too much lumber of too high quality has been used in construction. This was a natural result of the low price at which it was sold. The higher values of today do not reflect a lumber shortage now or foreshadow one in the future. Nor do they indicate that unsuitable lumber is to be employed. They mean simply that for the first time in American history, lumber must be properly used.

We began to work on this problem more than a year ago. We studied scores of houses, old and new. We enlisted the talents of engineers, lumber grading experts, builders and building inspectors.

We came up with some startling findings. I am reminded of the story of the time Henry Ford switched from a metal knob to a plastic knob for his gear shift lever. "But is the plastic knob as good?" inquired a friend. "No," replied Ford, "but it will outlast the car."

Too much of our lumber has been outlasting the house. A common example is to be found in houses—50 or 100 years old, or older—which are being torn down. It is ordinary practice for the lumber to be carefully sorted and piled for re-use. There is only one conclusion to draw. That lumber was better than it needed to be to give full and satisfactory service for the life of the structure.

In our study of present day home construction, we found that there are plenty of places where low grade lumber can render complete...ly adequate service. This means economy for the lumber user. It places us, curiously, in the position of promoting a loss item, for there is no manufacturing profit in low grade.

Still, if no cheaper lumber were produced, the overall supply would be short, and the higher priced lumber would be even more expensive. And some markets now existing for the better grades would be lost. Thus, proper utilization of low grade would seem to benefit both the industry and the public, in addition to being a prime conservation measure.

The increased value of lumber

(Continued to page 200)
American Builder, February 1949.

H.C. LITTLE—THE ONLY OIL FLOOR FURNACE THAT AUTOMATICALLY LIGHTS ITSELF!

A big sales asset in new homes—provides carefree comfort without attention—at low cost.

An exclusive, patented principle—no pilot light to waste oil!

"We're buying the house with the H.C. Little oil floor furnace that LIGHTS ITSELF. None of the other houses we looked at had this feature, and in the end it was a deciding factor." So, another family settles down to a life of carefree comfort, and another builder has his investment back quick—and with a nice profit!

DO THIS—In the next house you build, install an H.C. Little oil floor furnace that automatically LIGHTS ITSELF. You'll be amazed at the magic sales appeal this furnace transmits to the entire house. In fact, we'll rest our whole case on the results you get from your first H.C. Little installation.

P.S Another BIG sales feature—the exclusive H.C. Little Catalytic Heat Control is now standard equipment on all units, for greatly improved performance with low cost catalytic furnace oil.

FACTORY REPRESENTATIVES IN 18 PRINCIPAL CITIES

For full information, write for literature No. AB-2

H.C. Little Burner Company

SAN RAFAEL, CALIFORNIA

OTHER H.C. LITTLE UNITS THAT FEATURE Automatic SELF-LIGHTING

WALL FURNACE—Registers on both sides of the partition. 42,000 BTU. Output.

WINTER AIR CONDITIONERS—Size A, Type AC-2, 84,000 BTU. Output; Size B, Type AC, 125,000 BTU. Output.

FORCED AIR UNITS FOR FIRST FLOOR—Type A-UC, 84,000 BTU. Output; Type DU-46, C.I.B.L. 120,000 BTU. Output.
THE HARDWOOD BLOCK FLOOR

that has Everything builders want

BEAUTY — The rich brilliance and natural beauty of fine northern oak provides, in Hasko block floors, a fitting setting for modern or period furnishings. 12-inch square Hasko Blocks create a floor with fewer joints. Each block has a smooth, unbroken surface — no unsanitary dirt-catch ing crevices. The blocks, laid with their grains running in alternate directions create an unusually attractive patterned effect. Hasko Floors are available in golden oak or the new dark oak... the two finishes may be combined to make a unique checkerboard pattern.

PERMANENCE — Each Hasko block is laminated of three plies of veneer permanently bonded with phenolic resins... they are guaranteed not to delaminate. There are no butt joints in a Hasko floor. Instead, Hasko’s exclusive tongue-and-groove feature interlocks each block with adjacent blocks. This assures floor flatness, prevents buckling, and forms a tight seam that eliminates the danger of mastic extrusion. Hasko blocks are factory finished with an exclusive process which impregnates the wood fiber with varnish, forming a scratch and mar resistant surface. They are thoroughly waxed and polished before shipment.

LOW-COST INSTALLATION — Factory-finished Hasko blocks are designed for laying with a minimum of labor, waste and cost. They may be set in Mastic over concrete without the use of costly screeds or wood subfloors. Over old wood floors or new subfloors they may be blind nailed in the conventional manner. They are ready for use as soon as laid since all sanding, sealing, varnishing and waxing is done at the factory.

For full information regarding Hasko block flooring write for complete bulletin or see Sweet’s Architectural File.

ADVERTISED IN LEADING NATIONAL MAGAZINES

HASKELITE MANUFACTURING CORP., DEPT. AB, GRAND RAPIDS 2, MICH.

New York Chicago Detroit St. Louis Philadelphia Los Angeles

American Builder, February 1949.

Lumber Economies

(Continued from page 198)

has been accompanied by a wider spread in the price relationship of various grades. Number 3 Douglas fir, for instance, has recently sold at from $20 to $30 per thousand feet less than No. 1, whereas the prewar spread was only $3 to $7. There was little incentive to use low grade lumber since the economies it made possible were relatively unimportant. With the spread in price recently quoted, proper utilization of the lower grades would obviously make a substantial saving in all construction.

It will be noted that we have consistently emphasized the “proper” use of low grade lumber. Where strength requirements demand them, the higher grades should continue to be used. These higher grades, of course, are given stress ratings. A stress grade is desirable for floor and ceiling joists as well as for rafters.

On the other hand, the builder who wishes to take advantage of all possible economies may wisely use lower grade lumber in many places. As an example in house construction, No. 3 boards adequately serve as sheathing and subflooring. In its Wood Handbook, the Forest Products Laboratory remarks: “No. 3 boards are used in construction for concrete forms, sheathing, subfloors, roof boards, barn boards and temporary construction. They fill a demand from builders of less exacting type of buildings for a cheaper material than No. 2.”

According to the Minimum Property Requirements of each of the 53 FHA districts, boards for sub-flooring, sheathing and similar uses may be of No. 3 grade of the four major West Coast species, Douglas fir, West Coast hemlock, Sitka spruce and Western red cedar.

The primary requirements of boards uses for these purposes is that they be stiff and straight. Strength is secondary. Of considerable importance, in the colder climates, is their insulating quality. Low grade lumber contains the fine insulating qualities inherent in all grades of wood.

Number 3 Douglas fir dimension lumber may properly be used in one-story dwellings for studs, and also for such low-strength requiring pieces as plates, fire stops and bracing. In its Wood Handbook, the Forest Products Laboratory

(Continued to page 202)
NEAPCO PRODUCTS INC., DEPT. A, POTTS TOWN, PA.
Send me without obligation, further information about the new Neapco Portable Door Jig.

NAME

ADDRESS

NEAPCO PRODUCTS INC., POTTSTOWN, PA.
What happens after the roof's on?

A roof is no better than its shingle... and unless it's a good shingle, the effort and skill you put into your building is wasted.

Bird Masterbilt Thick Butt Shingles stand the test of time...a Bird roof is a better roof. Extra layers of asphalt and deeply embedded mineral granules give tough lasting protection where it counts... on exposed tabs. The rugged surface defies weather... and fire resistance is greatly increased for the long life of the shingle. Narrower cut-outs and heavier shadow-lines give added massive beauty... and a wide range of handsome lasting colors and blends is available.

Test Bird Masterbilt Shingles yourself... compare them. They are your assurance of years of extra wear, of lasting beauty.

* * *

Bird helps you build better homes in many ways. Neponset Black Vapor Barrier guards against costly damaging in-wall condensation, yet costs approximately $20 for a $10,000 house. Investigate it today.

American Builder, February 1949.

Lumber Economies

(Continued from page 200)

says: "It (No. 3 dimension) is used for studding in low-priced and temporary light-frame construction. In small buildings where the members are short, No. 3 dimension may be cut and used with considerable economy."

Only 7 of the 53 FHA districts specify the grades for framing: Iowa, New York City, Oklahoma, Pennsylvania-Western, and Seattle-Spokane, Washington, require that all framing lumber be No. 2 Common or better. Pennsylvania-Eastern and Delaware and Virginia-Richmond require that all studs be No. 2 Common and better. Washington-Seattle and Spokane require No. 1 Posts and Girders. California-North and South require that sills and plates bearing on foundation or masonry walls shall be "Foundation Grade" all heart redwood or No. 2 Common grade of any species treated with a preservative. What grade is acceptable in the other districts is not specified and may be open to a determination by the Chief Underwriter. Until such has been determined, it may cautiously be assumed that No. 3 will pass.

It should be emphasized that the use of No. 3 as specified above by no means experimental. Properly employed, it has given excellent service for many years, particularly in the manufacturing areas of the Pacific Northwest.

Nearly all low-cost housing can use a large percentage of low grade lumber. By the substitution of No. 3 for No. 1, where the former can be used, in most of these houses the cost of the lumber will not be 216 per cent over prewar as suggested by Bureau of Labor Statistics figures, but will probably be about 100 per cent, which is certainly not out of line with the increase in other materials.

The most recent issue of the grading rules for West Coast lumber (Rules No 14) reflects the manufacturing industry's realization that lumber's place in the construction field has changed. Much thought was given by the committee which revised the rules to the final utilization of the material—the grades were written with the purpose of making the grade suitable for its ultimate use. Stress values, for example, were added to both the No. 1 and No. 2 dimension grades, and some construction grades which contained no stress

(Continued to page 204)
American Builder, February 1949.

HEATFORM

The Superior Heat Circulating Fireplace
• most efficient and durable of all

YOUR CUSTOMERS EXPECT
YOU to recommend
THE BEST

The HEATFORM is a perfect guide for the masonry walls (hearth to flue). It has all the worthwhile features of any other fireplace PLUS THESE EXCLUSIVE advantages which deliver more heat and give more years of service:

• More heating surface per size unit
• Air chambers surround firebox and upper throat
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BUILD CUSTOMER GOOD-WILL by recommending HEATFORM:
—nationally advertised to millions of prospective home-builders
—thousands of satisfied users everywhere
—80,000 home-owner builders will see 8-page HEAT- FORM literature in DODGE CORP. HOME OWNERS' CATALOG.

SOLD EXCLUSIVELY THROUGH building supply and lumber dealers—now available from our two factories—Baltimore and Los Angeles and through nationwide network of distributors.

WRITE, WIRE OR PHONE for name of distributor nearest you and complete information on HEATFORM

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we also manufacture
FORM DAMPERS • FUEL GRATES • ASH DUMPS • CLEANOUT DOORS • DRAPE SCREENS • Lintel BARS • SEPTIC TANKS
CLASSIC NO-DRAFT sash balance performance

- Counter-balance, spring and housing fits sash run and eliminates box frames.
- Flexible non-corroding housing or spring cover is formed to act as compression weatherstrip between sash and runway.
- Properly tensioned spring gives “finger-tip” control.
- Attachment of spring to sash is near bottom roll in ½” x 1½” sash groove.
- Routing of sash for balance may be done at mill or on the job.

At the left is a photograph of simple installation procedure. With Master Balances in place each sash is easily put into frame and fastened.

Economy in building: With simple plank frames the cost of window units comes down. Maintenance is practically nil. Weatherstripping is required only across the window. With metal cap for parting bead or complete metal head, painting is not needed.

Satisfaction in use: Finger-tip control of sash is certainly a sales feature to every woman — so is the cleanliness that non-leaking windows provide. And any homeowner will be definitely interested in fuel savings up to 25% per year with properly weatherstripped windows.

Write today for complete information about this modern window balance combination.

American Builder, February 1949.

Lumber Economies

(Continued from page 202)

values were eliminated entirely.

In this connection it is worth pointing out that the appearance of a piece of lumber is not always the best guide to its usefulness. To the casual eye, for example, a certain piece of lumber may look like select structural, yet if it is curvy or cross-grained it will not be worth a pall of sawdust so far as a structural use is concerned. By the same token, a piece of No. 3, with knots, wane and shake may present a poor appearance and still have ample qualifications for specific uses.

The West Coast industry is well aware that the changing of status of lumber in the competitive field has sharpened the need for accurate grading. The West Coast Bureau of Lumber Grades and Inspection has enlarged its field staff from 58 men in 1941 to more than 360 today. Altogether there are 2,000 men capable of grade-marking lumber produced in the Douglas fir region.

It is the industry’s aim to encourage the most intelligent use of all lumber grades. It has, of course, the most to lose by the misuse of lumber.

Report on Requirements

The following is a report by the West Coast Lumbermen’s Association on FHA “Minimum Property Requirements” for properties of one or two living units.

This report is a summary of requirements found in the specifications of 53 district FHA offices which involve the uses of wood. A copy of “Minimum Property Requirements” (hereafter referred to as MPR), for each district is on file in the WCLA Association office, or may be obtained from FHA.

MPR’s follow a fixed pattern. For instance, “Wood Construction” is specified under Section 408 with similar topical sub-sections the same in each. For simplicity, comments on each item will be referenced with the same numbering as used in the MPR’s.

The accuracy of this study is not guaranteed for requirements are ambiguous in some cases and would be subject to interpretation by the Chief Underwriter of the District. Furthermore, changes from the published requirements are often made permitting alternate or revised methods of construction.

(Continued to page 206)
Every day builders are passing the word along—that houses sell faster when equipped with AMERICAN KITCHENS! Because AMERICAN KITCHENS have more easy-to-see advantages than any other line—features women can instantly recognize as being desirable advantages.

Surveys Show More Women Want Them!
That's why more builders entering houses in the giant 1948 Chicagoland Home Festival chose American Kitchens than any other kind. They knew that independent surveys show that more and more women want American Kitchens—that American Kitchens make any house more desirable and, therefore, more saleable! Follow their lead and women will pick your houses over your competitors’ too! (Include a new American Kitchens Disposer and Ventilator for an extra de luxe touch your competition may be overlooking!)

SEE IT!
Be sure to see American Kitchens’ amazing new automatic Miniature Theater with four suggested kitchen arrangements. On display throughout the show—Booth 184, Stevens Hotel Mezzanine.
While these changes are public information, they have not been determined by the Association.

408-A.

1. Softwood framing and board lumber must comply with American Lumber Standards and Association grading requirements. Only five districts require grade-marked lumber. They are: California-Northern, Michigan, New Jersey, New York City, Pennsylvania-East and Delaware.

2. All softwood species are acceptable for framing with minimum spans for floor joists, flat roof joists, ceiling joists and rafters given in Appendix A in the MPR's. This will be discussed further.

3. In every district, boards for sub-flooring, sheathing and similar uses may be of No. 3 grade of the four West Coast species. The specification reads:

   "A. No. 3 Common or better Douglas fir, Sitka spruce, Southern cypress, West Coast hemlock, California redwood, cedar, Eastern hemlock, tamarack, and Southern yellow pine.

   "B. No. 4 Common or better for white fir, Western larch, spruce (except Sitka), Ponderosa pine, sugar pine, Idaho white pine, Northern white pine, and Norway pine."

4. Moisture content requirements are broad. The stock paragraph for all except Hawaii reads:

   "All lumber shall be well seasoned. Lumber 2 inches thick and less shall have moisture content

(Continued to page 208)
Rely on Rheem, World's Largest Maker of Automatic Water Heaters

The New Look . . . talk about good looks? The new Rheem automatic water heaters have been completely redesigned to stand out in your new homes like '49 Cadillacs on a used car lot. They make Mrs. Customer point to the Rheem and say, "Papa, look, a Rheem!"

Open The Package . . . and you'll find that Rheem beauty is more than skin deep. Dependable Grayson Control; heavy Fiberglas insulation; Dow Magnesium Anode Rod; high efficiency, streamline-flow burner; and the tank, that's a story in itself . . .


Backed by "Big Names" . . . every Rheem product is backed up by reputable testing authorities—Good Housekeeping Institute, A.G.A. for gas, U. L. for oil and electric models. And Rheem supplies a written guarantee with every unit.

Rheem Helps You Sell . . .
biggest national advertising program pre-sells Rheem product advantages. The name Rheem is a merchandiseable asset that can help you promote your new homes, Rheem gives you service manuals, consumer literature, floor displays.

World's Largest . . . you can always rely on Rheem, for fast factory shipments . . . a complete range of water heaters in all sizes for all fuels; warm air heating equipment, oil tanks and septic tanks . . . technical service in the field . . . and real selling support.
This is it, Mr. Dealer! Plow into an avalanche of metal moulding profits... put a CHROMTRIM "silent salesman" to work! The proven success of the 8/60 Merchandiser has been phenomenal — now, CHROMTRIM offers a new, expandable Merchandiser unit which permits stores to match their sales program to their own qualifications. All new units accommodate 12 tubes of CHROMTRIM; start with a small stock of 6, 8 or use the maximum stock of 12 tubes, 60 feet to the tube. This eye-catching Merchandiser unit takes up about as much floor space as a salesman... and it's a hard-hitting salesman for you every hour of the day, whether you stock the 6/60, 8/60 or the 12/60 assortment.

**Chromtrim 12/60 Deal**
- 10 lengths each of the complete line of 12 T-I-Y shapes
- plus one display unit and promotion aids including a 3 color counter card
- List Price of 720 ft. of stock: $156.00
- Dealer cost for complete 12/60 deal: $78.00
- 100% dealer profit on 12/60 deal: $78.00

**Chromtrim 8/60 Deal**
- 10 lengths each of the original selection of T-I-Y shapes now being sold by more than 15,000 dealers — plus one display unit and promotional aids
- List Price of 480 ft. of stock: $105.00
- Dealer cost for complete 8/60 deal: $59.50
- Dealer profit on original 8/60 deal: $45.50

**Chromtrim 6/60 Deal**
- 10 lengths each of 6 popular Chromtrim T-I-Y shapes — plus one display unit and promotional aids
- List Price of 360 ft. of stock: $69.60
- Dealer cost for complete 6/60 deal: $39.95
- Dealer profit on original 6/60 deal: $29.65
- Profits ahead! 100% dealer profit on all Chromtrim refills.

**R. D. WERNER COMPANY, Inc.**
295 Fifth Avenue
New York 16, N. Y.

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Lumber Economies

(Continued from page 206)

not to exceed 19 per cent at the time dwelling is enclosed."

Hawaii specifies the following: "All lumber shall be well seasoned."

408-B
3. Firestopping is required at first floor and attic in all regions except Puerto Rico. In addition, both Northern and Southern California requirements call for firestops at mid-height of studs.

408-C
4. Sub-flooring is required in some districts and not in others. In some, sub-flooring requirements are so worded that whether sub-flooring is required or not would be determined by the interpretation of the Chief Underwriter. Thirty-eight districts require sub-floors, of which three require it on first floor only. Ten are open to interpretation. Five do not require sub-flooring. Six districts require diagonal sub-floors. In three districts the sub-floor must be diagonal except under parquet and in one district it must be diagonal, if it is strip flooring. In California-Southern the sub-floor must be diagonal if the finished floor is perpendicular to joists and in California-Northern it must be diagonal if more than one story and floor joists are supported by wood underpinning.

408-F
1. Maximum spacing of studs for one-story construction is 24 inches and for the first floor of two-story construction is 16 inches in all districts. California-Northern further specifies 2x6 inch studs at 16 inch centers for first floor of three-story.

3. Let-in corner bracing is almost universally required. Both California districts and Massachusetts will accept cut-in bracing as an alternate. No bracing is required in any region when diagonal sheathing is used.

4. Tennessee does not require sills to be anchored. Four states require sills to be anchored if required by Chief Underwriter and in all other districts the sills must be anchored.

8. Wood bearing partitions in basements are not allowed in 41 districts and may be used with limitations in 11 districts.

9. Balloon frame construction is required when exterior has stucco finish in all but California-Northern and Southern, Massachusetts, Michigan, New Mexico and Washington-Seattle and Spokane.
WHY
GALVANITE
IS THE
BUILDER'S STEEL

ZINC COATED — Galvanite is a special zinc coated product. The protective Galvanite coating is perfectly bonded with the quality Sharon strip steel that forms the base.

GALVANITE LIKES THE WEATHER TOUGH — Rain, snow — sleet and slush cannot penetrate the bonded zinc coating — and the strong steel base offers a lifetime of wear even under the hardest usage.

APPROVED BY LEADING CODES — Galvanite has been given the green light under the strictest of building codes. A recent test in an area plagued with oceanic salt spray proved Galvanite resistant to salt corrosion.

WHERE DAMPNESS PREVAILS — Where water and dampness are an every hour occasion Galvanite can't be beat. And products made of Galvanite can be produced at lower costs — because Galvanite — for all its advantages — is truly inexpensive.

IDEAL FOR PAINTING — Galvanite provides an ideal "mat" base for painting, and baked enameling. It withstands temperatures up to 750° without deteriorating.

SEVERE FORMING and DRAWING — Galvanite will not peel, flake or powder during difficult fabrication. It is especially suitable where a coated strip must withstand severe forming and drawing.

SHARON STEEL CORPORATION
Sharon, Pennsylvania

PRODUCTS OF SHARON STEEL CORPORATION AND SUBSIDIARIES: THE MILES ROLLING MILL COMPANY, NILES, OHIO; DETROIT TUBE AND STEEL COMPANY, DETROIT, MICHIGAN; BRAHMA STEEL COMPANY, WARREN, OHIO; SHARONSTEEL PRODUCTS COMPANY, DETROIT, MICHIGAN, AND FARRELL, PENNA.; CAPONIERTOWN COAL & COKE CO., MT. PLEASANT, PENNA.; FAIRMONT COKE WORKS, FAIRMONT, W. VA.; MORGANTOWN COKE WORKS, MORGANTOWN, W. VA.; Hot and Cold Rolled Stainless Strip Steel—Alloy Strip Steel—High Carbon Strip Steel—Galvanite Special Coated Products—Corrugated Hemp—Electrical Steel Sheets—Bakd Enameling and Decorated Sheets—Galvanized Sheets—Extruding Grade Steel—Welded Tubing—Galvanized and Fabricated Steel Strip—Steel Strapping, Tools and Accessories.

Advertising that sells

It's wonderful having the G-E DISPOSALL!

There's everything wonderful about a garbage-free home. Your kitchen always clean. Your kitchen work so much easier. No more greasy garbage can.

Wonderful having all food waste disposed of immediately right in the sink. Just see—in these pictures—how the General Electric Disposal ends the pesky nuisance of garbage.

1. scrape all food waste—pits, peels, etc.—into the drain opening. That's the last you see of them.

2. Look products twist to the left cover for elbow—enter the Disposal.

3. Turn on cold water. The automatic action of the Disposal action.

Food waste is dashed into soap particles, flushed into sewer or septic tank. The Disposal works perfectly with either sewer or septic tank.

Imagine! Time on your hands—instead of greasy dishwater! Dishes washed cleaner than by hand... with General Electric Disposer!

The G-E Automatic Disposer... automatic action begins when the disposal is turned on. Food waste, pits, peels, etc., are dashed into soap particles, flushed into sewer or septic tank.

Careful of your china? The G-E Automatic Disposer... automatic action begins when the disposal is turned on. Food waste, pits, peels, etc., are dashed into soap particles, flushed into sewer or septic tank.

For full story... the G-E Automatic Disposer... automatic action begins when the disposal is turned on. Food waste, pits, peels, etc., are dashed into soap particles, flushed into sewer or septic tank.

You can put

G-E DISPOSALL

DISPOSALL MEANS
GOOD-BYE TO GARBAGE AUTOMATICALLY!
the "G-E WAY OF LIVING"
LETTING IT SELL FOR YOU?

YES!
If your homes include the greatest laborsaving appliances the modern kitchen can offer ... the General Electric Dishwasher and Disposall!*

Today's home-hunters are hunting for freedom from kitchen slavery. Today's home-hunters are learning that General Electric gives them this luxurious new way of life at a price that is easily within their reach.

That's the dream-kitchen story G.E. tells in these advertisements read by millions. That's the selling story that gives you greater profit and prestige, quicker sales and higher resale values, when you include these features of the G-E Way of Living in new homes and renovations.

COST TO YOU?
Zero! You include the price of these appliances in the price of the house — and profit more.

TROUBLE TO YOU?
Zero! General Electric offers you the facilities of its Home Bureau in planning your G-E dream kitchens. Installation problems are no problem when the Home Bureau is on the job.

RED TAPE TO YOU?
Snip! None — because of the convenience of the "packaged mortgage" plan. The "packaged mortgage" plan includes the cost of the appliances in the same monthly payments, and conveniently stretches out the cost to the home buyer over a long period of time.

SELLING HELP TO YOU?
Proved selling help! It's part of Home Bureau's service to builders . . . a complete program of advertising and merchandising helps to speed the sale of your new homes!


Today! The G-E Way of Living is gaining fast!

*General Electric's registered trade-mark for its food-waste disposal appliance.
NEW METHOD of installing dropped ceilings is illustrated by these photos.

In one picture, a carpenter is shown fastening 2x3-inch joists to an 8⅛-inch reinforced-concrete ceiling by using a powder-actuated tool developed by Mine Safety Appliances Co., Pittsburgh, Pa.

This tool drives a metal stud through the wood joist into the concrete, holding the joist securely. The operation can be accomplished in five seconds in contrast with about a half hour that would be required if a star drill was used.

Furring strips are nailed to the joists to drop the ceiling 2 feet. Nailing strips then are attached for fastening acoustic ceiling boards and attaching metal air conditioning ducts run between the furring strips and are nailed to the joists.

Mine Safety Appliances Co. Velocity-Power tools were also used on an office remodeling project to install electrical switch boxes, conduit and heating pipe hangers in the ceiling, and steel frames for glass block windows in the concrete block exterior walls.

Operating with blank cartridges, the tool embeds studs of various lengths and shapes into concrete or metal. Weighing less than five pounds, it has interchangeable barrels to permit the use of studs with two different diameters, ¾-inch and ½-inch.

Officials of the company say that every conceivable precaution is "built-in" the tool to minimize hazards. Possibility of accidental discharge is negligible because the firing pin is not in position to contact the cartridge primer unless the operator rotates a spring-loaded safety arm and holds it in position. If the tool is dropped the safety arm instantly pulls the firing pin out of reach of the cartridge. The stud is discharged when the barrel is held solidly against the material and pushed in sharply.

The cartridge is fastened to the newel post and conventional attachment knee on top and bottom rail for easy installation. Rugged, solid construction, with distinctive Coffman hand-wrought inside scroll at newel post.

All types "custom" railings made to your dimensions. Have your local BUILDING SUPPLY DEALER secure our "Blue Print Service" and quotation on your current jobs.

Write Department AB, P.O. Box 259, for free catalog of designs, sizes and prices.

Manufacturers of the Original "Complete Builders Line" of Hand-Wrought Ornamental Iron

The R. J. Coffman Co. Inc.
Orlando, Florida

How-To-Do-It

New Way to Install Dropped Ceilings

(Continued from page 182)

Low Cost

ENTRANCE OR STOOP RAILS

... In 5 Stock Sizes

... INEXPENSIVE—distinctive entrance rails, ideal for front and rear doorway platforms. Available in 5 stock sizes, at low cost, from building supply dealers. They are decorative practical, and an investment in safety.

So Easy to Install!

Illustration shows extended newel post and conventional attachment knee on top and bottom rail for easy installation. Rugged, solid construction, with distinctive Coffman hand-wrought inside scroll at newel post.

All types "custom" railings made to your dimensions. Have your local BUILDING SUPPLY DEALER secure our "Blue Print Service" and quotation on your current jobs.

Write Department AB, P.O. Box 259, for free catalog of designs, sizes and prices.

Manufacturers of the Original "Complete Builders Line" of Hand-Wrought Ornamental Iron

The R. J. Coffman Co. Inc.
Orlando, Florida

American Builder, February 1949.

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Add the Eye-Appeal and Sales-Appeal of Beautiful Concrete Floors . . . at Low Cost

Concrete is a grand material—but who would choose an ordinary, uncolored, concrete floor in their basement if they could have a richly colored, super-hard surfaced floor at almost no extra cost! That is exactly what you can give clients with Truscon ART-ROC. Dusted on before finish troweling, ART-ROC will take all kinds of punishment because it is much harder than ordinary concrete. Any basement, terrace, porch, sun room, sales-room, store, restaurant, with such a floor has eye-appeal and sales-appeal which will gratify owners and prospects alike and will give your work colorful distinction. We invite your inquiries. Write Dept. AR-12, Truscon Laboratories, Division of Devoe & Raynolds Co., Inc., Detroit 11, Michigan.
The time-saving value of a rugged, reliable Kohler Electric Plant has been demonstrated by building contractors again and again. With a convenient, easy-to-handle source of electric current, your men can move rapidly from one job to another without waiting for power line connections—using electric hand saws, floor sanders, wood-working machinery and various power tools.

Sid Dwyer & Associates, Inc., Milwaukee, report: "Our Kohler Electric Plant is an indispensable piece of equipment in our building operations. It soon paid for itself." Available in sizes from 750 watts to 10 KW. A Kohler field representative will gladly advise you as to the most practical electric plant for your needs. Write for our illustrated folder E-5, Kohler Co., Kohler, Wis. Established 1873.

Kohler Electric Plant
3A21, 3KW, 115 Volt AC.
Automatic start and stop.
Length, 41"; Width, 16"; Height, 28"
Marlite production is up! Now you can get all you need of these beautiful, practical plastic-finished wall and ceiling panels. New interiors stay new with Marlite, and Marlite goes up just as quickly over old walls to transform dark, dingy interiors into rooms of sparkling beauty.

Marlite is practical for any interior use. A wide selection of colors and patterns makes it ideal for bathrooms, kitchens, utility rooms, stores, hotels, service stations, institutions, hospitals, restaurants, theatres—or wherever permanent color and sparkle are desired.

Look up Marlite in Sweet's Builder's or Architect's File or in the Building Supply News Directory. Then look at Marlite. You'll see why you'll be proud of your Marlite installations.

Marlite is durable, but you'll have no trouble cutting and fitting it to the most exacting specifications. Complete installation instructions included in every shipment.

The cost of materials for a complete Marlite installation has increased less than 15% since 1940. That's why Marlite means added value for your customers... added profits for you!
How to Prefabricate Outlet Box Holders

A SHORT CUT and time saver for electricians is suggested by BERNIE L. STOKES, Wheatridge, Colo.
Outlet boxes are nailed to wood blocks, which in turn are secured to studs or ceiling joists. This method while being a short cut and time saver, also forms a solid base for the outlet.

All blocks are cut from scrap 2 x 4 inch material found on the job. The assembling of block and outlet box can be completed on job or in spare time around the shop.

How to Toe-Nail Boards

BATESSELL MOORE, Waco, Texas, submits this simple yet very practical idea.

Get our Book "100 FIREPLACE IDEAS," beautifully illustrated — FREE

PRICE FIREPLACE HEATER & TANK CORP.
83 AUSTIN STREET • • • BUFFALO 7, N. Y.
"Huttig of Muscatine" wood windows are built to "Modular Standards" in a wide range of smartly styled types and sizes suitable for all classes of architecture and construction. They are made of selected PONDEROSA PINE which provides extra insulation and are ROT-PROOFED WITH HUTTIG'S OWN SPECIAL WATER-REPELLENT WOOD PRESERVING TOXIC SOLUTION which gives protection against rainy weather, high humidity, black mould, blue stain, termites, fungus and other forms of decay and prevents EXCESSIVE SWELLING, SHRINKING OR WARPING. This "chemical treat" also serves as a priming coat and reduces painting costs. The original and genuine "Huttig of Muscatine" window is guaranteed for 25 years and has two trade marks (shown below) electrically branded on each stile.

HUTTIG MANUFACTURING CO.
BOX "A"
MUSCATINE, IOWA
How to Make an Adjustable Hole Cutter for Sheetrock

THIS IDEA for a cutter is submitted by HERBERT E. FEY, New Braunfels, Texas.

A piece of flat metal is cut to shape and bent with the pointed end sharpened for cutting. A common bolt is filed or ground to a point at one end, while the other is tapered or flattened to engage the drill chuck.

One nut is threaded on the bolt. The cutter is held in position by the second nut. Adjust both nuts so that the cutting point of the metal piece is slightly higher than the point of the tapered bolt end.

How to Make a V-Joint Groover

J. G. CALDWELL, San Mateo, Calif., puts the handle of an old electric iron to practical use.

This tool is used to make V joints in the laying up of brickwork. Remove old handle from ironer, weld it to a piece of 3/8 x 3/8 inch angle iron.

(Continued to page 220)
first name in cylindrical locks

Saturn Design illustrated above was used in a dull chrome finish for Cincinnati's Terrace Plaza Hotel...
a Schlage installation of heavy-duty cylindrical locks.
Architects, Skidmore, Owings & Merrill
Stanley W8 is a heavy-duty power saw that handles as easily as a hand saw. Gives machine-perfect accuracy on all kinds of tough jobs... compound angles, stair stringers, floor joists, flooring.

Duplex handle with two switch triggers for convenient handling in any position. Simple wing nut adjustment for depth of cut. Safety guard covers cutting edge at all times. Motor and arbor mounted on sealed ball bearings. Tilting base permits bevel cuts up to 21° at 45°. Capacity on straight cuts, 0 to 23/4". Operates on AC or DC.

See these Stanley Electric Tools at your industrial distributor’s. Stanley Electric Tools, New Britain, Conn.

**How to Set Iron Posts In Concrete Steps**

A UNIQUE method for setting iron posts is submitted for consideration by J. G. CALDWELL, San Mateo, Calif.

Old bottles are set in the soft concrete of steps and pushed down one inch below the surface of the steps. This enables the cement finisher to trowel off the steps without interference.

When iron rail is to be set, the workman taps the step—the bottle breaks, and then it is an easy task to set the posts and grout them in.

**How to Avoid Injury To Roof Surface**

SIMPLE, yet effective, is this suggestion from JOHN H. WOOLHOUSE, Norwood, R. I.

Casters secured to one end of both rails make it easy to shove a ladder up over shingles without injury to the surface. When the ridge of the roof has been reached, turn ladder over. Secure it by means of an iron hook fastened to the two top rungs.

(Continued from page 218)

(Continued to page 222)
It sells her on the house!

...A LOW-COST DISHWASHER for LOW-COST HOMES!

New

MANVILLE

DISHMASTER

Put this quality “salesman” to work selling homes in your present development. See how the housewife “ohhhs” and “aahhs” over its work-saving operation which eliminates “dishpan hands”.

The handsome chrome faucet unit becomes a dishwasher at will.

Suds flow through the nylon brush, giving fast, sanitary scrubbing of dishes. Instant switch to clear rinse water.

Manville DISHMINDER adds the modern touch to any kitchen. It’s not a gadget, but a permanent fixture manufactured to highest standards. Fully guaranteed.

Simple faucet type installation. Choice of wall or table types to fit any sink. Available at jobbers and dealers. Retail price is only $39.50

Demonstrated at NAHB Convention Feb. 20-24, Stevens Hotel, Chicago

Gerity-Michigan

CORPORATION

Adrian, Michigan
How to Make a Gauge for Leveling Furniture Legs

A PRACTICAL suggestion offered by MORRIS A. HALL, White Plains, N. Y.

Adjusting the legs of tables and chairs of equal lengths can be done easily by using a cardboard tube of proper size to permit it to slip over the leg of the table or chair. Cut this tube exactly to length with care, then mark all four legs using tube as a gauge. Cut off bottom of legs.

For full particulars, write by HERBERT E. FEY, New Braunfels, Texas.
Give your clients

3 WAY SERVICE
FROM 1 UNIT

- COMFORT HEATING
  1 With Forced Hot Water

- DISHWASHER, LAUNDRY
  2 High Temperature Hot Water

- SHOWER, LAVATORY
  3 Moderate Temperature Hot Water

Your clients get three separate supplies of domestic hot water... each at the right temperature... from a single Janitrol unit.

FOR COMFORT HEATING: The Janitrol system is a complete factory tested package. When used with modern convector radiators, the temperature of each room is individually controlled. Extreme compactness makes its use in utility room, closet or adjoining garage, just as practical as a conventional basement installation.

Installations are not confined to new, single houses, for, this new Janitrol system provides ideal 3-way service for apartments, stores, motels...all kinds of old and new commercial buildings.

Hundreds of Janitrol Triple Service Units have also been installed for radiant panel heating in both floor and ceiling applications, they are particularly well suited for rambling, one floor, ranch style houses.

You'll find this Janitrol system gives more design freedom for more usable room sizes and arrangements.

DOMESTIC HOT WATER SUPPLIES: The single Janitrol unit also provides a plentiful supply of high temperature water for automatic laundry and dishwashing, and a more temperate hot water for family use.

This proven Janitrol system, gas, oil or LP-Gas-fired, is only installed by authorized and thoroughly experienced Janitrol dealers... your double assurance of securing long-lasting heating comfort and a dependable hot water supply for your clients.
This WINDOW IS GOING TO TRAVEL ITS 1/4 MILE...

Every Year!

Because it’s equipped with a Getty No. 4715 wood Casement Operator. There’ll be no jammed channels, no broken teeth, no stripped threads. Day in, day out, Getty operators will give “good mileage” quietly, efficiently—and at minimum cost. Inherently correct design, using the worm-and-gear angle drive principle, and accurate, sturdy construction, using the right materials in the right places, assure years of trouble-free positive casement control at all times. Getty operators are built for a lifetime of service...and here are six down-to-earth reasons why they are the choice of architects, builders, contractors and home owners for wood casements everywhere.

- Arm is 5/32" cold rolled steel, cadmium plated, with teeth accurately machine ground (hobbed) at exact operating angle.
- Full ½" diameter case-hardened steel worm. Shaft is integral with worm.
- Solid brass bushing acts as a bearing for worm shaft; threaded in housing; cannot back-out under pressure.
- Arm pivots on 3/8" case-hardened bearing-stud shoulder.
- Solid brass arm button is locked in channel.
- Heavy-gauge channel guide (brass or steel) has 3 point anchorage on window.

Getty manufactures operators for all types of casements for both wood and metal. Also a complete line of high-quality accessory hardware for casement windows.

WRITE FOR DESCRIPTIVE LITERATURE

H. S. GETHY & CO., INC.
3348 N. 10th ST., PHILADELPHIA 40, PA.
Are a Favorite with Builders and Architects

WINDOWS WOMEN WANT. Four million in use. Nationally advertised R-O+W Windows have all these features: Removable for washing, painting, ventilation; no cords, no weights, no pulleys; more light from narrow mullions.

DELIVERED COMPLETE to your construction job as pre-fit, weatherstripped units. Keeps on-the-job labor costs at a minimum. One of 43 R-O+W manufacturers is near you to insure prompt delivery, efficient service, and low freight expense.

See your local building materials dealer or write R-O+W Sales Company, Royal Oak, Michigan.

TYPICAL CONSTRUCTION DETAILS

Methods of Roof Deck Construction and Repair

Here are instructions supplied by experts that will aid the builder in obtaining weatherproof roofing.

A ROOF DECK is to a roof as a foundation is to an entire house. A house with a poor foundation is a house that is going to cause trouble. In the same sense, a roof which has been applied over an unsound deck will not be the best roof, no matter how excellent the roofing material itself is.

That belief is axiomatic to the Asphalt Roofing Industry Bureau which has specified the best methods of asphalt roof construction in all its phases. For full life and service from roofing, the correct type of roofing must be selected for each job, and it must be properly applied over a properly constructed deck.

If the deck is not rigid, the sheathing can move slightly and disturb the lay of the roofing material. Green or poorly seasoned deck lumber can warp and cause cocking of the shingle tabs or wrinkling and buckling of roll roofing.

An effect similar to that produced by green lumber frequently results when the attic space under the roof deck is not adequately ventilated. Ventilation is particularly necessary during cold weather construction, especially when the interior of the house is being plastered or when plaster is drying.

Circulation of air is needed to remove moisture-laden air from the building, thus decreasing the possibility of condensation on the under-side of the roof deck or within the sheathing.

Adequate circulation of air also will help prevent warping of deck sheathing after a building has been constructed and is in use. Louvered openings should be constructed, usually under the eaves in the gable ends. Louvers should have a total effective area of ½ square inch for each square foot of attic floor space.

The first step in construction of a wood deck for asphalt roofing is to choose fully seasoned tongue and groove sheathing or shiplap in narrow or medium widths. Wider boards sometimes will shrink enough to buckle any flexible roofing fastened to them. Badly warped boards or those containing excessively resinous areas or loose knots should be rejected.

Sheathing should be tightly matched, then fastened to each supporting rafter with two 8d nails, one through the face of the board and the other through the edge. If excessively resinous areas are noted in the deck after the boards have been nailed, cover them with sheet metal patches before the roofing is applied. Galvanized iron, painted tin, zinc or copper approximately 26 gauge, is good for this purpose.

The completed deck should be protected from dampness by an under-layer of asphalt saturated felt, not heavier than 15 pounds per square.

(Continued to page 228)
The All-New 1949 Pureaire

- In Washington's beautiful new DuPont Plaza Apartment Hotel... 328 of these gleaming Pureaire Kitchens have been installed by Alvin L. Aubinoe, prominent Eastern builder.

Why? Because Pureaire is only 48 inches wide—a complete kitchen that takes only 8 square feet of expensive floor space ... a great saving in Per-Unit Cost!

And because—the less per-unit cost, the more income per dollar invested ... Maximum rent from minimum space!

Then add this exclusive feature—Pureaire's patented ventilation whisks out cooking odors and heat... makes apartments cooler... more pleasant!

Let us show you how others have used Pureaire Kitchens so successfully during the past 20 years... pictures of typical installations in apartments, multiple housing units, motels, homes and institutions... typical floor plans... specifications.

Appliance Division
PARSONS CORPORATION  •  TRAVERSE CITY, MICHIGAN

See Us at Chicago
Drop in on us and see the All-New Pureaire, Exhibits 11, National Home Builders Show, Feb. 20-24 at The Stevens.
Clients will thank you in August if you remind them now to include Emerson-Electric "breeze-conditioning" in their building plans. Savings up to one-half on attic fan installation costs are easily effected during building operations, as compared to alterations necessary after erection. An Emerson-Electric Attic Fan quickly exhausts hot, stagnant air... replaces it with cool night air drawn in through open windows and doors in the living quarters. Indoor temperature is lowered to approximately that of outdoors, with continuous air circulation that gives "sleeping-porch comfort" throughout the house. You assure your clients a premium in long, trouble-free service when you specify Emerson-Electric... pioneers and leaders in fan equipment for 58 years. Write for free Cooler Fan Bulletin No. B-43.

SPECIFY EMERSON-ELECTRIC KITCHEN FANS

Please her with a Kitchen Ventilator Fan... to whisk away smoke and cooking odors, prevent spread of greasy vapors to walls and drapes. Easy to install in any construction. Models for wall or ceiling installation.

THE EMERSON ELECTRIC MFG. CO. • ST. LOUIS 21, MO.

American Builder, February 1949.

Roof Deck Construction
(Continued from page 226)

Only as much decking should be laid in a day as can be covered with the felt. Coated roll roofings should not be used for this underlay- ment because they act as vapor barriers and under certain conditions might cause an accumulation of moisture or frost between the deck and the underlayment.

Plywood decks should be at least ½ inch thick and either three or five ply. Maximum center spacing between supporting members should be 24 inches. Units of plywood should be applied so that the outer ply runs at right angles to supporting members. Edge and end joints should be tightly fitted together and end joints in adjacent courses should be staggered. Units should be fastened to rafters with 6d nails at 6-inch intervals or closer. Eaves, rakes, ridges and other openings through the deck should be designed in such a way that the plywood will not be exposed to the weather either on surface or edge.

When reroofing is planned, a choice must be made between removing the old roofing or allowing it to remain. Generally it will not be necessary to remove old asphalt shingles, old roll roofing or old wood shingles, provided these two conditions exist:

1—Strength of the existing deck and framing is adequate to support the weight of workers and additional new roofing, as well as usual snow and wind loads.

2—The deck is sound and will provide good anchorage for nails used in applying new roofing.

Old Roofing Remains in Place

If inspection of a roof covered with old wood shingles indicates the shingles need not be removed before reroofing, the old surface must be prepared by:

1—Removing all loose and protruding nails and renailling with nails in different places.

2—Nailing down all loose shingles.

3—Splitting all badly curled or warped shingles and nailing down the segments.

4—Replacing missing shingles with new ones.

5—In areas where high winds can be expected shingles at eaves and rakes should be cut back far enough to allow the application of wood strips 4 to 6 inches wide and 1 inch thick. Nail the strips firmly in place, allowing their outside edges to project beyond the edges of the deck as far as the wood shingles originally projected.

(Continued to page 230)
Resolve now to increase your sales this year with KO-Z-AIRE, America's finest ... and most complete line of home conditioning units. They assure satisfied customers because of clean, completely automatic heat—the best in carefree comfort. They assure you a full year of big, easy profits. Make KO-Z-AIRE your line for '49 . . . and a prosperous new year to you!

Easy to Sell!
Easy to Install!

There's a KO-Z-AIRE for any size structure—small, medium or large. Smaller units come factory-assembled, ready to install.

MAIL THIS COUPON NOW!

JONES & BROWN, INC.
439 SIXTH AVENUE • PITTSBURGH 19, PA.
1. Complete form for the masonry

2. Saves time, labor and materials

The Heatilator comes to you as a complete steel unit. The smoke dome, throat, downdraft shelf and damper are all built right in. You simply set the Heatilator unit in position, then lay your masonry around it. You don't have to figure out the proper size and proportions of your fireplace. When you use the Heatilator unit, your fireplace is bound to be right!

- Heatilator Fireplace Circulates Heat
- Will Not Smoke

These two features alone, even if there were no others, make the Heatilator Fireplace outstanding. This is why more builders and home owners prefer the Heatilator Fireplace. It's been proved for more than 21 years in thousands of homes, cottages and camps.

You save money on your fireplace with Heatilator

HEATILATOR, INC.
350 E. Brighton Ave., Syracuse, N. Y.

*Heatilator is the registered trademark of Heatilator, Inc.

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Roof Deck Construction (Continued from page 228)

6—For best service, "backer board" should be applied over the wood shingles or bevelled wood "leathering strips" should be placed along the butt of each course of old shingles.

If any old asphalt shingles are to remain in place, nail down or cut away all loose, curled or lifted shingles, remove all loose and protruding nails, remove all badly worn edging strips and replace with new ones. Sweep the roof surface clean just before applying the new roofing.

New Roofing Over Old Roll Roof

When new asphalt roofing is to be laid over old roll roofing, the procedure is:

1—Slit all buckled sections of the old roofing and nail segments down smoothly.

2—Remove all loose and protruding nails.

3—If any of the old roofing has been torn away, examine exposed sections of the deck for loose or pitchy knots and excessively resinous areas. Defects such as these should be covered with sheet metal patches made from galvanized iron, painted tin, zinc, or copper, approximately 26 gauge.

Old Roofing Removed

Old roofing, regardless of its type, must be removed if the deck under it will not furnish adequate anchorage for new roofing nails or if the framing supporting the deck is not strong enough to support the total weight of old roofing, new roofing and workers during application. In either of those cases, steps in preparation of old deck are:

1—Repair the deck framing if necessary to strengthen or level the deck.

2—Remove all rotted or warped old sheathing (delaminated units in the case of a plywood deck) and replace with new sheathing of the same kind.

3—Fill in spaces between boards with securely nailed wood strips of the same thickness as the old deck, or move existing sheathing together and sheath the remainder of the deck.

4—Pull all loose or protruding nails and renaill the sheathing firmly, not through the old nail holes.

5—Cover all large cracks, slivers, knot holes, loose or pitchy knots and excessively resinous areas with sheet metal patches securely nailed to the sheathing.

6—Just before applying the new roofing, sweep the deck clean of loose debris.
DESIGNED TO PLEASE...

THE NEW
Norge
B-649
REFRIGERATOR

The Norge is planned to complement the best efforts of architects and builders everywhere...a dependable refrigerator backed by one of the soundest reputations in the industry. Twenty-two years of manufacturing experience have gone into the production of this special space-saving, money-saving model, engineered to provide 50% more refrigerated storage space in the same floor space as a prewar Four! For full information and complete specifications, you are invited to write Norge Division, Borg-Warner Corporation, 670 E. Woodbridge, Detroit 26, Michigan.

SMOOTH-FLOWING SYMMETRY OF DESIGN

- COMPACT, SPACE-SAVING ARRANGEMENTS
- STYLISH, MODERN BEAUTY
- ECONOMICAL, EFFICIENT OPERATION

A BORG-WARNER INDUSTRY
Refrigerators • Electric Ranges • Gas Ranges
Electric Water Heaters • Washers • Home Heaters
Water Coolers • Home Freezers

SEE NORGE BEFORE YOU BUY
Research Develops New Gypsum Products

By Lloyd H. Yeager
Gypsum Association

AN ENORMOUS demand for the products of an industry very often serves to de-emphasize the necessity for research and development. This is not true of the gypsum industry for never in its history has there been such a backlog of fully researched and developed products to be released when pro-
ductive capacity permits. These products are not developed overnight for after they have emerged from the exhaustive laboratory development and tests, they are subjected to controlled field studies; then released for a period of time in a very limited area where detailed observations are made for an extended period, often as much as five years, to determine its value for unlimited distribution. At least four products have gone through such a cycle and have been produced in sufficient quantities to show their real value to the building industry—

Water-repellent gypsum sheathing has been used in limited quantities and in all climates for several years. Not only is the paper covering made water-repellent but the structural gypsum core has been integrally treated to make it highly resistant to water absorption. Thus, gypsum sheathing, while made essentially from rock, will actually float in water. On many large projects it has been stockpiled outside the building without special protection against rain.

Its large sheets (2x8 feet) are quickly erected and the tongues and grooves on the longitudinal edges make a tight, strong wall. Its bracing strength complies with building code requirements. It can be cut with an ordinary saw or scored on the face, snapped backward to break the core and snapped again to break the paper on the opposite side—in less time than required to relate. Several excellent fasteners have been developed for the attachment of wood shingles, asbestos products, etc., directly to the gypsum sheathing without furring. And it is fire-proof; a wall of gypsum sheathing and wood siding with perforated gypsum lath and plaster on the interior is one-hour fire-resistant.

(Continued to page 234)
BRADLEY MAKING RAPID COME-BACK
FROM JANUARY 3rd TORNADO!

PLANT DAMAGE LESS THAN FIRST THOUGHT

This air view, taken since the storm, effectively refutes exaggerated reports that the entire plant had been "leveled." Many vital buildings escaped, including planing mill, flooring plant, storage sheds, etc. (center foreground); hardwood lumber yard (top center), containing several million feet, escaped as did the office.

It is gratifying to announce to the trade that removal of debris has revealed key power plant and production machinery units less damaged than expected.

Starting with first things first, restoration of the power plant is well along. With this completed, each successive department of production will resume as rapidly as repairs can be made. As matters now stand, normal operations should be possible substantially sooner than indicated in our bulletin of January 6, particularly since our planing mill and hardwood flooring plant were not damaged.

With an electric power hook-up from the outside, production at the pre-finished hardwood flooring department has been resumed, so that SHIPMENTS OF PRE-FINISHED HARDWOOD FLOORING ARE ALREADY BEING MADE

Bradley Brand will continue to supply our customers with premium quality for which it has long been known and identified by its famous red trade-mark as the

STANDARD OF COMPARISON

BRADLEY LUMBER COMPANY of Arkansas
WARREN, ARKANSAS
You Builders of
LIGHT CONSTRUCTION-

STORES AND SUPER MARKETS, GARAGES, SERVICE STATIONS, APARTMENT BUILDINGS AND DWELLINGS, WAREHOUSES AND INDUSTRIAL EXPANSION JOBS

MACOMBER

can help you complete your jobs faster with Factory-Made structural load bearing units.

Get your jobs scheduled now for Spring delivery

ROOF TRUSSES for your Garage, School Addition, Recreation Center, Super Market or Plant Addition. Complete detail information. ROOF TRUSS CATALOG.

LONGSPANS for Floor or Roof Support out to 72' spans. Parallel or Sloping chords for level or drainage conditions. Send for LONGSPAN Catalog.

STEEL JOISTS for any apartment, home or commercial job. Quickly placed, easier plumbing and electrical installations. Write for JOIST Catalog.

Forward drawings for quotation and delivery estimates. MACOMBER is the kind of an outfit that will work with you. Let's get acquainted.

New Gypsum Products
(Continued from page 232)

Lightweight aggregates are being used by several manufacturers to produce a lightweight, ready prepared plaster with minimal resistance to fire. These plasters require the addition of only water at the job site, thus permitting very accurate control of the aggregate with respect to quantity and particle sizings. They are applied in the usual manner.

The use of these lightweight aggregates, vermiculite or perlite, reduce the deadload weight of ordinary plaster by as much as 65 per cent, extremely important in multistory construction. By carefully controlled mill processing, the strength of these plasters are made to approximate the strength of well prepared sanded plasters. Used principally in steel frame construction, these lightweight aggregates with gypsum plaster have been used on ceilings of bar joist floor construction to qualify under building code requirements for three-hour fire-resistance. Similarly columns are fire-proofed for four-hour fire-resistance. These aggregates are gaining in popularity particularly in the larger metropolitan areas where multistory construction is advantageous.

The subject of vapor transmission is not generally understood by the building industry but has received considerable study by the Federal Housing Administration in Washington with appropriate directives and recommendations to their various district offices. They recognize that with normal humidity within a home in our colder climates, condensation within the walls and ceilings is generally unavoidable unless an appropriate barrier is placed on the warm side of the wall. Waterproof papers are inadequate because the vapor within the room is a gas and would readily permeate and pass through such papers; therefore, a highly rated vapor barrier is recommended.

One of the important developments within the gypsum industry is the technique of applying aluminum foil to the back side of gypsum wallboard and gypsum lath. Aluminum foil is recognized as the best of the commercial vapor barriers and when used on the warm side of the studs, it stops the vapor transmission before it reaches the cold side of the wall and at the same time, provides insulation equivalent to a one-half inch thick-
RADIANT FLOOR PANEL HEATING plus FILTERED CIRCULATING WARM-AIR

Both in one unit - At less than the cost of conventional heating!

The INTERNATIONAL WARM-AIR AUTOMATIC OIL or GAS FURNACE

FOR RANCH-TYPE or BASEMENTLESS HOMES...

A truly great advance in modern heating engineering—that really overcomes the basic problems of home heating. Underfloor ducts eliminate cold floors and chilly walls... Base register banishes cold air cascading down windows... Elimination of air stratification assures uniform temperatures at all levels. Low cost installation — economical operation.

Send for literature giving details and typical layouts.

See it in Booths 55 and 56 At the National Home Builders Exposition, Chicago

INTERNATIONAL OIL BURNER CO.
Park & Spring Aves. St. Louis 10, Mo.

(Distributors—Some protected territories still open—Inquire)
New Gypsum Products

(Continued from page 234)

ness of fiber insulation board. Thus it serves a dual purpose and many builders are finding that FHA requirements for thermal conductivity may be satisfied throughout most of the country without the use of insulation other than that which is provided by the use of aluminum foil. Generally the double requirements of FHA for vapor control and insulation are met with an expenditure which usually does not exceed 2 cents per square foot of exterior wall and top floor ceiling surface.

In designing for the proper control of vapor, the builder should be reminded that the exterior of the wall must be relatively permeable to vapor, thus making difficult the entrance of vapor into the wall space and at the same time facilitating the passage of the vapor through the exterior. In other words, materials of low permeability should be used on the exterior. Glossy papers are usually vapor-resistant and their use on exteriors should be avoided.

NATIONAL HOME BUILDERS SHOW
STEVENS HOTEL
CHICAGO • Feb. 20-24

BOOTH 59

You are cordially invited to visit the Jackson Booth for a demonstration of the many outstanding features of this new machine.

- 70 second operation!
- Exclusive Double Revolving Sprays!
- Wash water recirculated by pump system!
- Easily installed!
- Fits beautifully in every type kitchen!

See for yourself why more and more builders are installing the new Jackson Home Dishwasher. Inspect the many features that make dishwashing easier, faster and more economical than ever before!

Jackson Home Dishwashers are backed by 24 years' experience in the dishwashing field—your guarantee of dependability and proven efficiency. Install the new Jackson Dishwasher—a powerful selling point for the homes you build.

WRITE TODAY for literature and complete information.

THE JACKSON DISHWASHER CO.
3703 East 93rd St. Cleveland 5, Ohio
Dishwashing Specialists Since 1925

New Siding Plant Opened

ON JANUARY 1, the Insulite Div. of Minnesota and Ontario Paper Co. commenced the production of insulating siding at a new plant at Elizabeth, N.J., it was revealed by D. D. Davis, president.
Now, there's a way to help stretch precious working hours and slash your wiring costs, without sacrificing quality—General Electric PVX® nonmetallic sheathed cable.

Look at these features and you can easily see why PVX has fast become standard almost everywhere for open and concealed work. More and more cost-conscious builders are discovering that General Electric PVX goes in fast—gives a neat, dependable job:

- **SPACE-SAVING**—Easy to handle—requires small holes and little installation space.
- **LIGHTWEIGHT**—Makes handling easy during installation.
- **EASY TO STRIP**—Crushed-paper armor on individual conductors is easy to remove—thermoplastic insulation strips freely, leaves a clean conductor for connection.

To get the rest of the facts on PVX and the other products in the General Electric wire and cable line, send for a free copy of the 42-page booklet Building Wires, Cables, and Cords for every purpose. Address Section W21-22, Construction Materials Department, General Electric Company, Bridgeport 2, Connecticut.
Tri-Level Homes are available price-wise in three stages of construction. Precision manufactured in panelized form for sturdy construction and fast erection under U.S. Copyright protection, Tri-Level Homes are exclusive with Lumber Fabricators, Inc. Featuring seven generously sized rooms the Tri-Level provides 3 bedrooms for the price of 2 with a dining room free...a Utility Recreation Room without basement cost...and many large closet and storage spaces.

LUMBER FABRICATORS, INC., 728 Fisher Bldg., Dept. 2, Mich., Dept. A

Please send me complete information on how I can use LFI to offer better homes at lower prices with more profit to me.

NAME...

COMPANY...

ADDRESS...

CITY & ZONE...

STATE...

Copyright 1940, Lumber Fabricators Inc.

See LFI models in Booth 193 at Nat'l Assn. of Home Builders' Show Chicago, Feb. 20 to 24.

NPDA Expresses Optimism On 1949 Building Outlook

GENERAL OPTIMISM for building in 1949 expressed by the National Plywood Distributors Association at their Winter Round Table Meeting, Edgewater Beach Hotel, Chicago.

While they believed the demand for higher-cost homes may not be as great in 1949 as it was in 1948, Association members at the meeting believed that there would be an increasing and sustained demand for lower-cost homes.
"American Colonial" — the Beautiful Asbestos Shingle that's EASY TO APPLY

Each American Colonial is a rigid asbestos strip which can be applied by any carpenter. No chalk lines or measuring necessary. Large size speeds application.

Bundles weigh about the same as asphalt strips. Use only 80 pieces per square... only 4 nails per shingle in pre-punched holes. American Colonial meets the construction standards of Industry-Engineered homes.

Distinctively beautiful, wins instant approval. Blends perfectly with any style architecture. Has slightly staggered horizontal shadow lines and deep-grained texture. Available in several pleasing colors.

Fireproof, rotproof, weatherproof, thousands of J-M Asbestos Shingles have been in service over 35 years. No signs they won't last another 35 years or more. Write us for free brochure No. AS-85A. Johns-Manville, Box 290, New York 16, N. Y.
Cabot's Stain Wax is quick and easy to use... with one application produces a soft, lustrous, easy-to-clean finish... available in a variety of attractive light shades including grays and white.

Development builders use Cabot's Stain Wax because it gives interior woodwork many unique and attractive effects... because it costs less and is quicker to apply than paint... because its clean, modern appearance appeals to today's home buyer.

Write for complete information and color card. Samuel Cabot, Inc., 224 Oliver Building, Boston 9, Massachusetts.

CABOT'S STAIN WAX

Art in Iron

Artcraft produces the finest, most exacting custom-made ornamental iron work from specifications at amazingly low cost. This is in addition to our regular, low-priced, stock ornamental work. Write today for more information, or send specifications direct.

Delivery: Two weeks for custom work: Immediate delivery for stock items.

Terms: Payment with order or C.O.D.

Artcraft Ornamental Iron Co.
710 E. Hudson Street, Columbus 11, Ohio

Send me FREE by return mail my copy of your new 40-page catalogue titled "ART in IRON."

NAME
ADDRESS
CITY
STATE
OCCUPATION

FREE:

New 40-page catalog "ART IN IRON" showing Artcraft's talent in aviation and architectural metalwork. With specifications for use as a basis or fill in attached coupon and mail today.

American Builder, February 1949.

Architect's Office Model of Design

HERE IS an office idea that is practical for both architects and builders, by Norman R. Johnson, architect, St. Paul, Minn. It is centrally located in the area where he works. Its sub-

ABOVE: Exterior view of architect's office and interior of well-lighted drafting room. Plan below shows basic arrangement of facilities inside compact building.

Urban atmosphere conforms with the nature of his work.

Some of the advantages of his office to Johnson are:

He has avoided any parking problems. Clients do not have to park several blocks away, as they might if he were located downtown. Besides being attractive and conforming to the distinctness of his work, the office is spacious, modern—and what is most important—it was inexpensive to build.

FLOOR PLAN

20'-0'

50'-0'

OFFICE

CABINET

CABINET

PLANT

PLANT

HEATER

TOILET

ROOM

Plywood Top

Plywood Top

Plywood Top

Floor plan
Pitcco De Luxe Sill-Sash Combination

modern...versatile...easy to install

The new Pitcco De Luxe sill-sash combination gives the appearance of a single moulding combining the functions of sill and sash. Actually sill and sash are separate members designed to be used together in certain modern store fronts which require such a stylized assembly.

“Pittsburgh” research...aimed to help solve architectural and building problems encountered in the field...indicated the advisability of this type of construction. Sill and sash, being separate members, are installed separately. Thus the hazards of glass breakage are reduced to a minimum. Experience in the field also dictated the design which recesses the Carrara Structural Glass bulkhead, providing toe room and protection.

The sill of this new versatile combination is invertible. (See cross-sections.) It is shown above with Sash 12-A, but it may be combined effectively with any of the sashes in the Pitcco De Luxe line. Setting procedures for all Pitcco De Luxe members are so simple that a substantial saving in setting time is usually effected.

“Pittsburgh” technicians at every warehouse will gladly advise on the proper erection of rough work to receive “Pittsburgh” products. And you’ll find that experienced “Pittsburgh” workmen set glass and metal with speed and skill.

PITTCO STORE FRONT METAL
PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS
The Allmetal Weatherstrip Company, manufacturers of quality weatherstrip equipment since 1915, announces a NEW and SUPERIOR patented Sash Balance and Weatherstrip Unit. Details are shown below.

Here are the features...

1. Balancing equipment for double-hung sash has always emphasized sash suspension. The Allmetal Unit is engineered to counter-balance sash in two ways; with coil spring tension to overcome gravity and metal housing tension to provide stability. Note that the tubular housing which covers the spring is a free-moving member. Under easy compression in the sash groove it offers maximum surface contact with the wood yet maintains free vertical movement.

2. Spring is enclosed and invisible. Effective weather protection for the runways is assured with flexible hemmed side rib.


4. Tubular housing encloses spring.

Seals runway and weathers both sash vertically. Adopts simple frames to the best construction practice at less cost. Easy installation and feather-light control. Correlates complete balance weatherstrip.

Tubular housing encloses spring.

A picture window in the living room adds to the attractiveness of this model summer cottage. The interior is partitioned off into four rooms with plasterboard on one side leaving the other side to be finished later. The cottage has no ceiling. This also can be done at some later date.

Each summer cottage, built by Allen Properties, Inc., is wired, and the plumbing is completely installed in the cellar; so when the purchaser wants to install a bath or shower, it is a simple operation to set them up. Every house is equipped with a well and a hand pressure pump in the cellar, a sink in the kitchen and toilet in the bathroom. A chimney is built in, also in anticipation of a furnace.

Allen Properties, Inc., are building these under the new Title 1 regulation of the FHA permitting 15-year mortgages at 4½ per cent on resort homes.

The model house was built by Dilucian to illustrate the type of cottage that may be produced at $3,700 including a $700 payment for the lot.

After that payment, the house may be carried for low monthly installments under FHA insured financing.

LOW COST
Summer Cottage

S. Dilucian, president of the Allen Properties, Inc., has built a model house 22x26 on a lot 60x100. It has a full basement made of concrete blocks. The basement is not floored. The exterior is novelty siding with Johns-Manville asphalt shingle on the roof.

American Builder, February 1949.
"THREE GOOD REASONS FOR PRESDWOOD?"

That's easy!
1. Presdwood gives you quality construction without high cost
2. Presdwood permits speedy installation without fuss or muss
3. Presdwood provides durability without costly upkeep

There are many reasons for using time-proved Masonite Presdwood to build or remodel. In stores, shops, offices, in homes, clubs, hotels—just about everywhere—it offers broadened design possibilities.

Available in large, rigid panels of great strength and structural stability, Presdwood is grainless, hard and dense—won't split, crack, chip or dent. It can be bent in graceful curves. Its smooth surface takes finishes beautifully—and holds them.

Easily worked with carpenters' tools, Presdwood goes up quickly over existing walls or in new construction. On remodeling jobs, that means rapid completions without interrupting normal business operations. For all exterior applications and interiors subject to unusual wear or moisture conditions, Tempered Presdwood should be used. See our insert in Sweet's Architectural File.

Get Free Sample for Clients and Customers!

MASONITE CORPORATION, Dept. AB-2
111 W. Washington St., Chicago 2, Ill.

Please send me, without cost or obligation, a sample and interesting literature about Masonite Presdwood.

Name
Address
Cost Saving Techniques Help Produce Low-Cost Homes for Veterans

A FORT WORTH builder is quietly mass-producing low cost houses in volume for veterans while the nation heatedly debates the question. One-hundred-fifty of a two-hundred house project have been completed by the Farmer Construction Co. and are now veteran occupied.

The houses already sold were transferred to veterans for $4,975, with $175 down and $37.50 monthly payments. This price also covers the lot. Builders and developers the nation over have watched this project as one of the outstanding low-cost housing ventures in the country.

Of two bedrooms, kitchen and dinette combined, living room, bath, the homes contain 641 square feet of livable floor space, and have ample closet and storage provision. The houses are built on concrete foundation, and the floors are concrete with asphalt tile covering. The walls are of Texcrete, a lightweight masonry block manufactured in Fort Worth by blending Portland cement and haydite. Made by the Texcrete Co., the product is relatively new on the market, but has been put to use by builders and general contractors for homes, commercial buildings, churches, and other construction.

The homes were committed under Title VI, of Federal Housing Administration regulations at $4,400. This (Continued to page 246)
GLIDE-AWAY
made of N-A-X HIGH TENSILE STEEL

QUICK, EASY INSTALLATION ON ANY GARAGE!

Here is the full-recessing, overhead-type door with every advantage for dealers, builders and homeowners... famous "Glide-Away", the only garage door made of 100% High Tensile Steel. That means lifetime beauty because there'll be no dents or dings with normal use. "Glide-Away's" sturdy, one-piece welded construction means no troublesome warp... no weather leaks around door edges. Installation is simple as A-B-C and the door is up for keeps. With "Glide-Away", no valuable garage space is sacrificed. Standard sizes include the popular 8'6" x 7' door for wide, late model cars, in addition to 8' x 7', 8' x 7'6" and 8' x 8'. Double size: 16' x 7'. Special sizes are available up to 16' wide by 8' high. Prices are competitive. Dealer and distributor inquiries are invited.

See "Glide-Away" doors demonstrated in Booths 189 and 190 at the National Association of Home Builders' Show, February 20-24, Hotel Stevens, Chicago, Ill.
Cost Saving Techniques
(Continued from page 244)

means that a veteran could have pur-
chased one of the homes for $175
down and $37.50 a month, and a non-
veteran could have bought one of the
homes for $725 down and $32.50
monthly payments. One hundred
fifty houses are now occupied by vet-
erans, and the remaining 50 are being
occupied by both veterans and non-
veterans.

Marsh Farmer, general manager of
the Farmer Construction Co., has
produced an efficient organization to

On jobs like this—and many others
"Trouble Savers" pay big dividends
by saving time, labor and materials.
They provide safe working platforms
that give your men safe footing.
Made of rail steel, "Trouble Saver"
Scaffold Brackets are light, easy to
handle and extra strong. They’re
available in nail-attached, studding
and bolt-attached types.
Write for catalog of "Trouble
Saver" Equipment.

ONE of low-cost veterans homes built by
Farmers Construction Co., of Fort Worth,
Texas. Approved by FHA and Veterans
Administration, houses sold for $4,875
build the homes, and employs a num-er of cost saving devices. One of
the techniques which saves consider-
able cost and at the same time pro-
duces good construction is the man-
ner in which he builds exterior walls.
The Texcrete block is laid quickly
with bed joints only, leaving the ver-
tical joints unfilled. After the wall
has been built up, it is sprayed with
Jet-Crete about % inch. This tre-
ment also fills the vertical joint
The technique increases the prod-
tivity of block laying by approximat-
ely 30 per cent and blowing cement
plaster on the wall instead of stucco-
ing it by trowel creates another sav-
ing.

Exterior walls are finished with a
final coat of Oriental stucco, giving a
waterproof covering. On the interior
walls of a portion of the hous-
Farmer is using a thermal-acoustic
plastic recently developed by an Al-
buquerque, N. M., company

New Corporation Formed
UNIVERSAL-RUNDLE Corp., new
company formed to produce bathroom
and kitchen plumbing fixtures, is
merger of the Universal Sanitary
Manufacturing Co. of New Castle,
and Rundle Manufacturing Co. of
Milwaukee, Wis. Headquarters of the
new company is at New Castle.
HAR-VEY ROLLING-DOOR HARDWARE is now Completely Rustproof --and more silent than ever!

CHAMPION quality Har-Vey Hardware has scored a permanent victory over rust, for use of new oilite bearings has made it completely rustproof.

And with this new feature, Har-Vey Hardware rolls even more silently, even more smoothly than ever before!

Rolling doors save space, time and money--equipped with Har-Vey Hardware, they are simply installed and good for a lifetime of smooth, silent rolling.

Send today for folder showing varied uses & installation details of rolling doors & complete information on Har-Vey Hardware:

Address: Hardware Division H

Metal Products Corporation
807 N. W. 20th St. Miami, Florida

Please send me your free folder on rolling doors & Har-Vey Hardware

NAME__________________________________________________
COMPANY______________________________________________
STREET_________________________________________________
CITY_________________ STATE_____________________________

Frank Adam Electric Co.
ST. LOUIS 13, MO.

Makers of BUSDUCT • PANELBOARDS • SWITCHBOARDS • SERVICE EQUIPMENT • SAFETY SWITCHES • LOAD CENTERS • QUikhEter

THAT'S RIGHT! On harmless momentary overload, the thermal action maintains the circuit, BUT—when short circuits or dangerous overloads occur, the Thermal-Magnetic action of the THERMAG Circuit Breaker Load Center instantly and automatically opens the circuit and trips the circuit breaker handle to "off" position. Then, safely and conveniently, a simple flip of the handle to "on" position restores the circuit to normal operation. And there is nothing to replace!

For smaller capacity requirements, the new TYPE Junior Circuit Breaker Load Center provides automatic protection for small residences, garages, stores, etc.

For more information, consult an Electrical Contractor or your Representative (he's listed in Sweet's) or write for Bulletins No. 202 and 203.

FRANK ADAM ELECTRIC CO.
THE 1945 NAHB prize-winning home, presented in *American Builder* in January of that year, has recently been reproduced in Tulsa, Okla., by the M. W. Turner Co. Reproduction of this house is a reminder of the landmark set by the National Association of Home Builders in that year. It was the first time NAHB held a national convention and exposition, in which more forces than ever before in the industry's history were massed under one roof.

This house, originally designed by Edward G. Conrad, Cleveland, Ohio, architect, is as soundly designed and constructed as the NAHB organization. Materials, design, workmanship—all are products of individual ingenuity, enterprise and effort.

The NAHB has gone a long way toward the realization of many plans made in 1945, yet much remains to be done in the face-lifting of America's residential landscape. Plans made in this year's convention, can be realities tomorrow—just as this house design by Conrad is a reality today.

---

Master Woodworker...

THE OLD RELIABLE

Machine Constantly Improved


The Master Woodworker Manufacturing Co., Inc.

Since 1917

Fort & Brush Sts.

Detroit 26A, Michigan
INSIST ON "full-thick", fireproof
Gold Bond Rock Wool Batts!

FOR top insulation efficiency, always use Gold Bond Rock Wool Batts. They give your customers all three of the benefits insulation can and should provide.

1. FIREPROOF — as the rock from which it's made. Not just "fire-resistant", or "fire-retarding".

2. FULL-THICK — batts — not just 1 or 2 inches thick, but full-thick,— completely fill the walls, providing an effective fire-stop and top efficiency heat insulation.

3. EFFECTIVE VAPOR BARRIER — is part of the batt. Saves extra labor and expense of putting in separate vapor barriers (in some cases required by F.H.A.). Gold Bond Batts meet all requirements!

Play it safe! Always use the best!
Use Gold Bond Rock Wool Batts!

NATIONAL GYPSUM COMPANY
BUFFALO 2, NEW YORK

Over 150 Gold Bond Products including gypsum lath, plaster, lime, wallboards, gypsum sheathing, rock wood insulation, metal lath products and partition systems, wall paint and acoustical materials.

You'll build or remodel better with Gold Bond
EXTENSION
CORDS CAN "hang" YOU!

Don't let prospective buyers see the need for unsightly and dangerous extension cord entanglements, due to a lack of convenience outlets in your homes. These are the things on which a sale can hang—or they can hang you!

An adequately wired home sells readily at a good price, because home buyers nowadays have learned to look for Adequate Wiring.

An Adequate Wiring Certificate is your proof that each house you design and build has:

- Enough outlets, fixed lights and switches.
- Adequate electric service entrance equipment, fed by three ample size wires.
- Enough branch circuits and spares for present and future electrical needs.

Use the services of the local Adequate Wiring Bureau in preparing a complete Adequate Wiring layout and specification, before you put the electrical job out for bids. Get the wiring into the plans for better appraisal—a better loan!

If there is no Adequate Wiring Bureau in your community, write us or your local electric utility for information on how to take advantage of Adequate Wiring in the homes you build.

The Sign
of
the Times

ANOTHER with HOME
Adequate
Wiring
Certified

USE THIS COUPON if there is no Adequate Wiring Bureau in your area
National Adequate Wiring Bureau, Dept. AB-2
155 E. 44th Street, New York 17, N.Y.

Please send me, without charge, information on how to take advantage of Adequate Wiring as a sales feature.

NAME

TITLE

STREET ADDRESS

CITY

American Builder, February 1949.

Course in Home Building Offered by Trade School

A COURSE in the fundamentals of the home building business has been added to the curriculum of the Commercial Trades Institute, a Chicago trade school. It covers all phases of the home building business, including methods of construction, reading plans and specifications, letting contracts and sub-contracts and proper methods of financing and cost accounting. An important feature is a complete set of architectural plans and specifications for a modern six room house of Dutch Colonial design.

The course, consisting of 47 home study lessons, was prepared under the supervision of a builder. It has been examined and approved by the Chicago Metropolitan Home Builder's Association. Nathan Mainlow, president of the CMHBA, said, "Anyone considering the building business as a field of occupation will progress farther and faster if he acquires the basic knowledge of building principles and methods presented through this course." Mainlow further contends that such a course will attract a better informed, more serious and ambitious type of worker to the building field.

The course, the only one of its kind in the country, is available to veterans under the GI Bill of Rights. An illustrated brochure called "Your Future in the Building Business" explains its scope and the school's method of instruction.

Readers of American Builder may obtain a free copy by writing Commercial Trades Institute, 1400 Greenleaf Avenue, Chicago 26, Ill.

George Bain Cummings Elected to AIA Board

THE ELECTION by the board of directors of the American Institute of Architects of George Bain Cummings, Binghamton, N.Y., to the board is announced by Douglas W. Orr, of New Haven, Conn., A.I.A. president.

Cummings was named to fill the vacancy on the board caused by the death of William G. Kaehler, Rochester, N.Y. Cummings will serve as regional director for the New York district until 1949.

Long active in architectural circles, Cummings previously had served on the board of the national group in 1942. For his accomplishments in the service of his profession, he was honored in 1948 by the election as a Fellow of the Institute.

Cummings was graduated from the College of Architecture at Cornell University in 1912.
Nothing to It!

No, there's nothing TO IT if what you mean is that the simplicity of Dexter Tubular design is so elemental that nothing can gum up the works. And a good feature it is, too, for who wants a lot of hocus-pocus mystery in a piece of equipment that's used so continuously as a door latch! Folks never need look for a locksmith when their doors are Dexter Tubularized!

Of course, such simplicity doesn't just happen. The story of a Dexter Tubular is that the "inside" story is one of precise engineering, imparting to the mechanism a perfection that carries a lifetime warranty.

There's nothing simpler than a Dexter Tubular — and the simplest thing of all is the way it can be installed by any carpenter in less than six minutes — from scratch! Yes, six minutes and it's all done, from start to finish!

You're right — there's nothing to it! Makes the specifying of Dexter Tubulars mighty interesting and attractive, doesn't it!

NATIONAL BRASS COMPANY
Grand Rapids, Michigan
MAKERS OF BUILDERS, CABINET, SCREEN DOOR AND SHELF HARDWARE

In Canada: Dexter Lock Canada Ltd., Guelph, Ontario
Here's BUILT-IN Sales Appeal

Built-In Radio Installations in Kitchens, Bedrooms, Bath, Etc.

The Flush Wall Radio fits in perfectly with today's popular trend to built-in appliances and appointments in the modern home. Architects and builders find it gives that touch of individuality and charm which means added sales appeal.

And homeowners are enthusiastic about the Flush Wall Radio for it enables them to enjoy the convenience of several fine quality radios throughout the house—in kitchen, bathroom, bedrooms, study, recreation room, children's rooms—in addition to their large conventional living room radio.

**FLUSH WALL RADIO FEATURES:**
1. 5-tube AC-DC Super-heterodyne Licensed by RCA and Hazeltine.
2. Easy Installation — Comes with Steel Box, 6½" x 9½" x 3½" deep, which Goes Between Studding. As Easy to Install as an Electrical Receptacle Outlet.
4. Attractive Instrument Panel, 7 13/16" x 11-7/16", Catalin plastic panels available in Wide Choice of Colors to Harmonize with Room Decoration.
5. Approved by Underwriters' Laboratories for Built-in Installation.

Retail Price, Radio, Model SP $34.95
Panels Extra From $2.45 to $4.45

For MODERN, sanitary sewage disposal, the Johns-Manville Transite connection pipe meets every requirement of efficiency, durability and economy. Its ingenious coupling provides an exceptionally tight joint that guards against root growths and the infiltration of ground water, Its long 10-foot lengths assure simplified installation. And its asbestos-cement composition makes it exceptionally strong and corrosion-resistant.

It is easily connected to other kinds of pipe. It is inserted directly into the bells of tile lines or fittings, or it can...

(Continued to page 254)

BUILDERS TELL US
STYRON BRI★TILE
PLASTIC WALL TILE
SELLS NEW HOMES FASTER BECAUSE

- SIMPLE INSTALLATION
- BEAUTIFUL COLORS
- LUSTROUS FINISH
- WATER RESISTANCE
- LASTING QUALITY
- EASY CARE

Builders Write Direct for Information

**ACORN PLASTIC ENGINEERS, INC.**

170 Broadway
New York 7, N. Y.

Factory
561 East 18th St.
Erie, Pennsylvania
How to build more Sales-Appeal into your homes

All over the country, builders have proved that a few Glass Blocks in the homes they build make them much more attractive to prospective buyers...much easier to sell.

In bathrooms, kitchens, stairwells...around doorways, or at any "dark spot"—PC Glass Blocks admit floods of pure daylight—assure complete privacy. And since PC Glass Blocks are hollow, with a partial vacuum, or dead-air space inside, their insulating value is twice that of ordinary single-glazing.

PC Glass Blocks are easier to clean than windows, too. They require no upkeep, no painting, no storm sash. And they fit in with all styles of architecture—modern or traditional.

You, too, can get more sales-appeal into the homes you build by always making PC Glass Blocks a "must" in your plans. Meanwhile, send for your free copy of our booklet on the use of PC Glass Blocks in homes of all sizes and styles. There's no obligation.

SCREENS OR PARTITIONS of PC Glass Blocks establish a definite separation between rooms, yet "share the light" so there are no dark corners. Use panels like this for dinettes, pantries, bathrooms and countless other places in the home.
Here's new, breathtaking beauty for bathrooms

Crystalcrome

Accessories by

HALL-MACK

New in design...NEW in appearance...NEW in its conception of modern accessories for bathrooms—that is Hall-Mack Crystalcrome!

Crystalcrome combines the lasting brilliance of polished chrome on solid forged brass with the added beauty of crystal that is perfectly clear, jewel-like and unbreakable.

Whatever your designs or building requirements may be, Crystalcrome will bring new beauty to bathroom decoration. Moderately priced to cover a wide range of building needs, Crystalcrome is quickly and easily installed. It is an important new addition to the complete Hall-Mack line of bathroom accessories for every application from millionaire's mansion to modest cottage.

Crystalcrome is available in towel bars, soap dishes, paper holders, toothbrush and tumbler holders and other accessories—in designs never before achieved in bathroom equipment. Your copy of the Crystalcrome Catalog will be mailed without obligation on request—write for it today!

Hall-Mack Company
1344 West Washington Boulevard, Los Angeles 7, California
7455 Exchange Avenue, Chicago 49, Illinois

How to Install Transite
(Continued from page 252)

be connected to the spigot end of cast-iron soil pipe by using an adaptor. Where short sections are desired, Transite connection pipe can be cut with a hack saw or rip saw.

To install, the pipe is laid on a trench bottom, or on small mounds of earth placed at blocking points near the ends of the pipe, or it can be laid to grade on temporary wood blocks. After jointing and placing backfill under the pipe, the blocks are removed. Backfill, free of stone, is placed around the pipe and firmly tamped. The four steps required to assemble the coupling are illustrated below.

AFTER cleaning end of pipe and inside of coupling with dry cloth, apply primer to both the pipe and the coupling.

WIPE END of next length of pipe and apply primer; then insert this length with twisting motion into coupling.

PUSH coupling over pipe with twisting motion. Then using rod and block of wood, push coupling firmly into position.

GOING to other end of length, push it into place with rod and block of wood. Repeat procedure starting with step one.
Tens of thousands of Coroaire winter air conditioning units have been installed since the war. These units offer positive proof of greater efficiency and lower operating costs because of exclusive patented features. In four years, Coroaire has secured leadership of the industry.

The Coroaire Console is engineered and designed to completely and automatically winter air condition average-size, one-floor, basementless homes and individual apartment suites—WITHOUT THE USE OF DUCTS. Installation at minimum cost—means more profit for you. LESS MONEY WHEN YOU BUY—LESS MONEY TO INSTALL.

The Coroaire Hi-Boy winter air conditioning furnace, outstanding in efficiency and design, is factory assembled with all Coroaire exclusive patented features—complete with controls and safety equipment. For basement, utility and closet installations in connection with a duct system, build Coroaire profit into your profit plans.

WRITE TODAY: For complete information on Coroaire advantages for builders. Address inquiries to:

THE COROAIRE HEATER CORPORATION
1422 Euclid Avenue • Cleveland 15, Ohio
ENGINEERS
Said it couldn't be done

BALL BEARING
BUILDER'S LEVEL
(DUMPY TYPE)

- No maintenance cost
- Sealed telescope
- Sealed against dust

Brunson has proved that precision surveying instruments can be engineered and constructed with the freedom of motion provided by ball bearings by producing vastly superior instruments which retain their accuracy under the most adverse conditions.

Precision surveying instruments
Transits, Levels, Rods, Tripods.

YEAR OF PROGRESS PLANNED
FOR WARM AIR HEATING AND
AIR CONDITIONING INDUSTRY

THE 35TH Annual Convention of
the National Warm Air Heating and
Air Conditioning Association was
held in Cleveland in December. It
embraced one of the most com-
prehensive programs for the advance-
ment of the industry recorded to
date. Decisions were reached which,
it is anticipated, will result in material
gains to the industry as a whole. Al-
most 500 people attended the con-
vention, of which about one-quarter
were warm air heating dealers.

The keynote address, given by As-
sociation president Atlee Wise of the
Wise Furnace Co., set the note of
optimism for the future, which, in
general, was the prevailing spirit
present in all addresses.

Speaking on the latest Association-
sponsored research projects were
Robert W. Roose and Norman Buck-
ley of the Warm Air Research Staff
at the University of Illinois. As a
tribute of appreciation for his efforts
in the warm air heating field, the
Association, through President Wise,
presented S. Konzo, professor of
mechanical engineering at the Uni-
versity of Illinois, with an artistically
rendered testimonial and luggage.

A special committee of seven men
was appointed by President Wise to
investigate low-cost, warm air heat-
ing installations in houses without
basements and built with concrete slab
floors. After the committee has fin-
ished its investigations, a tentative
manual will be issued covering the
design of the low cost warm air
system to be selected by the Low-Cost
Housing Heating Committee. The
manual will be distributed to dealers
so they will know what type of low-
cost system to recommend for heating
concrete slab floor houses.

The Association's Board of Trus-
tees authorized the immediate con-
struction of two new research resi-
dences. In one the Association will
conduct tests of low-cost heating sys-
tems to be selected by the Low-Cost
Housing Heating Committee, and to
effect improvements in the design,
installation and operation of this sys-
tem. In the other, tests will be made
of gravity furnace operation and
various types of wall heating appli-
cances for comparison purposes.

The Association plans to continue
deploying its dealer membership campaign into
1949, and to conduct a consumer edu-
cation program wherein information
on the benefits of warm air heating
systems will be prepared for con-
sumer publications.

Officers re-nominated and unani-
(Continued to page 258)

HUNDREDS OF POUNDS OF GREASE AND DUST SUSPENDED IN THE AIR AS MIST PASS THROUGH A KITCHEN VENTILATOR DURING ITS OPERATING LIFE BUT ONLY THE CLIPPER MOVES THIS HARMLESSLY OUTDOORS WITHOUT GUMMING OR WEARING THE MOTOR. THE CLIPPER IS GUARANTEED FOR 5 YEARS BECAUSE THE MOTOR IS ENTIRELY REMOVED FROM THE AIR STREAM. IT'S EASY TO INSTALL IN OLD OR NEW HOUSES. MOUNTS IN THE CEILING BETWEEN JOISTS WITH ONLY THE DRIPLess CEILING GRILLE VISIBLE.

SKETCHES SHOW HOW EASILY CLIPPER IS INSTALLED BETWEEN JOISTS AND VENTED THROUGH ROOF OR A SIDE WALL.

MAIL THIS COUPON TODAY

Trade Wind Motorfans, Inc.
5705 S. Main St., Los Angeles 37, Calif.
Send complete information on the Clipper

NAME_____________________
ADDRESS_________________

UTILIZE DEAD SPACE IN THE KITCHEN

This revolving corner cabinet brings to the finger tips that dead space in a U or L shaped kitchen — will return perfectly to stove, sink or any other standard depth cabinet.

Shelf revolves on three ballbear-
ing rollers. Sides, shelves and false bottom from 5/8" 5-ply fir.

National Lock Hardware. Good quality throughout. Retail for around $47.50.

RESPONSIBLE DEALERS WANTED!
You Get Many Construction Advantages

with Pittsburgh Steeltex for Masonry Veneer

You get extra strong walls of **reinforced** brick or stone construction with Pittsburgh Steeltex for masonry veneer. It is a combination of galvanized steel wire mesh and waterproof fibrous backing which eliminates the need for sheathing. The mesh provides positive reinforcing for the one inch mortar slab between the brick and waterproof backing. Steeltex is easily applied—requires no radical change in building methods.

In addition to the monolithic mortar slab completely around the structure, Steeltex veneer construction gives you positive protection against moisture penetration—greater fire protection and completely filled mortar joints. For better construction see our catalog in Sweet’s or write for your copy of our catalog D.S. 132 to Dept. AB, Pittsburgh Steel Products Company, Grant Building, Pittsburgh 30, Pennsylvania.

PITTSBURGH STEEL PRODUCTS COMPANY
A Subsidiary of Pittsburgh Steel Company
Pittsburgh, Pa.
American Builder, February 1949.

Air Heating Progress
(Continued from page 256)

nously elected to the Board of Trustees for one year are: Atlee Wise, Wise Furnace Co., President; Clarence Franke, American Furnace Co., first vice president; W. D. Redrup, Majestic Furnace Co., second vice president; George Boeddener, National Warm Air Heating and Air Conditioning Association, secretary-treasurer.

The following were elected to the Board for a 2-year term: H. C. Curtis, Auer Register Co.; E. H. Paul, Clayton & Lambert Manufacturing Co.; Frank L. Meyer, Meyer Furnace Co.; G. W. Denges, Williamson Heater Co.


Hager Company Gets New Sales Manager

CHARLES M. JONES, formerly Wisconsin, Minnesota and Chicago Metropolitan sales representative for C. Hager and Sons Hinge Manufacturing Co., St. Louis, Mo., has been named sales manager of the Hager Co.

Jones is a graduate of Ohio Wes-
INGERSOLL ADDS NEW MODEL UTILITY UNIT

Simplified Panel Unit Includes All Basic Plumbing in Minimum Space—

HEATING UNIT MAY BE PURCHASED SEPARATELY!

A new, simplified Utility Unit has been added to the Ingersoll line. It includes all basic plumbing plus a complete kitchen and bath. Unlike the standard Unit, the heating plant is not an integral part of the new model. The new Ingersoll "88" or other furnaces may be purchased separately if desired. This unit is built around a compact, 10-inch-wide panel core. To meet your codes there is a choice of four vent and stack assemblies. Further flexibility is provided in a choice of lead, cast iron and steel materials in vents, stacks, wastes and undergrounds.

Assembled by skilled A. F. of L. Building Trade Mechanics, the new Panel Unit combines the economies of pre-engineered assembly with the flexibility of buying small-home utilities in individual components. It is equally adaptable to homes with or without basements, to multi-storied apartments and to tourist courts.

"JUST WHAT WE'VE NEEDED"

TRADE SAYS ABOUT NEW INGERSOLL "88" FURNACE

Enthusiastic acceptance everywhere has greeted the recently introduced Ingersoll "88" Furnace. Gas-fired, it has an output of 50,000 B.T.U.s, yet occupies less than 3 square feet of floor space. It has been approved by A.G.A. for installation within walls—an interliner jacket keeps the exterior cool. It is equally efficient either as a space heater or for duct-type heat distribution.

Reports from the more than 100 wholesalers added by Ingersoll in recent months, indicate excellent sales activity for the Ingersoll Unit. "The Unit fills a real need," is the most frequent explanation.

WRITE FOR INGERSOLL BOOKLET TODAY

It's yours for the asking, at no cost to you—a complete booklet about the new Ingersoll Panel Utility Unit and "88" Furnace. Gives all information complete with illustrations, diagrams and suggested floor plans.

Write for yours today!
INGERSOLL UTILITY UNIT DIVISION
 Borg-Warner Corporation
 Dept. 52, 321 Plymouth Court
 Chicago 4, Illinois
In just one day — including two miles of travel to and from job plus unloading steel from trucks — a Bucyrus-Erie Model H-2 Hydrocrane set this 60° x 140' steel structure — picked up 50-foot steel trusses weighing 1½ tons and placed them in position 24 feet above the ground. The contractor rented the Hydrocrane for only $75 including operator’s pay and gasoline cost.

The Hydrocrane has done such an amazing cost-and-time-saving job on light building work that contractors have often increased output as much as five times over hand methods. It travels at normal truck speeds and can haul a loaded trailer to a job site. On the job it digs trenches and foundations, lays pipe, sets septic and storage tanks, erects pre-fab units, places concrete, does clean-up work.

You can't beat it for simplicity. Low cost power for efficient hydraulic operation is furnished by the truck engine. Every crane function is fully hydraulic — boom hoist, load hoist, swing, outrigger set and retract, and boom telescope. Bucket closes by hydraulic power. Control is simple — hand action only, no foot levers.

The Hydrocrane is built in two sizes — the 2-ton, 1/4-yard Model H-2 and the 3-ton, ¾-yard Model H-3. Ask for a Hydrocrane demonstration.

Hydraulic operation is furnished by the truck engine. Every crane function is fully hydraulic — boom hoist, load hoist, swing, outrigger set and retract, and boom telescope. Bucket closes by hydraulic power. Control is simple — hand action only, no foot levers.

The Hydrocrane is built in two sizes — the 2-ton, 1/4-yard Model H-2 and the 3-ton, ¾-yard Model H-3. Ask for a Hydrocrane demonstration.
With This Stanley-Carter Router

As the pace of building steps up, this is the kind of electric tool that will help you keep up . . . and get ahead. Saves money on small remodeling jobs; makes more money on new construction.

Used with the Stanley-Carter Butt Temple, this Router cuts out recesses for square-cornered butts and for round-cornered butts at least six times faster than is possible by hand. This combination also gives you recesses that have a smooth, perfectly flat surface, providing a very solid foundation for the hinge.

EIGHT HOUR PERFORMANCE

Unlike hand work, which through the day may become progressively less accurate, the Stanley-Carter Hinge Butt Router gives you full eight hour performance. This means that every door you hang will have the same uniformity. The weight will be evenly distributed over the recess, consequently the hinge screws won't have to carry the full load. This makes for longer, more trouble-free operation of the doors you hang. For further details write—Stanley Electric Tools, Stanley-Carter Salus Dept., 534 Myrtle Street, New Britain, Connecticut.

STANLEY
HARDWARE · HAND TOOLS · ELECTRIC TOOLS
Meeting buyer resistance by giving more house for less money is mighty tough. But you can solve one part of the problem easily.

You can offer the sales appeal of clean, cool, comfortable kitchens for a surprisingly slight cost by installing FASCO Automatic Kitchen Ventilators.

Their amazing low price and many quality advantages make FASCO ventilators the best buy in the field. Leading builders all over America have installed many thousands of them with excellent results. Two models and three sizes are available for large, average, or small size kitchens built in standard, thick, or thin wall construction.

WRITE for complete information to...

FASCO Industries, Inc., 100 Davis Street, Rochester 2, New York.

ON DISPLAY IN BOOTH 195, NATIONAL ASSN. OF HOME BUILDERS EXPOSITION, CHICAGO

**Attention DEALERS, BUILDERS, AND CONTRACTORS**

The most beautiful all chrome finish fluorescent medicine cabinet with plate engraved Everlast mirror, all General Electric equipment, plastic caps, Underwriters' approved, retail at $15.75. This medicine cabinet unit is built for the purpose of saving all wiring and fixtures necessary for the bathroom as it contains all the wiring and switches necessary and also a convenience outlet for electric razor or any other use. Each fixture has a separate switch so that you may light one or two lights, as you desire, and will provide sufficient light for any bathroom without any extra fixture. The only thing necessary is to connect the cabinet with the main line.

The price of this cabinet is very reasonable and at the same time it covers all the cost of wiring and fixtures for the bathroom.

Manufacturers representatives and distributors invited.

Manufactured by

**FLUORESCENT LIGHTING CO.**

**MONTICELLO, N. Y.**

**Brown's SUPERCEDAR**

**Guaranteed 90% Red Heart or Better**

Only SUPERCEDAR is of the same uniform high quality standard that guarantees every package to contain 90% Red Heart or better, and 100% oil content which produces the pleasing aroma.

**SEALED — PACKAGED**

More home builders are specifying cedar lined closets today than ever before. Brown's SUPERCEDAR is nationally advertised to thousands of new home prospects, architects and builders.

SUPERCEDAR closet lining is surfaced, tongue and groove, ready to put on with no waste, and sealed and labeled with the Geo. C. Brown label and guarantee, famous since 1886.

**Product of**

**GEO. C. BROWN & CO.**

**GREENSBORO, N. C.**

**LARGEST MANUFACTURERS OF AROMATIC RED CEDAR IN THE WORLD**

### Grote Cabinet Division Gets New Sales Manager

**APPOINTMENT** of G. H. Horst as sales manager of the cabinet division of the Grote Manufacturing Co., Bellevue, Ky., was announced recently by Walter F. Grote, president.

Horst joins the Grote firm after several years in the production control, planning and sales departments of the Crosley division, Avco Manufacturing Corp. Prior to his Crosley affiliation, Horst was with Bendix, in South Bend, Ind., for ten years.

**New NAREB President Calls For Rent Decontrol, Increased Home Ownership**

INCREASED home ownership and a free market in rental housing are two of the major goals of the National Association of Real Estate Boards for 1949 outlined January 11 by Theodore H. Maenner, Omaha, during his installation as president.

He spoke at a banquet in the Statler Hotel, Washington, attended by several hundred realtors from all parts of the country. He succeeds Hollart C. Brady, Wichita, Kan.

More home ownership, Maenner explained, means "concentrating more of our home production in the modest price brackets in order that home ownership may be moved within reach of more of our people."

"It means use of our best efforts to ease the current tightness in home financing. It means forward-looking use of modular design, standardized units in building materials, and prefabrication to reach a wider and wider market of property." Widespread ownership of property, he explained, is the "surest guarantee we have of continued national strength" in today's conflict on the basic principles of social organization.

"A free market in rental housing should be restored now that there are clear indications of an easing of pressure in the rental housing situation," Maenner said.
EASY...
EVEN FOR A CHILD!

To Provide the Newest, Most Modern Overhead Door Convenience Specify GARAGE DOOR HARDWARE

Ordinary obstacles, and seasonal "headaches" such as slush, snow, and freezing temperatures are nothing to worry about when garage doors have been converted to the overhead door convenience made possible by Richards-Wilcox Garage Door Hardware. And with the new R-W 999 line conversion is swift, easy, economical. Everything needed for installation and operation, all hardware including tracks, comes complete in one carton. Requires only ½" headroom.

For modernization, or in planning new structures, specify overhead garagedoors with R-W 999 Hardware, and be sure of doors that will function smoothly, quietly, effortlessly — so easy even a child can operate them. For further information, call the nearest Richards-Wilcox office, or write for free folder.

Here's Your Low-Cost Floor!

- IT'S FACTORY-WAXED
- IT'S DURABLE . . . IT'S SMART

— Available in 22 colors
Plain or Marbleized

Because it is made to Federal specifications — you just can't buy better asphalt tile flooring than MA•TI•CO. Here is quality that has proven its endurance the country over — in more than 150 million square feet of installations. MA•TI•CO is safe . . . does not wear slippery with use. It is sanitary, odorless — will not originate dust. And, its variety of colors offer limitless design possibilities.

FREE! Full-color literature showing complete sample tile line and design patterns. Write: Mastic Tile Sales Corp., Dept. E, 153 West 57th Street, New York 19.

MASTIC TILE Corporation OF AMERICA
FACTORY: NEWBURGH, N. Y.
HERE'S a handsome item that can be sold the year around. Give your customers all-season comfort with these exclusive sliding ultra-violet glass panels with lifetime Lumite plastic screen. Self Storing Breezeway and Porches do away with seasonal changing of windows and screens.

Triple channel jambs permit two-thirds open area at three levels. Optional door location. All glass set in rubber. Lined aluminum extruded sash. Furnished in these standard sizes, or any of combination: 7' x 8", 10", 12", 14" and 20". Also available in special sizes—just send measurements.

The sections slide together quickly to provide a weatherproof, dustproof area. Door matches paneled area. Panels are erected easily without special skills or tools.

Shipped complete, ready to install.

Be the first in your community with this line. An excellent opportunity to show home builders and home owners that you are building with the latest materials and methods!

Write us for complete details. Franchises available in certain territories.

American Builder Starts New Technical Department In the March Issue

Consistent with American Builder’s policy of always striving to serve its readers better, a new department, "Technical Guide for Builders and Craftsmen" will be published for the first time in the March issue.

This new department will consist of detailed drawings and explanations of techniques for carpenters, mechanics and other tradesmen on time and labor-saving practices. The six-page department, which will become a regular feature in every issue of American Builder, will include the popular "Better Detail Plate", which has been a part of the "How-to-Do-It" department in the past. It will also contain many more "how-to-do-it" ideas which will be helpful to all types of craftsmen who have anything to do with building construction.

Readers are encouraged to forward ideas which will be available for publication in this new department. American Builder will pay $5 to each contributor for each item which is published in the "Technical Guide".

Bradley Lumber Plant, Damaged by Storm, To Continue Production

BRADLEY LUMBER CO. of Arkansas, Warren, Ark., received property damage to its plant in excess of $1,000,000 in the January tornado in that area, it was reported by R. W. Hanly, vice president of the company.

Some of their equipment escaped damage, however, and production will be resumed as soon as possible.

The main path of the tornado crossed the plant diagonally, and hit several of the buildings. The offices, flooring plant, boilers, planing mill and other buildings out of the storm's path were relatively undamaged.

Lumite Plant Expands

CONSTRUCTION of a 10,000-square foot addition to the main plant for the production of Lumite woven saran screening and fabrics, at Cornelia, Ga., has been announced by Harry H. Purvis, vice president in charge of manufacturing.

The Lumite plant, built in 1946, is considered one of the most modern in the South. Among its unusual features is an air-conditioner and humidifier system for the comfort of employees.
No! We didn't use a shoe-horn. We used American ingenuity and the most up-to-date engineering methods to produce the sturdy, streamlined Sargent IntegraLock. By combining simplified design, precision production and the finest materials, we created a lock set with 30% fewer parts, a new ease of application, a new beauty of design, a new convenience in use, greater security ... and at a price far less than pre-war locks of similar types ... all these features add up to the IntegraLock.

a lock we are proud to produce, a lock you are proud to sell.
For Low-Cost Housing, Exercise Existing Federal Powers, Says NRLDA President

EXERCISE of federal powers already granted, not new national legislation, can make low cost housing immediately available, President C. B. Sweet of the National Retail Lumber Dealers Association, Washington, D.C., told the hundreds of lumber and building material dealers assembled at the Minneapolis auditorium for the Northwestern Lumbermens Association convention.

"The Veterans Administration refused to increase mortgage rates above 4 per cent as has the possibility of veterans obtaining privately constructed homes," he pointed out.

"The Federal Reserve Board's repeated urgings to curtail construction has had the effect," he continued, "according to a survey of 352 cities, of drying up money available for new home construction.

"This survey shows that between 30 and 50 per cent of the total cost of a home is being demanded as a down-payment, before these banks will consider making a loan.

"Speculation in some circles has coupled these two actions as being merely preliminary steps toward smoothing the way for an increased public housing program by making it increasingly difficult for private industry to construct homes," said Sweet.

Industry Faces Challenge

"It is clear that this industry faces a severe challenge and possibly direct competition from government in the home field," he averred.

The legislation required to enable mortgage money to flow at proper interest rates into low-cost homes with low down payments has been passed, Sweet told the lumber dealers, but lack of administration, and government agencies working at cross purposes with each other, has all but blocked the application of existing laws and has actually thrown home construction into a tailspin during the last three months.

"The FHA and the HHFA are combating the administration's refusal to increase mortgage rates above 4 per cent, which is positive and complete.

"CONTINUOUS FEEDING ... food waste can be fed continuously while unit is in operation giving unlimited capacity for domestic use.

SEE IN - SINK - ERATOR DISPLAY BOOTH 196 AT THE HOME BUILDERS SHOW IN CHICAGO, FEBRUARY 20-24

In-Sink-Erator Mfg. Co. Racine, Wisconsin

Please send complete information about

In-Sink-Erator to

Name:

Address:

City State

IN - SINK - ERATOR
MFG. CO. * RACINE, WISCONSIN
Specializing Exclusively in the Manufacture of Automatic Food Waste Disposers Since 1918

American Builder, February 1949.
People who live in small houses need interior doors. Doors that help to shut out noises and drafts... doors that assure restful privacy for every member of the family. Stock design interior doors of Ponderosa Pine fit snugly into the limited building budget—enabling you to plan for the owner's peace and quiet!

Because of their wide variety of styles, Ponderosa Pine doors allow broad scope for your planning. These doors have the inherent sturdiness of wood, and are precision made. They take paint or other finishes beautifully—and hold them. They stand long years of hard use because of the natural durability for which Ponderosa Pine is famous.

Many styles of Ponderosa Pine doors and windows are illustrated in the booklet "Today's Idea House." Full of actual photographs, this book can be a valuable help in planning interiors. A copy of "Today's Idea House" is yours for the asking—just mail the coupon.
NELDA President Speaks
(Continued from page 266)

stand-by controls as an essential part of an overall defense program. To quote:

"The authority which I have requested, to allocate materials in short supply and to impose price ceilings on such materials, could be used, if found necessary, to channel more materials into homes large enough for family life at prices which wage earners can afford."

This is the threat, Sweet told the dealers, to the entire distribution industry which has always been implied in public housing programs, but which has never before been actually stated in so many words by the President of the U.S.

Obviously, he declared, allocations, priorities, and price controls will continue to hang over this industry as a constant threat.

More Wage Increases

Your individual businesses, he told retail lumber dealers, are about to be affected by a fourth round of wage increases followed by an almost unavoidable increase in living costs. Changes in the Taft-Hartley Law and a minimum wage of 75 cents an hour are almost a certainty. Every effort will again be renewed to apply wage-hour provisions to as much of the retail industry as possible.

"In all, four major programs will draw upon United States resources and affect the building material picture," President Sweet stated. "If anything can tighten up the material situation, this will:

"First, there will be the requirements of public housing and private building;

"Second, there will be the requirements of the European Recovery Plan;

"Third, there will be the speeded-up military preparedness program; and

"Fourth, the re-arming of Western Europe."

"In spite of the heavy legislative docket facing us, the real problems in the field of housing are not subject to legislative cure-alls," he continued, "but are mainly affected by administration, from the President down through the government agencies. Seventy-five per cent of the problem lies in the administration of laws and Washington agencies already in existence. Legislation is not going to change the attitude of banks, who view the costs of some of the proposed home construction coming before them for mortgage money as being out of line."

Shevlin-McCloud Lumber Company
Successors to Shevlin Pine Sales Co.
*Member of the Western Pine Association.

Selling The Products Of
*The McCloud River Lumber Co.
*Bend, Oregon
*The Shevlin-Hixon Company
Bend, Oregon

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SUGAR (Genuine White) PINE (PINUS LAMBERTIANA)

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Build Stair Treads and Risersthis new and easy way

Automatic template saves time and money

Now you can cut stair treads and risers in a fraction of the time formerly used for this type of work. The ETCO Automatic Template (Patent applied for) measures quickly and accurately the correct length and angle variations of each tread and riser. Simply place the template into the space to be measured—turn the locking handle and the template automatically adjusts and locks to the proper length and variation in angles. Lift it out and use it as a pattern for cutting, and you have a perfect fit for a chatterless and much smoother shearing cut, which, when rabbeting, is not bodily removed from the machine (usually the case), but swings down and out of the way, remaining immediately replaceable when conventional jointing is resumed, thus reducing the chances of failing to return guard to Europe wanted. It's automatic—accurate and easy to use—an invaluable aid to the apprentice. Adjusts to surfacés from 30 to 42 inches. Metal parts of steel.

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Please send complete information about the new ETCO Automatic Template.

Check one □ Dealer □ Builder

Name ____________________________
Address ____________________________
City ____________________________ State ____________________________
Here's A New Star In Attic Ventilators

The New Leigh Aluminum Triangle Attic Ventilator

Low priced! Rigid construction!

An outstanding addition to the LEIGH line of "All Star" Aluminum Attic and Roof Ventilators — the Triangle Ventilator is the ideal answer to the demand for Peak Ventilators. This fixed pitch, solid ventilator doesn't have to be adjusted — no loose parts — no screen to cut — it's complete, ready to install. Designed for a 9-12 pitch — it is ideal for any pitch from 8-12 to 10-12 — it fits 95% of all roofs.

Priced for low cost homes — the LEIGH Triangle Ventilator has a surprisingly low price — they'll cut your attic ventilator costs in half!

Compare this ventilator with other ventilators: — built of rust-proof aluminum — full depth louvers with water deflecting baffles — exceptionally large free area — insect screen fastened in back — no straight thru opening in the peak — rigid, riveted construction.

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AIR CONTROL PRODUCTS, INC.
Coopersville, Michigan
YOU CAN INCREASE QUALITY AND REDUCE HOUSING COSTS by using all three SISALKRAFT PRODUCTS

1. SISALKRAFT Reinforced Building Paper

SISALKRAFT is the best sheathing paper that money can buy! Costs very little more than ordinary tar paper... but it costs less to apply. Use SISALKRAFT for OUTER WALLS over sheathing... for INTERIOR WALLS, as a vapor-barrier (FHA-approved)... UNDER WOOD FLOORING... UNDER RUBBER TILE for "on-grade" floors... OVER SUB-FILL (under concrete slabs)... under radiant heated floor slabs.

2. SISALATION Reinforced Reflective Insulation

At about $25 per 1000 sq. ft., SISALATION saves 50% or more, compared with bulk or blanket-type insulation. SISALATION also costs less to apply. Provides BOTH sidewall insulation and vapor-barrier (FHA-approved). Lining attics with SISALATION makes them more livable and attractive. SISALATION and SISALKRAFT, used together, provide modern DRY WALL construction... SISALATION for effective insulation and vapor-sealing from the inside... SISALKRAFT for weather-sealing from the outside. Highest QUALITY construction at low cost!

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For about 75¢ per window or door opening, you can get this pure copper flashing. Highest quality, low-cost, enduring protection... for framing door and window openings, foundation damp-coursing, ridge roll and other flashing, waterproofing shower stalls... and other concealed flashing uses.

See Sisalkraft Insert in Sweet's BUILDERS' File

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Revere Home Flashing provides low-cost, easy-to-install weatherproofing not only around chimneys, but also at valleys, doors, windows, and other wall and roof joints. In addition, being copper, it adds an important selling point to the house; it shows that the builder uses quality material; and it assures complete satisfaction for the owner. And it does all this at such low cost that you'll want to start using it right away.

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you can profitably build
and sell for approximately
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Eligible for FHA mortgage... exceeds FHA minimum requirements

The house pictured above has a living room, two bedrooms, a kitchen, a bath, five closets and a storeroom with ample space for baby carriage, sleds, etc. It can be built to sell for approximately $6,500 — the

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Comparison of bare houses with homes that glow with the soft, colorful beauty, charm, and cool, inviting livability imparted by Canvas Awnings demonstrates an amazing difference. Interpreted in terms of superior attractiveness and salability, the home with Canvas Awnings enjoys a preferential advantage that far outweighs the relatively small added cost involved.

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- SUN ROOM
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PERMIT AN ENDLESS VARIETY OF PATTERNS
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LIGHT YET STURDY

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EASILY OPERATED FROM THE INSIDE

STORM-TIGHT

HEAVIER VENT SECTIONS • FLASH WELDED CORNERS

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The optional choice of butterfly type for use with venetian blinds or the standard cam locking handles gives you a freedom of choice.

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Yes—WEIGH ALL THREE...

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First in number of advertisers—520 Advertisers in 1948
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FOR ADVERTISING

AMERICAN "BUILDER"

Circulation Audited by *1
Audit Bureau of Circulations

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CONSTRUCTION GROUP
(Contractors and Builders, special trade Contractors)

|                       | 50439            | 11427                | 42103            |

DESIGN GROUP
(Architects, Architectural Firms, Engineers)

|                       | 2079             | 15213                | 1367             |

DISTRIBUTORS
(Retailers, Wholesalers, Jobbers, and Distributors)

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AND FINANCIAL GROUPS
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|                       | 3425             | 5019                 | 2906             |

PUBLIC OFFICIALS
(Federal, State, County and Municipal Public Officials)

|                       | 1506             | 4374                 | 0                |

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(Commercial and Industrial Organizations, Manufacturers and Producers of Building and Construction Materials and Equipment, Utilities and Transportation Companies)

|                       | 4499             | 8108                 | 1262             |

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(Including Professors, Instructors and Students)

|                       | 3552             | 10060                | 700              |

MISCELLANEOUS

|                       | 1336             | 3223                 | 2843             |

UNCLASSIFIED

|                       | 728              | 1635                 | 12550            |

TOTAL

|                       | 81532            | 62772                | 70145            |

*1 Occupational groupings here are arranged for convenience only. They do not appear in this format in regular A.B.C. statements.

*2 Based on last available published publisher's statement dated December 31, 1941.

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In each case the answer depends on soundness of construction, on quality of materials and workmanship.

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For it makes ceiling, walls and partitions of each room into one monolithic surface, free of joints, vermin and rodent proof, fire safe, acoustically right.

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Rex "Easy Flow" Pumps are not only completely efficient when new. They retain that efficiency for life. Even after years of tough service, they give you new pump priming efficiency at maximum suction lifts. Here's why:

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Only Rex Pumps have the adjustable air peeler. When wear begins, you simply adjust the peeler to restore original clearance with the impeller and your pump is as good as new. No need with Rex to replace the whole pump when wear begins to cut down priming efficiency.

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PORTABLE OIL-FIRED SPACE HEATER
Delivers 100,000 B.T.U.
QUICK—instant heat for lighting! ECONOMICAL—burns low-cost kerosene, No. 1 or No. 2 fuel oil, input from 1/20 to 2/3 gallon per hour. Easy manual control—no attendant required. Conveniently PORTABLE—weighs less than 75 pounds. Immediate delivery.

Write, Phone or Wire Order for Assured Delivery

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Phone Up. 3-3630
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Write for our illustrated brochure and a 1949 art calendar suggesting new and distinctive bathroom appointments.

PLANTS IN NEW CASTLE, PA.; CAMDEN, N. J.; MILWAUKEE, WIS.; REDLANDS, CALIF.
The Sensationally NEW Low-Priced PARKS No. 20
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The Vitroliner Flue is time tested—proven practical and successfully used by large national builders (names on request) as well as thousands of small contractors.

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Now, you can dry-cut masonry units, anywhere, regardless of job conditions. Only the new FIREPROOFER offers dust-free dry-cutting without the use of liquids.

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THE ONLY ZINC WALL COVERING

25 YEARS OF RESEARCH AND DEVELOPMENT
PROVEN IN THOUSANDS OF INSTALLATIONS

- FOR REMODELING
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CHROMITE combines durability with economy and ease of application. The flexibility of CHROMITE eliminates the need of removing plumbing fixtures or the use of metal corner moldings. Well suited for residential and commercial construction or remodeling.

- MULTIPLE BLOCK SHEETS 16" x 24"
- PANELS 12" x 16"
- FOURTEEN BEAUTIFUL COLORS

CHROMITE COMPANY
141 W. JACKSON BLVD.
CHICAGO 4, ILLINOIS
American Royalty is not born, it's manufactured... by Mirro-Glo. This Princess has the sleek lines, extra features and quality material that comes only with experience of quality manufacturing. Economy is another characteristic that runs in the Royal Family. For Additional information send for a free copy of the Royal Family Album, Today!

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Gentlemen: Please send me a free copy of the Royal Family Album.

FIRM NAME

LINE OF BUSINESS

ADDRESS

CITY ZONE STATE
Twin Construction?

ABSOLUTELY NOT!

ONE IS CONSTRUCTED WITH

Medusa JOB-FITTED Cements

The stucco on these two homes looks alike, but in reality they’re vastly different. Why? Because one builder used two of Medusa’s Job-Fitted Cements. He used Medusa* Waterproofed Gray for the mortar coats and Medusa* Waterproofed White for the finish. The builder of the other home used ordinary gray and white.

A few years from now these jobs will certainly not be “twins” in appearance.

On one the stucco will all-too-soon become stained with dirt. Tiny cracks may appear. But the stucco made of Medusa Waterproofed White stays whiter, cleaner and free of disfiguring cracks indefinitely. These two Medusa Job-Fitted Cements have a waterproofing material mixed in at the mill. Moisture and dirt cannot enter this stucco. It’s sealed at the surface and waterproofed all the way through.

Remember,—on your next job use Job-Fitted Cements. There’s one for every purpose to help you do a better job easier, faster and at less cost. Send NOW for complete facts. No obligation.

*When not available, use Medusa Waterproofing Paste or Powder.

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We Need More Homes That Resist Fire

AN IMPORTANT construction feature of fire-resistant homes is the fire-stop. While it is taken for granted that any experienced home builder is familiar with the necessity for fire-stops, fire inspectors report that they still find the lack of fire-stops a key factor in many total losses.

Fire-stops should be located at the full depths of wood joists and their supports at the walls. The exterior and interior of wood stud walls should have fire-stops both at ceiling and floor levels, as well as at specified intermediate distances of the wood stud walls. Another place where fire-stops are needed to check blazes from spreading is in furred masonry walls and other furred places. Sliding door pockets are dangerous air spaces if they do not have fire-stops around the top, bottom and ends of the pockets. It is also necessary to build in fire-stops in such locations as holes for pipes and shafting, which allow passage for flames or hot gases.

Stairs of one type or another are found in almost every home. While they are a necessary part of any home, their presence constantly presents a hazard. When they are improperly constructed so that treads and risers are uneven in length or depth, people trip and injure themselves in falling. When stringers are not enclosed and a draft with which a fire can spread rapidly, stairways become a menace to life and property. If you are stressing fire-resistance in the home you build, pay particular attention to stairway construction.

The majority of fires that occur in homes originate in basements. In poorly constructed homes, a fire that starts in the basement is not unlike a fire in a furnace. Open shafts, stairways, and wall openings allow the flames to enjoy as much freedom as a draft-fed furnace fire. Construct basements so that a fire that breaks out in a rubbish-filled basement is imprisoned in the basement for at least an hour. Basement steps should be enclosed and include self-closing doors. Laundry chutes should be made of metal or at least of one inch lumber and their basement outlets equipped with doors that remain closed automatically.

A word about exits. Tragic, indeed is the oft heard story of the family trapped by fire because the only available exit from their home was blocked by fire.

The use of fire-resistant material in construction can help tremendously in retarding, and in some cases, preventing fire. Approved wall and attic insulation, properly installed, will act as fire-stops as well as retarding the spread of fire at the height of heat intensity. Roofs, suspended ceilings, stairways, and wall openings should be covered with the best available fire-resistant material.

Do not burn down your houses before they are built! Salamanders are in use, burn coke rather than wood or rubbish. Coke will not throw off the dangerous sparks that start the fire as will the free flames produced by more easily combustible material. Make certain the salamanders are placed firmly on a solid base so that they will not topple easily.

A safe precaution is proper storage of flammable construction material. The material should be stored away from the main structure, never inside the building. And most of all, watch the lit cigarette!
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