Here's the combination that cuts costs for you... that gives the home buyer more for his money... that your workmen like to put up: (1) Celotex Insulating Sheathing — big, lightweight, asphalt-coated boards that go up fast, saving time and money; (2) Celotex Insulating Lath — strong, lightweight plaster base — easy to handle, cut, and apply. And this is the only combination that gives you all these exclusive selling features:

- **EXTRA INSULATION VALUE** — A double layer of heat-stopping Celotex cane fibre insulation board.
- **MULTI-FUNCTION MATERIALS** — Sheathing that provides more structural strength by test — is more windtight — and has three times the insulation value of ordinary sheathing. Lath that provides a strong, continuous plaster base, a superior plaster bond, plus insulation.
- **EXTRA WEATHER PROTECTION** — In manufacture, the cane fibres are integrally treated to make Celotex insulation board highly resistant to moisture throughout its thickness. In addition, Celotex Insulating Sheathing is asphalt-coated for protection against moisture on the site and during construction.
- **PROTECTION AGAINST DRY ROT AND TERMITES** — by the patented Ferox treatment, exclusive with Celotex Cane Fibre Products.

CELOTEX INSULATING SHEATHING — Sizes—Big Board—4 ft. wide x 8, 9, 10 and 12 ft. long, 25/32 in. thick. Center Matched—2 ft. wide x 8 ft. long x 25/32 in. thick. T. & G. on long edges.

CELOTEX INSULATING LATH — Size 18" x 48" x 1/2" and 1" thick.

THE CELOTEX CORPORATION, CHICAGO 3, ILLINOIS

CELO, CEMESTO, and FLEXCELL

Two Trademarks, Reg. U. S. Pat., Off.

MAKE YOUR SELLING JOB EASIER

CELOTEX TRIPLE SEALED ASPHALT SHINGLES AND ROLL ROOFING

...BUILDING BOARD...CELO-ROK ANCHOR LATH AND PLASTER...CELO-ROK

WALLBOARD...INTERIOR FINISH PRODUCTS...CEMESTO...FLEXCELL...ROCK WOOL...CELO-SIDING...CELO-BRIC...CELO-STONE...CELO-SHINGLE...CELO-BLOCK
Folks in the market for homes these days demand modern conveniences. That goes for windows as well as other things. Windows that won’t stick—won’t warp or swell out of shape. Windows that they can wash and screen and storm-sash—all from inside.

Beautiful Fenestra® Residence Steel Casements are as modern and easy to operate as the latest home appliance. A twirl of the geared Roto-Adjuster and the swing leaves reach for the breeze. The Fenestra way is the economical way to add sales appeal to your homes.

Standardization streamlines Fenestra production—permits the low cost and high quality that are Fenestra’s trademark.

Frame and sash are factory-assembled, Bonderized, prime-painted, then baked. Hardware, supplied with each unit, is attached quickly and easily.

Fenestra’s full line provides a right window for every need—even special uses such as over the sink or buffet. For full information on types and sizes, see your nearest Fenestra dealer, or write to Detroit Steel Products Company, Dept. AB-1, 2260 E. Grand Blvd., Detroit 11, Mich.

**Fenestra RESIDENCE STEEL CASEMENTS**
The Upson Company in 1949 will begin one of the biggest promotion programs in its history with 122,000,000 advertisements in consumer magazines. And millions of advertisements to the trade.

Millions of home builders are going to be reading about the practical advantage of Upson Strong-Bilt Panels, Upson Dubl-Thik Fibre-Tile, and Upson Kuver-Krak Panels.

You are going to have a new and increasing acceptance and demand for these products. For good advertising not only creates business. It directs business, too! Be ready! Plan to get your share of this increased business. It belongs to you. Let us help you.

THE UPSON COMPANY
Upson Point, Lockport, New York
In This Issue

Publisher's Page........................................................................... 7
Stand for Principle—or Compromise?

Monthly Review of NAHB............................................................... 63

Editorial......................................................................................... 71
Housing Legislation in 1949

FEATURES

What's Ahead for Building?............................................................... 72
Here's What the Leaders Say About 1949

Trends............................................................................................. 77
Analysis Shows That Building Must Remain at High Level to Maintain National Prosperity

Customer Confidence Multiplies Sales........................................ 80
Result Is 914 Houses Built and Sold in One Year

Eye-Appeal from Any Angle............................................................ 86
Blueprint House Designed for Comfortable Family Living

New Type Classroom in Northwest Schools.................................. 91
School Uses Clerestory and Directional Glass Blocks for Even Light in Class Rooms

Giving Apartments—a "Residential Look"...................................... 94
Careful Design of Exterior Details Produce Home Atmosphere

Dealer Precuts Homes for Small Builders...................................... 98
Precutting and Site Fabrication Made Available by Lumber Dealer

23 Years of Progress in Basementless House Construction........... 102
Results of V. L. Sherman's Experience with His Own Basementless House

Versions of Blandings House Reflect Demand of Local Clients........ 106
Choice and Cost of Materials Are Two Factors Forcing Changes

Behind the Scenes........................................................................ 107
In a Builders Hardware Plant

Built-ins Rate High with Women.................................................. 110
Ideas for Built-ins Topped All Suggestions in Survey of What Women Want in Homes

Fuel for the Flames...................................................................... 112
R. E. Saberson's Comments on Housing

New Products................................................................................. 116
The Latest in Equipment

DEPARTMENTS

On and Off the Record.................................................................. 51

Editors' Round Table.................................................................... 55

How-to-Do-It and Better Detail Plate............................................ 114

Dealer Review............................................................................... 118

Catalogs.......................................................................................... 126

Index to Advertisers...................................................................... 78
Right with traditional, right with ultra-modern—the broad Crane line has a style for every taste.

Right for price, too—Crane offers a choice for every building budget.

And right with your customers and prospects—that's been proved time and again in nation-wide surveys.

So you're always right in choosing Crane. Kitchen sinks, bathroom and laundry fixtures—all share the same high quality. All boast the new Dial-ese faucets that turn on and off at a finger's touch.

Again in heating, the Crane line is complete. It provides every requirement for all home systems...warm air, hot water, or steam...coal, coke, oil, or gas.

See your Sweet's Builders' File for selections from the Crane line. Remember that not all fixtures are immediately available to all areas—check your plans early with your Crane branch or wholesaler.
EVERY SANE human being who becomes adult lives more or less consciously throughout his adult life in accordance with a philosophy of life. At one extreme is the criminal whose philosophy is entirely selfish and inspires him to try, by the use of dishonesty, cunning, force—or all of them—to live on the fruits of others' labor. At the other extreme is the saint whose philosophy of life is entirely unselfish and inspires him or her to devote the fruits of his or her labors almost entirely to the welfare of others.

Midway between these extremes are those who regard their philosophy as one of "enlightened self-interest." They try to get and keep all the good things of life, but only by their own hard work and thrift. They believe they steer about midway between the dishonesty, cunning and force of the criminal, and the complete selflessness of the saint.

"Enlightened self-interest" is supposed to be the driving force of progressive private enterprise. The word "enlightened" as thus used implies that men of intelligence engaged in private enterprise do not for their own benefit do things injurious to the economy as a whole because they know that anything done by themselves or anybody else which will be inimical to the economy as a whole will also, sooner or later, prove injurious to those who do it as well as to everybody else.

Unfortunately, while men in business always are motivated by self-interest, it is not by any means always self-interest that is truly enlightened. The two greatest dangers to the system of private enterprise are resort to monopoly practices by business men and labor unions, and the adoption of socialist policies by government. Both impair the free and equal functioning of private enterprise. Probably there are more men who yield to the temptation to engage in monopolistic practices than there are who yield to the temptation to support the socialist policies which they believe will benefit them; but the modern trend toward state socialism in this and almost every other country is due largely to the support of socialist policies by business men. Virtually all business men are opposed to socialist policies in principle; but the number who "rise above principle" to further their supposed self-interest is appallingly large.

Great Britain is affording us a warning example of the hazards business men incur when they resort to monopoly practices in their own supposed selfish interest and fail resolutely to oppose all socialist policies. Great Britain originated modern capitalism and spread it throughout the world. In due course, however, her business men decided they could make larger profits by establishing cartels in important industries than by competing. Their monopolistic practices not only reduced the driving force and progressiveness of business management, but provided the Labor party with a powerful argument for socializing the economy. Hence, capitalism apparently is on its death-bed in the country of its birth.

Men in the building industry are now confronted, as business men are so often, with the question whether they shall compromise, or stand fast for principle—i.e., whether they shall accept some socialized housing on the theory that it is inevitable anyway and that they can derive profit from constructing or furnishing materials for it, or whether they shall oppose all government spending on and subsidization of housing and help educate the American people on the dangers of compromising on the issue of free private enterprise versus socialism.

As long as so many business men who profess belief in private enterprise show willingness to compromise in favor of socialist policies that they believe will benefit them it will continue to be as difficult as it was in the last political campaign to get men with political followings to stand up and fight for private enterprise.

American Builder is published by the SIMMONS-BOARDMAN PUBLISHING CORPORATION, with editorial and executive offices at 30 Church St., New York 7, N.Y. F. A. Clark, Vice President; J. S. Crane, Treasurer; John I. DeMott, Treasurer. The views expressed in the columns of American Builder are not necessarily those of the Editors of the SIMMONS-BOARDMAN PUBLISHING CORPORATION. All communications should be addressed to the Publisher, American Builder, 30 Church St., New York 7, N.Y.
This is the story of two brothers.

It has its beginning in a Northern province of Czechoslovakia. Two small boys were sprawled on the banks of the broad Elbe River. This afternoon was not unlike many others. For often they sat by the river and talked, sometimes until sundown.

"I'm going to be rich when I grow up," Karol would vow. "I'll own much land... and everyone will point to me and say, 'There is Karol Mahacek. He is the richest man in all Czechoslovakia.'"

Then Jan would watch for that familiar look of determination he had seen so many times on his brother's face. He would see his dark eyes growing larger and brighter, shining already with the happiness the future promised. And he would nod at his brother. Yes, Jan thought, Karol is smart. Yes, Karol will be rich some day.

But Jan, too, had dreams... dreams he dare not even tell. For Karol would surely think them strange. So he said nothing. He just sat there and looked out into the horizon. Somewhere beyond the Elbe there was an ocean... and beyond that? Well, some day he would know.

Old Eduard Mahacek considered his sons—what the future held for them. He even prophesied it many times.

"Jan is a dreamer. He is the one with imagination, but he is not as ambitious as Karol."

Yes, even at an early age, Karol was marked for success.

As for Jan, well, maybe it was an accident that he happened to be on the village dock when a river boat stopped for cargo. Maybe it was fate when on an impulse he took a job on the boat and found his way to the sea, to a different way of life—for Jan came to America.

It wasn't easy for him, at first, this new world. He used to write home about the strange American ways. Yet, there was always something wonderful to tell. He was making progress. He had a good job—good pay.

But Karol's letters were different—filled with uncertainty. He couldn't save to buy the land he promised himself he'd one day own.

What does the story of these two brothers mean—and why are their lives so different today? For Jan Mahacek faces the future with confidence—owns his own home—a car—his family is well fed, well clothed.

While Karol is a man without hope—his family ill clothed, ill fed—no home of their own.

The answer is simple, for both are symbols of America and Europe. Actually, there is no difference in the people here and there. We are all brothers under the skin. Like Jan and Karol, we are Czechs, or we're English, French, German, Spanish, Finnish, Norwegian, Polish, Italian... just as people are there. We are the same people, with the same blood, the same native ability. But there is one essential difference...
Here in America, we have the opportunity—the privilege to use to the fullest our native ability.

Much has been said about the production genius of America. And who will deny it? But that power to produce far beyond the record of any nation on earth would never have blossomed into its present greatness if the individual in America had not had the chance to expand his individual talents to produce. Yes, here in America, all have been free to express themselves, to use and to develop talent and ability. This freedom to grow and build for the future isn’t something to be considered lightly. It is something that all of us must guard, even with life itself.

Yet, in the abundance that surrounds us, we sometimes forget. We forget that with all this comes an obligation—an obligation to WORK. For, if we do not work to preserve it, we do not deserve it. This great productive power of America grew because of work, became the great thing it is because men bent to the task to accomplish an end.

Today, there are forces at work to hold back the high productive ability of America. A false creed is abroad. Some put it this way—“Hold back effort—do only an average job—regulate things.” It all has a familiar ring— it is a creed of trading individual opportunity for false promises of future security.

Here at Ceco, we do not accept this creed of leveling of effort, for we believe in full opportunity for the individual. We know what all-out unharnessed production can accomplish. In this past year, for example, we have seen the building industry, unhampered by fewer controls, roll up one of the most impressive records in the history of the industry. Ceco salutes construction men for the job they are doing. Their accomplishments represent the American way of doing things, and we believe in the American way to solve our problems, to provide a more abundant life, to curtail shortages, to drive down prices.

Yes, the way to do this is to work. ALL must work MORE—not be content to be average. Management must work at managing. Labor must work to produce—give a full day’s work for a full day’s pay. We must constantly produce, create more things instead of less, reduce overall costs per unit—justify high wages. The will to work can drive down costs and prices, drive up production which labor and management both need to stay prosperous.

We believe in the right of each man to work for greater opportunity. We believe in the individual’s pride in his work and we believe in the importance of the individual’s contribution to the task as a whole. We believe in a “two-way traffic” in ideas on how to do the job better. In four years, Ceco has had over 3200 suggestions from shop and office on how to improve production and service.

In all aspects of Ceco’s work, we strive for meticulous attention to the little things, because we believe no product is better than the perfection of the smallest detail.

We like to sum it all up in an ideal which best describes the way Ceco and all of its people work in seeking production excellence . . .

"NO TASK IS TOO SMALL,
NONE TOO LARGE.
TO RECEIVE EXACTING CARE.
IN ALL.
ENGINEERING EXCELLENCE
IS THE CECO CREED.”
Specify Columbia Window Shades — and you get everything you could ask of a shade, plus a name that’s known and trusted by millions of users.

Specify COLUMBIA PYROXYLIN — and you get more of everything you want! It’s a super shade, Columbia’s best! Check it point by point!

ACTUALLY PAY A PROFIT! Pyroxylin shades, because they’re top quality, wear longer than the usual shade life expectancy . . . allow low maintenance costs . . . actually make a profit for you, as one large user puts it.

CUT REPLACEMENTS—PYROXYLIN IS WASHABLE! Takes to actual scrubbing — repeated washings — fabric remains firm and sturdy, colors stay fresh. It’s waterproof, too, to rain, steam, dampness.

FORGET PINHOLES OR CRACKS! Pyroxylin shades are made on such a closely-woven base, without filler, that they’re impervious to cracks and pinholes. Better, longer wear!

COLOR SCHEMING — TAKE YOUR CHOICE! Match or harmonize Pyroxylin with any color plans . . . 14 solid colors, including high-fashion pastels and decorator darks. Duplex combinations, also. Popular PRINTED shades.

VELVET-SMOOTH TO OPERATE! Columbia’s shade rollers, made in Columbia’s own plant, take care of that! Dependable, silent service throughout Pyroxylin’s career.

PIGMY TO GIANT SIZES! Your Columbia Authorized Dealer will make these fine shades to your exact window sizes.
That's not top-grain leather on those handsome walls and bar front. But you'd be hard put to tell the difference from three feet away.

It's Masonite's new Leatherwood, with a "three-dimensional" surface treatment resembling fine Spanish leather on rugged, time-proved Presdwood.

There's a huge commercial and home market for this handsome new Presdwood product—a market ripe with profit for aggressive building materials dealers. For Leatherwood offers unprecedented design possibilities, without high cost, to architects, builders and home owners. An all-wood hardboard, it has all of Presdwood's advantages—great strength and durability, moisture-resistance, density and hardness—plus this unusual leather-like surface. It isn't an applied texture—it's pressed right into the board at manufacture.

Masonite Leatherwood will not only sell itself—it will help you sell related products: paint, enamel, lacquer and moulding for finishing; tools for working; nails, screws or mastic for installing. It goes up easily, can be bent in graceful curves—won't crack, chip, peel or scuff. Available in large, rigid panels. Masonite Corp., Chicago 2, Ill.

SEND FOR SAMPLE!

MASONITE CORPORATION
Dept. AB-1, 111 W. Washington St., Chicago 2, Ill.

Please send me, without cost or obligation, a sample and interesting literature about Masonite Leatherwood.

Name
Address

MASONITE LEATHERWOOD
A PRESDWOOD PRODUCT

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TRUSCON WAREHOUSES
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All Truscon metal lath products are manufactured in accordance with U. S. Dept. of Commerce, Simplified Practice Recommendation R344.

Write for free book describing the complete line of Truscon Metal Lath and Accessories.

TRUSCON STEEL COMPANY
YOUNGSTOWN 1, OHIO
Subsidiary of Republic Steel Corporation

See Our Display at National Association of Home Builders Show, Space 69-70
The roof plays a featured role in any building program. And, when that roof is shingled with Flintkote Thikbuts, it's a double feature.

Why? Because these sturdy shingles are designed to combine beauty and durability.

You see, to make Thikbuts, we start with a regular Flintkote Asphalt Shingle. Then, on the exposed tabs ... where weather-resistance is most needed ... we add the extras. A thick, extra layer of Flintkote stabilized asphalt coating. A generous extra coating of fireproof mineral granules.

The result is virtually "two shingles for the price of one." A modern, moderately-priced roofing material that gives extra years of service ... at no extra cost.

Like all Flintkote Asphalt Shingles, Thikbuts are available in a variety of popular plain colors and blends that are enhanced and emphasized by the heavy shadow lines of the extra thick tabs.

Use Flintkote Thikbuts for re-roofing, remodeling or new construction. You'll find a bonus of Homeowners' satisfaction in every dollar's worth of their famous double feature value.

We'll be glad to give you complete information on any Flintkote Building Material. Write: THE FLINTKOTE COMPANY, Building Materials Div., 30 Rockefeller Plaza, New York 20, N. Y. Offices in Principal Cities.
"ATLAS MORTAR CEMENT has proved entirely satisfactory in every way. The masons like it. It not only carries sand well but is workable under the trowel, and we can put all our joints just where we want them. None of the joints show shrinkage marks."

— Frank Crawford, Enid, Oklahoma

From all over the country, similar reports come in attesting to the advantages of Atlas Mortar Cement. Contractors and masons agree that it rates high—not just in some essentials, but in all desirable characteristics.

They like the smooth, even way Atlas Mortar Cement handles, spreads and trowels. Its excellent plasticity helps them to produce a fast, workmanlike job.

Also, Atlas Mortar Cement rates high in yield, in water retention, durability, color, strength, and low volume change. It complies with Federal and ASTM specifications for masonry cement and is backed by years of testing and research.

Send for descriptive circular. Write to Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Bldg., New York 17, N.Y.

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

Send for descriptive circular. Write to Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Bldg., New York 17, N.Y.

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

SKILLED HANDS PREFER

ATLAS MORTAR CEMENT

THE SATIN OF MASONRY CEMENTS

"THE THEATRE GUILD ON THE AIR" — Sponsored by U.S. Steel Subsidiaries — Sunday Evenings — ABC Network
Modern Building calls for MODERN HEATING and that calls for Cor-o-aire

HERE’S ADDED SALES APPEAL FOR YOUR NEW DWELLINGS
New home buyers are alert to new home comforts. That’s why Cor-o-aire in all new dwellings you build—apartments or single residences—is a big factor in faster turn-over of new building. With every Cor-o-aire model you install, a spectacular sales story of modern heating helps you sell. You can provide automatic winter air conditioning units that assure lasting convenience, unparalleled modern performance to the user. People want more for their money. You gain profit and prestige.

AMAZING HEAT EXCHANGER
Homes are heated in severest climates for as little as $5.50 per month by Cor-o-aire. There is nothing in the heating market to match the economy of these fine units. The patented cast iron, Cor-o-aire Venturi-Tube Heat Exchanger offers five times the usual heat radiating surface.

ECONOMY SALES FEATURE
Smart builders show customers how Cor-o-aire savings on heating bills can help make home payments. This economy is important in today’s market. Don’t pass up this added sales appeal—include Cor-o-aire in your plans. Don’t let competition pass you by—be first to benefit from Cor-o-aire’s aid to new home selling. For new ideas, tested use of Cor-o-aire, and the best paying proposition in heating, write today.

THE COR-O-AIRE HEATER CORPORATION
Cleveland 15, Ohio

NEW IDEA IN INSTITUTIONAL HEATING
Individual suites in Cleveland's new Physicians and Surgeons Building are heated by Cor-o-aire—reducing maintenance costs for building management. Direct efficiency and individualized temperature control benefits the tenants. They have the plus advantages of Cor-o-aire's greater comfort and extreme low cost of operation.

AMERICAN BUILDER, January 1949.
WINTER WEATHER CREATES INCREASED DEMAND FOR COBURN #500 SWING-OVER HARDWARE SET

OTHER WICKWIRE SPENCER PRODUCTS FOR THE BUILDING INDUSTRY

CLINTON WELDED WIRE FABRIC—For every type of concrete reinforcement.

REALOCK FENCE—Chain Link Fence for industrial plants, institutions, residences.

CLINTON BRAND HARDWARE CLOTH—In standard meshes and widths.

PERFECTION DOOR SPRINGS—Unequalled for toughness, durability and resistance to rust.

wickwire wire rope—in all sizes and constructions for every need.

Car owners with old-fashioned swinging garage doors, who have had to shovel snow before getting their cars out, are good prospects for the Coburn #500 Swing-Over Hardware Set. For with this set the old doors can easily be remodeled into smooth operating overhead doors.

The Coburn #500 Set is adaptable to practically all types of garages. It doesn’t interfere with usable floor space. Perfect counterbalance assures effortless operation. Coburn #500 is economical too, for even though it is high in quality, its cost is in the lowest price field.

Write today for catalog showing full line of hardware for garage and barn sliding doors. Other Coburn Products include fire door hardware, overhead trolleys and conveying systems for carrying loads up to 3,000 lbs.
Now you can put a LUXURY lock in every home at a price so modest your customers won't believe it possible.

This is the same type of sturdy, durable lock formerly used only in the most expensive public buildings and offices...

A cylinder lock of the finest quality

By applying streamlined production to modern engineering design, the Sargent IntegraLock can now be sold at a price well in line with the price of the usual front door handle set. The IntegraLock is a far better lock—has a harmonizing beauty of design, new conveniences in use and greater security. Write for catalog pages and descriptive folders for your customers.

Sargent & Company
New Haven New York Chicago
American Standard

First in heating...
First in plumbing

Installed here

American Standard

First in heating ... first in plumbing
... and here's why it will pay you to feature these quality products

An American-Standard "INSTALLED HERE" sign prominently posted on the job tells everyone who passes that you're a stickler for quality... that only the best is good enough for the homes you build or remodel.

When you choose American-Standard Heating Equipment and Plumbing Fixtures for the buildings you're constructing you have the widest range of styles, types and sizes to select from. And you can be sure of unvarying quality—whether the installation is for a single or a multiple unit project.

For full information about the complete line, contact your Heating and Plumbing Contractor, American Radiator & Standard Sanitary Corporation, P. O. Box 1226, Pittsburgh 30, Pennsylvania.

NATIONALLY ADVERTISED
American-Standard Heating Equipment and Plumbing Fixtures are backed by an extensive advertising and merchandising program. Full-color, full-page ads in leading national consumer magazines and hard-hitting pages in important institutional and trade journals carry the story of American-Standard to millions.

WIDE ACCEPTANCE
More American homes have heating and plumbing by American-Standard than by any other single company.

FINEST HEATING
American-Standard Heating Equipment covers every type of heating—radiator heating, warm air heating, and winter air conditioning—and for every kind of fuel. Each unit is engineered for maximum efficiency and operating economy.

QUALITY PLUMBING
Every product in the long American-Standard line of plumbing fixtures is designed and constructed for beauty, serviceability and durability. American-Standard quality is recognized as second to none!
NEW Features meet REAL Beauty
in the NEW Modine CONVECTOR

NEW... Dual-Purpose Damper— for finger-touch temperature control—conceals outer grille.

NEW... Convenient Air Venting that's out of sight, yet instantly accessible.

NEW... Snap-In Lower Grille conceals piping, simplifies floor and carpeting treatment. Optional.

ALL-COPPER Heating Unit gives you high capacity, great durability.

EXCLUSIVE New Features Simplify Installation
Increase Operating Convenience... Add to Appearance

Biggest news in convector radiation history—that's the new Modine Convector. Its entirely-new installation, control and maintenance features make it the better way to heat the modern apartment, new home, school, office or hospital. Choose from four types, many sizes, for one- and two-pipe steam and hot water systems. For the full story, call your Modine Representative. He's listed in the "Where-to-Buy-it" section of your phone book. Or write direct. Modine Manufacturing Company, 1501 Dekoven Avenue, Racine, Wisconsin.

Functionally styled, the new Modine Type F Convector (shown at right fully recessed) adds beauty to rooms, eliminates recessing problems common to conventional convectors. What's more, it's ideal for free-standing installation, too.
AT LAST! A PERFECTED GARBAGE DISPOSER TO GIVE YOUR HOUSES THAT FINAL "DE LUXE" TOUCH THAT "WINS THEM OVER!"

Give the owners of your houses an extra their neighbors don't have—a new American Kitchens Disposer—and they'll praise you all over town as the most progressive man in your line!

Yes, women who own American Kitchens Disposers talk about them—rave about how wonderful they are! Because this amazing new type of disposer quickly liquefies even hardest bones... and positively can't jam nor clog—even if metal is dropped in—thanks to the center pivot of the patented knee-action pulverizer arms!

The new American Kitchens Disposer is safe, odorless, sanitary—competitively priced, easy to install, easy to service. See it at your nearest American Kitchens dealer or distributor.

FREE! Architects-Builders File... gives blueprints of outstanding kitchen treatments, equipment specifications, etc. Ask your nearest American Kitchens supplier. If you don't know his name, write us today.

AMERICAN CENTRAL
Division—AVCO Manufacturing Corporation
Connersville, Ind.
TELEPHONE RACEWAYS IN THE MODERN MANOR

Today good building practice calls for built-in telephone raceways. They assure the owner against exposed telephone wires on walls and woodwork. They provide him with planned telephone facilities.

Raceways are easy and inexpensive to install during construction. A few short pieces of pipe or tubing will carry the wires within the walls to neat, built-in telephone outlets.

For homes of any size, your Bell Telephone Company will be glad to help you plan modern convenient telephone arrangements. Call your Telephone Business Office and ask for "Architects and Builders Service."

BELL TELEPHONE SYSTEM
CLIPPER MASONRY SAWS Speed Production

WORK LIKE MAGIC ON EVERY JOB!

The hardest masonry materials sliced in two quickly and easily. Users everywhere acclaim Savings.

YES, the Value of Clipper is proven daily throughout the country. Whether your job is large or small makes no difference. You'll find Clippers just as Efficient on Skyscraper Jobs as when cutting Brick and Marble for Fireplace Trim. Clipper's excel in Simplicity, Flexibility, and Portability.

Here's the 1949 Model "HD" Clipper (cuts wet or dry!) with "Adjust-A-Cut" Control. You'll be amazed when you see it perform. Straight cuts, angles, notches so fast and easy. Yes, this new Clipper has many advanced features together with those which Clipper originated to make efficient masonry cutting possible.

What's the Clipper Cutting Principle?

Why Strain? You Can Zip Thru

Ever try to tear a telephone book in two? The full thickness is a real strain, but when you take a series of easy to handle sections — you can zip thru. That's the story behind the original Clipper Cutting Principle. Less arc of contact means faster cutting action.

You Can Cut ANY Masonry Material

- Glazed Brick Tile cut in 19 Seconds
- Sewer Pipe cut in 14 seconds
- Concrete Blocks cut in 21 Seconds
- Natural Stone cut in 11 Seconds
- Glass Blocks cut in 8 Seconds

Clipper Automatic Pressure Control

Here's a Patented Clipper feature that's no secret. Users everywhere know it's smooth, automatic action that speeds cuts and makes possible Clipper's guarantee of Longer Blade Life.

Clipper Snap-on Blade Cover

It lets you cut wet without getting wet. An outstanding Clipper safety feature for both Wet and Dry cutting.

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BUILDERS AND CONTRACTORS LIKE

Keymesh

REINFORCING FOR STUCCO
AND OVERCOATING

For these GOOD CONSTRUCTION reasons—

 Builders and Contractors interviewed from coast to coast agree that Keymesh reinforcing for stucco and overcoating insures better stucco construction—stronger, more durable walls. They like the open mesh design of Keymesh, a design that permits deep embedment of each steel wire in the "scratch" coat of stucco. They place a high value on the fact that Keymesh is galvanized for lasting rust-resistance, and believe that Keymesh gives a better "key", a better bond and stronger reinforcement.

The same survey also shows a strong trend toward the use of more stucco

Builders appreciate modern methods of construction, using steel-reinforced Portland Cement, to insure permanent crack-resistance. They report that more of their customers ask for stucco; that architects are specifying it more often. And, homeowners are favorable toward stucco, particularly those now living in stucco homes and planning to build. They like stucco's beauty and low maintenance cost.

Try KEYMESH Reinforcing On Your Next Stucco Job

For new homes or remodeling, stucco offers the practical answer to beauty, strength, economy and ease of maintenance. Reinforce your next stucco job with Keymesh—your lathers and plasterers will like Keymesh—and you will find that it speeds construction, helps to reduce your costs. Keymesh is available for immediate delivery through your dealer.

• Keymesh is shipped in rolls 150' long by 3' wide. For stucco and overcoating, use Keymesh 1 1/2" hexagon mesh, 17-gauge steel wire, or 1" hexagon mesh, 18-gauge steel wire. Both are galvanized.

Actual wall sample shows why Keymesh insures stronger stucco. The open mesh design is the right size for easy troweling and the right size for good holding power. Keymesh furring nails firmly position each steel wire deep in the scratch coat. Note how Keymesh is deeply embedded.

Keystone Steel & Wire Company
Peoria 7, Illinois
From STANLEY comes not one but a parade of new items...to make homes EASIER TO SELL

You can almost see the admiring, approving nods of clients now, as this parade of new Stanley items passes in review. Think of it—a dozen new ways for you to add to the beauty and sales appeal of the homes you build!

Yes, you can specify this new Stanley Hardware with confidence that it has public acceptance. Here is the simplicity and richness of design home-owners want, plus the craftsmanship that has made Stanley the greatest name in hardware.

Include these new goods in your building plans for the New Year. Every item, you’ll find, makes a hit with home owners, and makes it easier to close the sale. Ask your Stanley dealer for details. The Stanley Works, New Britain, Conn.

STANLEY
HARDWARE • HAND TOOLS
ELECTRIC TOOLS • STEEL STRAPPING
It's "quality built" when you insulate with Johns-Manville SUPER-FELT*

Full-wall thickness

J-M Super-Felt Batts fill hollow walls to capacity... provide maximum insulation... no "duel-like" spaces to create a fire hazard. In the attic too, full thickness gives extra protection against summer heat, increases fuel savings in winter.

Far more effective

The figures under the above diagrams represent the total resistance to the passage of heat through frame walls insulated in three different ways. Note that the wall with Full-Thik Super-Felt has far more heat resistance than either of the others. This means greater fuel savings to your customers and more year-round comfort.

Costs no more to apply

Installation costs are the same whether you install inadequate insulation or the best. You can easily cut Super-Felt Batts with an ordinary knife to fit snugly around corners, firestops, braces, windows, etc., resulting in a better and more efficient job.

An attractive plaque is available for display in your houses when insulated with J-M Super-Felt. It helps identify you as a quality builder. For details write: Johns-Manville, Box 290, New York 16, N. Y.

Take this low-cost Portable Saw-Shop to your job!

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

To build more and better houses faster—builders use this portable, low-cost DeWalt. Because most of its working parts are now of light-weight, heat-treated aluminum, operators find it easier to handle—safer than ever before—and it does the fast, accurate work they want. It's a machine you can get quickly. Write for catalog. DeWalt, Inc., 11 Fountain Avenue, Lancaster, Penna.

The saw that's first with builders
"BACK IN NOVEMBER 1937 we installed 45 Servel Gas Refrigerators... and they are still giving our tenants noiseless, dependable service... at continued low cost, too."

PETERSON-HALVORSEN
Managers of 3521-29 Broadway
Chicago, Illinois.

"FOR OUR NEW 24-APARTMENT BUILDING we chose Servel. After observing refrigerator performance for the past ten years, we decided that trouble-free service was the feature we desired most."

LARSEN & BLIX
Managers of 2626-32 West Gregory St.
Chicago, Illinois.

"AFTER 15 YEARS OF EXCELLENT SERVICE, my tenants thank me, and I thank Servel for the Gas Refrigerator's low-cost operation and year-after-year dependability."

BASIL GAVIN, Treasurer
Boston Management Corp.
137-143 Park Drive
Boston, Mass.

"OUR NEW GAS REFRIGERATORS—installed a short time ago—have already convinced me that Servel is my best refrigerator investment... by far!"

PAUL LIVOLI
Fairfield Gardens
Watertown, Mass.

Silence and long life sell
"WAY BACK IN 1933 we chose Servel for our 56-room apartment house. Thanks to that wise choice, our tenants have enjoyed 16 years of silent, dependable service . . . at very low cost."

JACOB BROMBERG
President of the 6030-62nd St. Corp.
Ridgewood, Long Island, New York

"JUST ABOUT TWO YEARS AGO we installed 89 new Servels. What sold me on the Gas Refrigerator? Why, no noise, no wear, low operating cost, and longer life, of course."

MORRIS LAINOFF
Agent for Kings Tower Realty Co.
1525 E. 26th Street, Brooklyn, N. Y.

Noiseless, dependable operation year after year is the reason for the Gas Refrigerator's steady rise in preference

Down through the years, the Servel Gas Refrigerator has been a favorite with apartment owners. From experience they have learned that tenants welcome the silent refrigeration that only Servel can give.

Tenants also appreciate the Gas Refrigerator's dependable "always on the job" service. They don't have to worry about mechanical breakdowns which can cause costly food spoilage and annoying interruptions to their daily living routines. And, of course, apartment families are enthusiastic over Servel's many modern conveniences, including the spacious frozen food compartment . . . roomy moist cold, dry cold sections . . . and the over-all big, flexible interior.

Low Operating Cost . . . Lowest Upkeep

Even after many years of faithful service, Servel operating costs remain remarkably low. You'll also find that repair and replacement bills stay at the minimum. The Gas Refrigerator does not lose efficiency with age because it has no moving parts in its freezing system. There's not a single piston, pump, valve, or compressor to break down, wear out, or get noisy. Only a tiny, silent gas flame is needed to circulate the refrigerant through Servel's different, modern operating system.

See your Sweet's Catalog for full information on the Servel Gas Refrigerator . . . or write to Servel, Inc., Evansville 20, Indiana.
Handsome glass block panel serves dual purpose of protecting privacy while blocking out a view that may be unsightly.

Hide unwelcome views with

Insulux Glass Block

When a side exposure faces a house close by—especially an unattractive house or a blank wall—consider the advantages of Insulux Glass Block.

Panels of glass block hide unwelcome views, as shown above.

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American Builder, January 1949.
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Now—add Radial Saw features to your Portable Electric Saws—with a Black \& Decker Quick-Saw Arm! The new Quick-Saw Arm gives you \textit{dual} versatility: (1) A \textit{positive} set-up for "pre-fab" cutting; (2) \textit{Flexibility} of adjustment to make many kinds of cuts... in "on the job" sawing or production shop use. It helps you make more accurate cuts, increase speed, reduce fatigue. It does fast plunge cutting on moulding, fence pickets, etc.

All three Black \& Decker Electric Quick-Saws (and most other portable electric saws) fit into the adjustable carriage of the Quick-Saw Arm in a jiffy. Entire unit clamps to saw horse or mounts on table. All adjustments quickly regulated on the column. And, however you use them, Black \& Decker Quick-Saws beat hand sawing 10 to 1—in wood, metal, stone or composition sawing—with maximum safety. Ask your nearby Black \& Decker Distributor for complete details. Write today for free catalog to: The Black \& Decker Mfg. Co., 666 Pennsylvania Ave., Towson 4, Maryland.
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Trademarked Arkansas Soft Pine is produced exclusively by big, modern mills. It is well manufactured to standard sizes, scientifically kiln dried and seasoned to specified moisture content. Available to you at local lumber dealers and planing mills east of the Rockies. For complete information, data and how to specify, write for your copy of this useful handbook.
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Distinction, harmony...variety...achieved with ASPHALT SHINGLES and Limestone

In their Belford Heights development, Indiana Limestone Company, Inc., under the guidance of W. W. Cordes, Architect, and F. W. Pressler, Associate, of Cincinnati, have combined the dignity and permanence of Limestone with the warmth, versatility and long life of Asphalt Shingles to achieve a community of individualized homes of unusual distinction. Through design and color the charm captured in the typical home above has been multiplied by all of Belford Heights.

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CONSTRUCTION'S BIGGEST DOLLAR'S WORTH

Its trees, hills, park and houses are for employees

Belford Heights is proving itself both a practical product demonstration project—and a comparatively successful employee housing development for the Indiana Limestone Company. In the capable hands of J. Harry Dickman, veteran statics builder of Cincinnati, and with the creative imaginations of W. W. Cordes, Architect, and F. W. Pressler, Associate, fitting design to material and setting, an industrial housing community of unusual distinction is nearing completion. With contemporary design calling for long horizontal lines, Indiana limestone steps are being cut in random lengths up to 4 feet. Asphalt Shingles have been used throughout in black, brown and gray color groupings.

SHINGLES

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- Self-centering backplate makes installing a cinch
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because the occupants have the power of final decision. They are owner-builders

who always insist on the finest—in blueprints, materials...equipment, installation.

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will have an average of

7.2 rooms each...

plus

2.8 baths

and lavatories...

and garage space

for 2 cars...

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6 PLUS VALUES
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WITH GOLD BOND FIBRE INSULATION SHEATHING

The big, sturdy panels of Gold Bond Insulation Sheathing...made from specially selected Southern pine...provide greater structural strength than the old method of applying narrow sheathing strips.

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The big, lightweight panels are easily handled, each panel spanning the space between seven studs. They go up so fast that two men can sheathe an average small home in half a day.

SPEEDS APPLICATION

No lap loss, no random lengths, means less waste...lower costs. 25/32 in. thick panels supplied in 2'x8' size with ship-lap edges and 4'x8' size with square edges. ½ in. thick panels 4'x8' also available.

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Gold Bond Insulation Sheathing keeps summer heat out, furnace heat in! (Meets federal specifications L.L.L.—F—321 b) And because there are fewer joints and no knot holes, walls are more wind-tight.

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The tough fibres are rendered moisture-resistant by National's Multi-Seal process. Asphalt coated surfaces and edges provide immediate weather protection so that interior work can proceed.

EXTRA MOISTURE PROTECTION

you'll build or remodel better with
Gold Bond

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Over 150 Better Gold Bond Building Products including gypsum lath, plaster, lime, wallboards, gypsum sheathing, rock wool insulation, metal lath products and partition systems, wall paint and acoustical materials.
Use of Stran-Steel framing throughout the nine buildings of the $2,752,000, 300-family McConaughy Terrace garden-type apartments, now under construction in New Haven, Connecticut, is providing fire-resistant, long-life buildings with real economy.

Since this project is being amortized over a fifty-year period, these factors are of vital importance. When plans for the project were formulated, Douglas Orr, architect, and the New Haven Housing Authority, owners, believed that the precision, simplified Stran-Steel framing system could provide premium quality and fast construction.
Cost of McConaughy Terrace’s fire-resistant construction is on a par with ordinary frame construction, because of the savings in time and the simplified procedures possible with Stran-Steel framing. Moreover, a permanently rigid, rot and termite-proof Stran-Steel framework insures lower maintenance costs and long life.

Fabrication and partial pre-assembly of Stran-Steel framing panels off the site during foundation work simplify and speed erection on the site. Delays in close-in time are further reduced by the availability of Stran-Steel framing, which permits carpenters and almost all other trades to work simultaneously on both interior and exterior construction.

Stran-Steel framing is making McConaughy Terrace apartments better buildings without increasing costs. If you are planning new construction—commercial, industrial or residential—you can get the same advantages from this modern framing system.

McConaughy Terrace Project

GREAT LAKES STEEL CORPORATION

Stran-Steel Division • Dept. 30 • Penobscot Building • Detroit 26, Michigan

UNIT OF NATIONAL STEEL CORPORATION
A completely healthy community means one with no garbage cans.

In any home, eliminate the messy garbage can and you take a step toward good health. It's easy to do. Simply install a Mullinaider electric garbage disposer.

The J. C. Nichols Company, nationally known developer of the beautiful Country Club district in Kansas City, Missouri, knows what a wonderful sales feature is added to homes when garbage is eliminated.

Mr. Miller Nichols, Sales Manager, says: "We have now installed 300 Youngstown Steel Kitchens in our Country Club homes—recently, many have included Mullinaiders. The Kitchenaider-Mullinaider combination is desired by our home purchasers."

Remember—by making the Mullinaider an original installation, you save your customers future expense and give a wanted home feature. Ask any Youngstown dealer for more details or write Mullins Manufacturing Corporation, Warren, Ohio.

The Mullinaider electric garbage disposer eliminates evil-smelling, disease-spreading garbage cans. Adds only a little to the cost of a home; but adds a lot to the value. Will soon be a "must" in every kitchen.

Visit the Youngstown Kitchens display at the Builders' Show in Chicago, February 20-21, booths 98-192 in the Stevens Hotel.

Youngstown Kitchens
BY MULLINS
World's Largest Makers of Steel Kitchens
ALWAYS feature Honeywell. It gives your homes the added sales advantage of the name that stands for the best in heating comfort.

With Honeywell’s new Chronotherm—the finest electric clock thermostat ever built—homeowners enjoy the most carefree heating comfort they have ever known, plus substantial fuel savings. At bedtime, Chronotherm automatically lowers the temperature, or entirely shuts off the heat supply. Then, in the morning, heat is restored before the family arises. The result—never a worry about heating plant operation, with fuel economy as well.

For all forced air installations, the handsome new Honeywell Register puts an end to discomforting blasts of air. Instead, an even blanket of air is diffused to every corner of the room. Cold spots are eliminated—so are unsightly wall and ceiling streaks. And installation costs are drastically reduced. Minneapolis-Honeywell, Minneapolis 8, Minnesota . . . . In Canada: Leaside, Toronto 17, Ontario.
HOMASOTE PROTECTS YOU

4 WAYS

- **against WEATHER**... Use Homasote Insulating and Building Board for interior or exterior finish and for every sheathing need. It is permanently weather-proof—provides lasting protection, great structural strength—insurance of a dry and quiet home.

- **against EXTRA LABOR COSTS**... When you can sheathe an 8' x 14' area with one piece of material, you save many handling operations, many unnecessary nailing operations. Simultaneously you get extra strength. Homasote sheathing is 270% stronger than conventional horizontal sheathing.

- **against CRACKED AND FALLING PLASTER**... Homasote Big Sheets cover the average wall in a single piece, make a perfect base for paint or wall paper. The house is forever free from cracks and falling plaster.

- **against ARTIFICIAL PRICES**... Homasote's sales policy since 1909 is as stable as the material itself. Homasote prices do not fluctuate on artificial factors.

You make a contribution of permanent value to any structure when you select Homasote for either modernization or new construction.

We invite architects and builders to send for a copy of our new booklet describing some of the many uses for weatherproof Homasote. The book gives physical characteristics, performance charts, specification data and application instructions. Write for your copy today.

The house pictured at the left has living room, two bedrooms, kitchen, bath, storeroom housing heating plant, and four closets. It is eligible for FHA mortgage. It can be built to sell for approximately $6,500 — the costs varying slightly according to local conditions. A recessed entrance and a picture window are among its desirable sales features. This house is one of the results of a $500,000 research program conducted by Homasote Company over the past 12 years. Every detail of its construction has been fully proved. At an unusually low selling price for today's market, this house offers far more than FHA minimum requirements.

Homasote is happy to make the full details available to any interested builder. Your only cost is $15 — for seven complete sets of blueprints and specifications.

**THIS HOUSE CAN BE BUILT TO SELL FOR $6,500**
Tenth Edition . . .

The Building Estimator's Reference Book

By Frank R. Walker

The new Tenth Edition contains latest estimating and cost data on everything that goes into house construction, from foundation to finish. It can be used in any locality, regardless of local prices or wage scales. It covers all types of small and large building construction.

For 30 years Walker's handbook has furnished contractors and estimators the most complete compilation of estimating and cost data available. The new edition has been revised and improved in the light of postwar conditions. Thousands of items that enter into construction estimates are logically arranged and tabulated for ready reference. A complete cross-index enables the user to quickly locate any subject.

HELPS PREPARE BETTER ESTIMATES

A copy of this new edition will help any builder, contractor or estimator in figuring and performing work at minimum costs. It will reduce the chance of overlooking an important item in an estimate. New methods of doing various kinds of work are explained and new building materials that have come on the market since wartime restrictions were lifted are fully described.

SEND FOR A COPY TODAY

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.

FREE

With 'The Building Estimator's Reference Book

The Vest Pocket Estimator

This is one of the most popular little estimating books ever used by contractors. It contains 220 pages, 2½ x 5 inches, and is flexibly bound to fit the vest pocket. Estimating and cost data most frequently referred to is presented in condensed tabular form. It can be instantly referred to on the job or in the office.
Remarkable indeed, is the wave of popularity that is being accorded Unique Sash Balances. This wave of preference is sweeping the world. Yes, Architects and Builders, everywhere, are specifying Unique Sash Balance... the perfected, counter-balancing devices for all double-hung windows. Write today for more information about Unique Sash Balances.

UNIQUE BALANCE CO., INC.
25 Bruckner Blvd., New York 54, N. Y.

Unique Sash Balance plants are located in the United States, Canada, Australia, and in England to fill a worldwide demand.

18,000,000 WINDOWS equipped with Unique SASH BALANCES
LOWER PRICES—How to keep prices where they are, let alone lower them, becomes an intriguing problem for Los Angeles and Orange County (Cal.) builders. Case in point—Hod carriers get $2 a day increase, raising scale from $1.95 to $2.15, and bringing daily pay up to $21.50 for 8 hours. First and last hours are at double time.

THE CEMENT CASE—Question for the cement companies is whether they can lower their prices to meet competition without being in violation of FTC order issued after Supreme Court basing point ruling. Nobody knows. In meantime only safe course for cement companies is to sell f.o.b. mill or at delivered price of l.o.b. mill plus transportation cost.

CEMENT SUPPLY—Production is at capacity of existing mills. There will be no new mills built until basing point decision is clarified. Reason is that companies cannot afford to build new mills without knowing the market territory the mill will be permitted to serve.

POSSIBILITY—The cement ruling could be the basis for a move to invalidate all delivered price systems, including freight absorption, zone pricing and freight equalization.

PROPOSITION No. 14—That is the designation on the ballot of the state public housing measure which Californians voted on in November. The measure lost 2,182,677 to 985,171. The results make defeat of the Proposition look easy. It was anything but easy. Flying squads, including many well-known home builders, spent weeks informing the public of the dangers of the proposition.

LABOR LEADER—Being one is not a lofty pull, says M. F. Darling, head of Chicago's Local 1031, I.B.E.W., with 16,000 members. With communists and malcontents in his own ranks, rugged individualists in both the ranks of labor and employer, and lawyers writing legalistic booby-trap agreements in the middle, a labor leader is hard pressed to keep from becoming an ex-labor leader. Guess there is no bed of roses for anybody trying to do a fair job in a contentious world.

ASTUTE OBSERVATION—It's this one re the recent elections, "About all the election proved is that the candidates have a lot more sense than the people who vote for them. At least the candidates know where they want to go."

MUMBO-JUMBO—Charge it to Housing Expediter, Tighe E. Woods, who said that while he recognizes the unfairness of rent control he plans to recommend its extension and tightening because housing is essential. It's about the same as kicking a man's teeth out then saying, "I know that was a brutal thing to do, but I am now going to break your arm because good men are essential."

FREE ENTERPRISE—DeWitt Emery, National Small Business Men's Association, Chicago, was asked by his 13-year-old son, a high school freshman to give him a source for a definition of Free Enterprise. The search led through an encyclopedia and a half dozen dictionaries and other reference books, then through the Chicago Public Library. No definition was found. Between them they wrote one. There should be a definition if not a full text book on the subject in every school. The schools are full of text books on every imaginable un-American ism.

EMERY'S DEFINITION—The one he worked out with his son: "Free enterprise is, first, the right of each individual to decide for himself what his occupation shall be and to change occupations whenever he pleases; and, second, the private ownership and management of the tools and other means of production and distribution."
Main Entrance for Victor Carlson Prospects is Through

HOTPOINT All-Electric Kitchens

"WE SHOW our Hotpoint Kitchens first. This puts prospects in a buying mood. The entire house seems to take on greater value out of all proportion to the extra cost when you add Hotpoint All-Electric Kitchens."

- THAT'S THE ENTHUSIASTIC report of Carl V. Carlson whose home-building firm has installed 160 Hotpoint All-Electric Kitchens and plans a substantial increase in these sales-clinchers for the future.

- MORE AND MORE builders and architects are finding that Hotpoint Kitchens add that magic touch of extra value needed to justify today's prices. Financing is easy because in most states the cost of kitchen and house can be combined in a "package mortgage."

- IT WILL PAY YOU to investigate the extra value Hotpoint Kitchens will give your houses. Consult your Hotpoint distributor or write to Hotpoint Inc. (A General Electric Affiliate) 5600 West Taylor Street, Chicago 44, Illinois.

TODAY THE KITCHEN IS THE MEASURE OF VALUE!

CARL V. CARLSON
President, Victor Carlson Sons
Minneapolis, Minn.

Everybody's Pointing To
Hotpoint

PIONEER OF THE ALL-ELECTRIC KITCHEN
FOR ECONOMY INSTALLATIONS—Richmond Wall Hung Sinks. The Sewanee, plate No. 1554, illustrated here, is a good-looking, roll rim, single drainboard sink. Drilled for combination fittings and large strainer. Right hand drainboard (plate No. 1556) and left hand drainboard (plate No. 1554), both 42" x 22".

FOR COUNTER-TOP SINKS—Richmond Flat Rim Sinks. Illustrated is the Shelton, plate No. 2115. A double compartment, flat rim sink—drilled for supply fittings. Sizes 32" x 21" and 42" x 21".

FOR BASE CABINETS—Richmond ledge-back sinks with single or double drainboards. 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".

FOR CLOSE QUARTERS—Richmond Sink and Trays. These compact combinations are ideal for restricted space. Drilled for deck type swinging-spout supply fittings. Laundry tray compartment a full 13" deep. Two sizes; 42" x 25" or 50" x 25".

Whether you specify or install—Richmond Enameled Cast Iron Sinks are a credit to any job!

Winter-white, acid resisting enamel—clean-cut modern design—plus rugged cast-iron assure certain satisfaction to your customers... This complete Richmond sink line ranges from a 42-inch sink, with right or left drainboard—for small installations, up to the double sink, double compartment 72" Serbin for the finest kitchens... No matter what your sink problems are, Richmond has the answer for you.
One of the best ways to keep ahead of competition with the homes you build is this: Give your customers what they really want—modern Electric Ranges!

That’s the way to build houses that are modern today, and will stay modern for years to come. That’s the way to keep abreast of the trend to Electric Cooking. Another million American families bought Electric Ranges last year. Conservative estimates indicate that the same thing will happen again this year.

So 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!
EDITORS' Round Table

The February Issue will contain two special editorial features. One of these is a roundup of new building products. The other is a series of articles detailing the organizational setups of a number of well-known operative builders.

No One in the home building industry can afford to miss the roundup of new building products. That is not an idle boast of the editors, nor is it a promotional blurb designed to boost circulation. It is a simple statement of fact based on experience in former years.

Our Managing Editor, who is famous in the business magazine industry for his creation of interesting editorial presentations, first conceived the idea of presenting an imposing parade of new products in 1946. The idea was not new, but his way of doing the job was. We thought the idea was good, but its reception by our readers was nothing short of amazing.

Last Year, the basic idea was improved and expanded. The reception, based on inquiries and letters which swamped the office, was even more amazing.

The Parade this year will be the biggest ever. It will also be the most varied. Illustrations and descriptions (page after page of them) are presented to enable the reader to get a quick view of the item that catches his eye, and to run through the entire parade without spending a lot of time. Part of the presentation includes a plan whereby the reader can order complete information on any or all of the products in just a very few minutes.

The Other Feature consists of a series of articles which give a quick view of the operation and organization of a selected group of successful home building operations. This feature was conceived to serve several purposes. First, it will contain a whole host of ideas from which operative builders can choose for incorporation into their own organizations to increase efficiency.

Small Builders, although in most cases unable to copy any of the organizational patterns in their entirety, will find many ideas that will apply even in one-man operations.

(Continued to page 56)

Don't play Leapfrog— with figures!

Sales and survey figures both show that more people want Electric Water Heaters than ever before. The only way to satisfy them is to install in the homes you build the kind of water heaters that will satisfy your customers both now and years from now—Electric Water Heaters!

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

Electric Water Heaters can save you money on construction costs. There's no flue or vent. Installation can be made anywhere—in the kitchen, in the bathroom, or the utility room—even in a closet. This keeps hot water lines short, cuts piping cost.

Customers like Electric Water Heaters because they are: (1) AUTOMATIC (continuous hot water, no attention); (2) CLEAN (smokeless, sootless); (3) DEPENDABLE AND TROUBLE-FREE (as electric light); (4) ECONOMICAL (fully insulated storage, short hot water lines); (5) SAFE (all electric, dependable temperature control); (6) FLEXIBLE (can be installed anywhere, even in living quarters; no flue or vent).
SOUTHERN PINE
STRESS VALUES
provide a greatly improved
No. 2 DIMENSION

EXAMPLE:

★ BENDING STRESS 1,100 Pounds per sq. in.
★ BETTER TEXTURE (MINIMUM 4 RINGS per in.)
★ SMALLER EDGE KNOTS
★ GUARDS AGAINST CROOKING

Possessing greater load-bearing strength than previous No. 2, this new grade of Southern Pine framing is better qualified for residential and light commercial construction. Proper seasoning is a definite provision, by which this material is pre-shrunk and may be used with safety for longer spans than heretofore.

AN ENGINEERED MATERIAL
Southern Pine has long been recognized as superior structural lumber. This new No. 2 grade can now be specified for definite load-bearing stresses because it is an engineered material.

WRITE FOR GRADING RULES
For authentic data to guide you in specifying or purchasing every Southern Pine classification, send for these new 1948 Grading Rules. Your copy, plus the Grade Use Guide, will be mailed on request.

Quality Southern Pine Is Available, Now!

SOUTHERN PINE ASSOCIATION
Canal Building . . . New Orleans 4, Louisiana
ON THE LEVEL . . .

Good appearance is important when you install interior finish material. Owners are quick to point out bad alignment, gaping joints, visible nailheads, or panels that sag or buckle as time goes by. Naturally, you want the job to be completely right. It can be, with Armstrong's Temlok® Interior Finish.

Temlok walls and ceilings are always level and in alignment. An exclusive Temlok feature—the Lok-Bevel joint—assures it. This tongue-and-groove type joint allows units to expand or contract without buckling or sagging. It also provides an extra wide nailing flange which speeds the job, facilitates alignment of units, and hides nails or staples from view.

Armstrong's Temlok Interior Finish is exceptionally strong, light weight, and moisture resistant. Having no grain, it won't crack, split, or splinter. It comes in three convenient forms: factory-painted panels (12” x 12”, 16” x 16”, 16” x 32”); planks (16” wide, 8’ and 12’ long); and big boards 4’ wide and 7’ to 12’ long. Ask your Armstrong wholesaler for full details or write Armstrong Cork Co., Building Materials Div., 1601 Ross St., Lancaster, Pa.
If you want STRENGTH get—

BERMICO SEWER PIPE

YOU SAVE MONEY. BERMICO Sewer Pipe has strong walls, resists breakage. It's light, handles easy on the truck and on the job. Economical 8-foot lengths.

YOU SAVE TIME. BERMICO is fast-laying. One-two-three quick hammer blows and the joint is made—for keeps. No joining compound needed. You can back-fill right away, too.

YOU SAVE TROUBLE. With BERMICO there'll be no complaints later. It's corrosion-resistant, tough. Resists sudden temperature changes and soil settlements. Joints are root-proof, permanent.

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-11, 500 Fifth Avenue, New York, N. Y.

EASY TO INSTALL

EASY TO JOIN

EASY TO HANDLE

8-foot lengths reduce number of joints to be made. Root-proof, machine tapered joints require no packing. 1/3rd lighter than other types of sewer pipe.

BERMICO meets with an ample margin all requirements of Commercial Standards CS 116-44 as issued by National Bureau of Standards, U. S. Department of Commerce.

BERMICO—A PRODUCT OF BROWN COMPANY

American Builder, January 1950

EDITORS' Round Table
(Continued from page 56)

The Western Editor, who was unable to attend the staff meeting because of commitments many months ago, sent in several suggestions, most of which were kicked into the waste basket. That is no reflection on the Western editor. American Builder staff meetings are rugged affairs, and most of everyone's ideas are squelched. The Western editor, however, did have one that stood up. He wants all of our staff to be on the lookout for good public relations ideas by builders and dealers to pass along to others through these pages. The staff has been ordered and the readers are invited to help.

Fritz Burns, noting that the city of Los Angeles received a check for $132,000, which represented total collections in lieu of taxes from the 13,500 families now living in Los Angeles public housing, decried the fact that the check was blown up for photographic purposes, and received with fanfare by city officials. He wrote, "Without doubt this is a sizable sum of money, and I trust that you gentlemen (the city fathers) are duly impressed. However, I think it is regrettable that the ordinary John Doe taxpayers, who pay ten times as much taxes by the sweat of their brows, are afforded very little ceremony and no flowers. More likely they stand in line for half a day before a tax collector's window in order to avoid dire penalties. Let it be known that the bulk of our real estate taxes evolve from small property owners who, by dint of hard work and a desire to be self-supporting constitute the backbone of our city. On the average, such families pay real estate taxes of $100 to $200 a year, whereas families in public housing projects apparently pay only $10 a year—but, of course, with much more fanfare. The life of the taxpayer is not easy. Obviously it is easier to be supported by taxpayers than to be a taxpayer. The eulogizing of token payments from subsidized housing projects may cause many a taxpaying homeowner to wonder why he, too, should not choose the 'easy way.' During these times of full employment it seems unbelievable that 13,500 families can presume to live in this city, with all of the services at their command, for the total sum of only $10 a year."
 Builders:

ELJER GIVES YOU A SIZE, TYPE AND DESIGN OF PLUMBING FIXTURES FOR EVERY JOB

AS ADVERTISED IN THE POST: In 1949, Eljer advertising in consumer magazines, like The Saturday Evening Post, will reach more than 75,000,000 people. Everywhere, people know Eljer. You can be sure that your clients appreciate the long-life styling, superb quality and extra conveniences of Eljer's Fine Plumbing Fixtures, trimmed with Eljer's Quality Brass.

It pays you, it pays us - because we specialize in Plumbing Fixtures and Brass
ELJER EQUIPPED HOMES DO SELL FASTER BECAUSE

ELJER PLUMBING FIXTURES
ELDER PLUMBING FIXTURES

...Luxury without Extravagance

A fine bathroom is Luxury without Extravagance. When you buy Eljer Plumbing Fixtures, you invest in dependable, quality fixtures that are a joy to the entire family.

Eljer has been making plumbing fixtures exclusively for nearly half a century. In its complete line are bathroom, kitchen and laundry fixtures suitable for every purse and purpose.

Eljer bathtubs are made of rugged, rigid enameled cast iron in a variety of related styles and colors. The thick, glass-like surface is easy to clean and keep clean.

Vitreous china lavatories and closets by Eljer have the same velvet surface as your finest table dishes—yet with toughness to give trouble-free service for many years. They resist stains and the effect of all ordinary acids.

Ask your Plumbing Contractor about Eljer products today. Or send for Eljer's booklet "Fixtures of Beauty and Distinction". Eljer Co., General Offices, Ford City, Pa.

During many years of constant use, Eljer Fixtures have made remarkable records for durability and low maintenance costs in such buildings as the Netherlands-Plaza Hotel in Cincinnati and the Mayo Clinic in Rochester, Minn.

MANUFACTURERS OF FINE PLUMBING FIXTURES SINCE 1904

ELJER

Factories at Ford City, P.a., Salem and Marysville, Ohio and Los Angeles

There are over Ten Million Eljer Fixtures in Use

more and more people are asking for the Extra Features available

Only in Eljer's Fine Line of Plumbing Fixtures and Brass Trim
The Eljer Sylenta Closet Combination combines quality features that every homeowner would prefer to have.

This vitreous china combination is easy to keep spotlessly clean because the hard, glass-like finish resists stains and is impervious to all ordinary acids.

Other features are: syphonic jet-action bowl with “Elvortex” whirlpool jet; overflow and ground-in valve seat of china—a part of the tank itself... eliminating the need for thin metal parts that are vulnerable to the corrosive action of water; ball cock, adjustable to variations in water pressure... means longer service.

The Eljer Line is complete... to meet the requirements of every purse and purpose. See your Eljer Distributor for fine plumbing fixtures, in Vitreous China and Enameled Cast Iron... available in white or popular pastel colors, or write Eljer Co., General Offices, Ford City, Pennsylvania.

Quality Features... that Cultivate Customers

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News of the National Association of Home Builders and Affiliated Associations

NAHB 1949 Convention and Exposition Promises Action-Packed Program

Home builders who attend the Fifth Annual Convention and Exposition of the National Association of Home Builders in Chicago, February 20-24, can expect an action-packed program designed to meet the issues of the industry as a whole, as well as the problems of the individual builder.

That is the promise of the NAHB convention committee which has met at frequent intervals during the past month.

In announcing a tentative convention program, W. Hamilton Crawford, Baton Rouge, La., chairman, revealed that the backbone of the convention will be a carefully selected series of six clinics and four panel discussions.

The clinics will be held first on Tuesday, February 22, and repeated on Wednesday, February 23. They are to attend as many as possible. The panel discussions will be incorporated into the general sessions.


Panel discussions are entitled: "Tomorrow's Market," "Land Planning for Permanence," and "Grand Roundup." A fourth panel will be announced later.

Names of principal speakers and clinic and panel discussion leaders are not yet available. Frank W. Cortright, executive vice president, reports that the convention committee expects final selections to be delayed until close to convention time.

"It is our aim," he said, "to have the program as up to date as possible with the current housing situation at the time the convention opens. For obvious reasons, events which take place in January and early February may have a substantial influence in the selections of convention activities and the final selection of speakers."

Record Attendance Expected

Attendance at the 1949 show is expected to surpass last year's record total of more than 15,000 persons representing every phase of the homebuilding industry, according to Paul S. Van Auken, Chicago, convention and exposition director. He reports a plentiful supply of hotel rooms will be available in leading downtown hotels.

Van Auken predicts the best exposition in the history of the show. The number of exhibitors will exceed 130. They will occupy a record 208 exhibit spaces, all in the Stevens hotel. He also reveals that products to be shown at the exposition will be more diversified than heretofore, and many manufacturers will show new and improved products for the first time at this convention.

Will Show Movies Daily

Movies of the various "Economy House" projects will be shown daily throughout the convention. Extensive use of slide films and other visual aids are planned in connection with clinics and panel discussions.

A special invitation has been extended to members' wives to accompany their husbands. A full program of activities of interest to the ladies and their husbands. A full program of activities of interest to the ladies and their husbands. A full program of activities of interest to the ladies and their husbands.

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Panel Discussions Featured

Ohio Home Builders Annual

With the emphasis on panel discussions, and a minimum of featured speakers, the Ohio Home Builders Association held its fifth annual convention at Columbus, December 5-7. The morning session on the first day was opened by Walter J. Shapert, convention chairman, who introduced the first panel. The subject was "Merchandising and Selling." The title of the second and final panel of the morning was "Mortgage Financing."

Chairman of the luncheon session was A. J. Alexander, and the afternoon panel, held in the dining room, was entitled "Economy Housing." The annual banquet was presided over by retiring President Earl Bailey, and the speaker was Frank Cortright. He reviewed recent national association problems and activities, and called for continuing opposition to public housing legislation.

Presiding at the closing session on Tuesday was J. B. Haverstick. The program featured Normine L. Watkins speaking on membership, and the chairman presenting the film, "Baltimore Story." The concluding speaker, following a luncheon, was Milton J. Brock, president, NAHB. Brock delivered a stirring message on the need for strong associations in the house building industry, and outlined the legislative and other problems which confront home builders in 1949.

An innovation, devised by Chairman Haverstick during the morning session, was a panel in which the panel members posed questions to the audience.

Officers elected for 1949 are Francis A. Hendy, Cincinnati, president; Ivan H. Gore, Columbus, vice president; Peter D. Kleist, Rocky River, treasurer; and Paul Kessler, secretary. Over 200 builders attended.

Corace Is New President Of Pittsburgh Association

Frank Corace has been elected president of the Home Builders Association of Allegheny County (Pittsburgh area) to top the 1949 slate of officers. Other officers include: first vice president, Felix Caste; second vice president, Fred Favro; treasurer, William B. Dixon, and secretary, Eugene Cassidy.

Frank Nerone is the executive director of the Pittsburgh association.

Plan Now to Attend or Exhibit at the NAHB Convention, February 20-24, 1949
The struggle against antiquated building codes, zoning regulations and their hampering effect on home builders all over the nation has been one of the very challenging problems faced by the National Association of Home Builders. A new and constructive approach to this problem has appeared in the Detroit chapter’s Economy Home Demonstration Program to provide a pattern which every chapter can study with profit.

The Detroit effort is more than just a demonstration of economy-priced homes. It is a challenge to the public to clean up the building code and zoning situation in local communities. It can channel the right kind of pressure on local governments to make them take positive action.

The one thing that stands out about the Detroit program is that the association set out to build a good economy-priced group of houses and stuck to that aim. Where codes or zoning regulations set up unnecessary restrictions which increased construction costs, no effort was made to circumvent the codes. Instead, Detroit builders secured land where the restrictions were not in force. They are building homes that can be shown as examples of reasonably-priced construction, such as would be possible under a performance-type building code and realistic zoning law, but which are barred from many communities because of outdated regulations and restrictions.

People in the Detroit area are going to go out and look at these homes. A lot of them are going to want to make duplicates in restricted neighborhoods. The builders are then in a position to say, Sorry, your community government is one of the positive developments which may give harassed public officials some of the service of the association.

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For 25 years, efforts have been made to develop a standard building code which could be adopted on a voluntary basis by some 25,000 communities in the United States. No one yet has succeeded in doing it, but it looks closer than at any time in history.

Boggs’ committee, meeting with the Building Officials Conference of America, has added its recommendations to that group’s effort to develop a sample standard code acceptable to small communities. The BOCA work is just about complete.

A program such as Detroit is carrying out, if augmented by similarly planned programs in other communities, could very well create a demand for an acceptable standard code which would hasten the acceptance of the BOCA model—a model which our committee believes far superior to a lot of local codes now in force.

This basic new approach to economy housing, understood by Detroit, is one of the positive developments which may give harassed public officials the one weapon they have needed to secure reforms which many of them know are desirable. It can give public support. Building officials, seeking more modern codes, often have been blocked by public apathy. There was nothing to counteract the pressure of minority special interests which, rightly or wrongly, felt the older codes held benefits for their special groups. The new approach is worthy of widespread application.
Detroit's Demonstration Plan Can Have Far-Reaching Result

The Economy House Demonstration Program of the Metropolitan Home Builders Association of Detroit takes a brand new approach to the problem of building more lower cost houses of the double-barreled job the program is designed to do. In addition to illustrating what the home builders of the nation can do, it provides an equally vivid demonstration of what they cannot do—and why. It focuses the spotlight of public attention on unnecessary restrictions that need changing, and at the agencies that can make those changes if the public demands them.

Since the National Association of Home Builders first undertook to study the problem of providing more economy-priced homes, more and more of its local chapters have been forming economy housing committees to implement the program. The pattern of the Detroit plan, developed by the Detroit chapter's Low-Cost Housing Project Committee, may serve as a guide to other chapters, in the opinion of several NAHB executives.

Here is the rough outline of the plan. Detroit builders have bought a tract of land in Royal Oak, a Detroit suburb, and subdivided it into 132 lots ranging from 50 to 68 feet in width and 134 to 140 feet in depth.

Forty-six participating builders each will build one or two houses on these lots, using six basic floor plans, each with six variations in architectural treatment or specifications. The houses will sell from $4,000 to $8,000, including lots. Those in the lowest price range are to be financed under Title I of the National Housing Act. The first house is already complete.

Preceding the adoption of the program, five sub-committees put in a great amount of effort to make it possible. Each was concerned with a different phase of the program—land acquisition, design, establishment of costs and pricing, financing and publicity.

Henry F. Fett, chairman of the land acquisition committee, had the job of finding a suitable tract in the metropolitan area which had access to public utilities and was covered by zoning and building code regulations liberal enough to permit the low-cost construction.

The design committee, headed by Leo Riley, selected plans and designs and prepared working drawings, specifications and a master plat which indicated the floor plan, elevation and covering specifications for each lot.

The work of the cost-study committee was very important. Under the leadership of Elmer Kundinger, it first prepared a cost estimate for each type of house. Participating builders then submitted their own cost breakdowns which were analyzed by the committee.

Any portion of an individual builder’s estimate which exceeded the cost committee’s estimate was then discussed with the builder.

One of the toughest assignments went to the mortgage finance committee, chaired by Samuel Heckman—that of finding lending institutions which would write mortgages on the Title I houses.

Worcester Is Host to Milt Brock

A PRESIDENT of NAHB has to take his birthdays where they find him. President Milt Brock of Los Angeles celebrated his this year in Worcester, Mass., where he spoke before the Worcester chapter of NAHB. Here he blows out the candle on a cake furnished by his hosts. Looking on are, standing, John Olson, regional vice president; seated, Harry Gustafson and Alfred Renker, Worcester builders.

1949 St. Louis Home Show Will Be February 12-20

The 1949 St. Louis Home Show will be held in Kiel Auditorium in that city from February 12-20 under the sponsorship of the Home Builders Association of Greater St. Louis. John M. Bogdanor is general chairman.
Members of Spokane Association Build Groups of Economy Houses

NATIONAL officers of NAHB are shown one of several Economy House projects in Spokane, Wash., a group of $7,000 homes built by Hahn & Irwin. Left to right are Grant Hahn, president of Spokane Home Builders Association; NAHB executive vice president, Frank Cortright; NAHB president, Milt Brock; Frank Snider and Al Parsons. The visit took place following the Los Angeles directors meeting.

Four members of the Spokane Home Builders Association are completing homes in the economy price range on as many different developments. The prices range from $6,200 to a top of $7,200 for two-bedroom designs.

Hahn & Irwin is using a 720 square foot plan with full basement, plywood board and batten exterior wall, dry wall interior, heated by a coal-fired gravity furnace. The price is $7,000.

A basementless design of 700 square feet is used by Glenn Minard, priced from $6,200 to $6,500. The floor is a concrete slab. Interior walls are plastered. Exterior wall is wood shakes. A gas-fired wall furnace provides heat.

Bert Cheney has a larger model, 768 square feet, basementless, for $7,250. Of wood construction, it has dry wall interior and exterior of wood shingles and siding. Equipped with automatic oil floor furnace, electric hot water heater and automatic washer.

The $7,200 design of Minzel Construction Co. has 785 square feet, plastered walls and exterior of wood shakes and siding. Equipment includes same items as in the Cheney house.

Chicago Economy House Committee Completing Plans

The Economy House Committee of the Chicago Metropolitan Home Builders Association, in reporting progress, has arrived at definite recommendations for suggested foundation options, framing and interior finish specifications. It recommended that an architect be employed to translate these suggestions into plans which have the approval of FHA and VA. The Committee was set up to tie in with the national emphasis on low-cost housing.

Memphis Chapter Elects New Officers

OFFICERS for 1949 elected by Home Builders Association of Memphis are, left to right, Lloyd B. Lovitt, Jr., and Charles K. Chandler, directors; Frank K. Jamison, second vice president; Manny Delugach, president; D. T. Kimbrough, Jr., first vice president; Malcolm R. Fletcher, secretary-treasurer; Charles H. Freeburg and Mason Ezzell, directors. Offices this year involved a contest

Utah Panel Held Up as Model For Economy House Talks

A panel discussion on "How We Can Build Low Cost Houses," led by Allan Brockbank, was one of the features of the Utah Home Builders Association sixth anniversary convention in Salt Lake City. The organization of the panel was considered so outstanding that the questions used were mimeographed and mailed out to all other chapters by Frank Cortright, NAHB executive vice president. The panel included representatives of the building of mortgage finance institutions, public officials, building material suppliers, organized labor, veterans and government agencies.

B. Lue Bettilyon was elected 1949 president of the Utah Association. A. P. Neilsen is first vice president and Nick Papanikolas is second vice president. Directors include the three executive officers and George Earl, Lou Soules, Hamer Culp, H. S. Barrington, Roelof Steenblik, R. A. Flint, Roy Glazier and Elbert G. Adamson.

1949 National Home Week Date Is Set by NAHB

The second National Home Week will be held next fall from September 11-17, the National Association of Home Builders has announced. The early announcement of the date is to allow better coordination of national effort in 1949. More detailed plans will be issued in the next few months. The second effort is expected to exceed the first attempt in scope and result, according to Milton Brock, NAHB president. Using the experience of last September's effort, he said, all segments of the building industry can develop coordinated plans for 1949.
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Housing Legislation in 1949

THE SEPTEMBER issue of American Builder stated that public housing would be a live issue again when the 81st Congress convened. How accurate that prediction was, is borne out in the administration's announced program for housing legislation in 1949. The program calls for passage early in the year of all the features of S. 866 (the Taft-Ellender-Wagner bill), which the special session of Congress refused to pass last summer. Most important among these are federal subsidies for public housing, slum clearance, farm housing and research. The program also includes features for expanding the secondary mortgage market.

Since the schedule to which President Truman is reported to have agreed, calls for passage of the federal subsidy features first, and the financial features next, it can be concluded that each of the five or more features of the program will be presented as separate bills, or that the federal subsidy and financial features will be offered as two separate bills. The former procedure would be the fairer, but either is to be preferred to another omnibus bill such as S. 866.

It is known that the President expects to obtain passage of the entire program with a minimum or total absence of public hearings. The reason advanced for this procedure is that the federal subsidy features have been debated at length during the past three years, and there is nothing more to be said on either side. Whether or not public hearings can be forced remains to be seen.

With or without public hearings, however, there are forces in Congress, and reportedly in the Treasury Department, who recognize the subsidies as dangerously inflationary, and, therefore, will oppose them. Also, there are still strong voices in Congress that are familiar with the object lesson presented by the tragic plight of housing in England, which started with a little public housing. They will continue to present strong opposition to even mild experimentation in public housing. Then, there is the fact that the public housing camp is divided within itself, with all shades of opinion from those who believe that a half-million units in the next five years is adequate to those who want many millions over an indefinite period. Finally, if the subsidy features are passed early in 1949, there is still the possibility that the anti-inflation forces in the administration will refuse to appropriate funds to implement the legislation immediately.

There is no reason to believe that public housing legislation is a certainty in 1949. There is every reason to believe that continued opposition to it can be successful in 1949 just as it was in 1948. American Builder always has opposed public housing in the firm belief that it is inimical to the best interests of all who work for a living. No evidence has been presented that warrants altering that belief. Our position will continue to be in the forefront of those opposed to public housing and all other legislation opposed to the greatest good for the greatest number.
RAYMOND M. FOLEY, Administrator, Housing and Home Finance Agency

"The dominant fact in the current housing situation, it seems to me, is that the higher-priced market for housing for sale is wearing thin. This is evidenced already by the progressive drop-off in starts since May as contrasted to the contra-seasonal upswing of a year ago. Accordingly, our prospects for the coming year must be measured by the ability of the industry to produce a much larger volume of housing at substantially lower prices than we have been doing since the war, and a larger volume in the moderate rental field.

"The special session of Congress provided many of the legislative aids needed to stimulate the lower construction costs, and to finance lower-cost homes and more rental units. I am hopeful that these will be supplemented by the new Congress with other needed provisions for low-income families, community aids, and broader research.

"Already there is encouraging momentum developing in the building industry to concentrate on the lower-priced field. If the fields of finance, building, labor, and government all focus their resources on this common goal, home building opportunities will be greatly expanded in the years to follow. We can make 1949 a good year both for those who provide homes and those who need them."

AKSEL NIELSEN, President, Mortgage Bankers Association of America

"The mortgage, real estate and home building industries are faced with many new and complex problems as the new year opens but, as I read the signs of the time and attempt to foresee possible developments, 1949 holds every promise of being another productive year. From the mortgage man's viewpoint, the most important factor of the moment is interest rates in the past twelve months. The increase in mortgage rates so far has been small and some further rise is fully justified. Institutional investors, with a duty to their policyholders, cannot buy mortgages at unreasonably low rates when better investment opportunities are offered elsewhere. What the G.I. home program principally needs is an increase in interest rates from 4 to 4 1/2 per cent. I, personally, do not anticipate a drop in construction of the size being predicted at the end of 1948. I believe the drive for more low-cost housing is likely to have more force than most of us realize.

"Probably the most important development facing us is the government's attitude toward housing. Our industry has consistently contended that the solution to this problem lies at the local level and whatever assistance the federal government makes, should be made to the states based upon their individual needs. As 1949 opens there are ample funds for all legitimate needs, and the 1949 loan is likely to be a sound risk."

M. E. M. MURPHY, President, United States Savings and Loan League

"We expect that about 925,000 new dwellings will be built in 1949. Savings associations should be able to supply at least $1,200,000,000 of the financing needed for the new homes. Our contribution will be mainly in the price range under $10,000 where, as many homes will be absorbed as can be built.

"The effect of the $1,000,000,000 record-volume construction loans made by the associations last year is an accumulating experience which creates efficiency and speed in handling and a general momentum toward more lending of this type. Hundreds of associations which were doing their first experimenting with construction lending in 1947 and 1948 are geared for full speed ahead this year in what they once thought a type of loan requiring too much care and trouble. Not only the willingness of managers to make construction loans but the wherewithal to make them is in bright prospect for 1949.

"Lack of reasonable financing will not stymie the activity of any of the builders of homes—small builders or large scale builders—whom the savings and loan associations have found to be efficient and reliable as long as they build for the low-priced market, where, as many homes will be absorbed as can be built.

"By keeping all the builders at work as much of the year as possible, we can make another big dent in the housing shortage."

** CONSENSUS **

Optimism concerning the outlook for continued high volume production of new housing in 1949 is tempered by some uncertainty about adequate financing. This is particularly true in regard to mortgage money for houses in the $6,000 to $8,000 price range. Builders universally agree that emphasis will be on production of houses that can be purchased and financed by families with weekly incomes as low as $50 to $60. There is very little concern over material supplies, with the exception of cement and metals, which are expected to remain short. A sizable government housing program would, of course, threaten both the material and labor supply situation.

** GOVERNMENT **

Along with predictions of favorable conditions, for private home builders in 1949 government housing officials emphasize the need for new homes in the low price brackets. They acknowledge that their challenge to the home building industry for increased production of houses in this price range has resulted in nationwide concentration by builders on this class of construction. In addition to the legislative aids granted by the special session of Congress to lower construction costs, government housing officials are hopeful that these will be supplemented with other provisions for low-income families, community aids, and broader research by the new Congress.

** FINANCE **

Financial interests express confidence that there will be ample funds available to continue a record volume of new home construction in 1949. While interest rates have become firmer and mortgage rates have increased slightly, there is some opinion that a further rise is fully justified, primarily because institutional investors cannot buy mortgages at uneconomically low rates when better investment opportunities are offered elsewhere. There is general agreement that the G.I. program needs an increase in interest rates to 4 1/2 per cent. Savings and loan associations will continue to make loans at 4 per cent and beyond focus on loans for housing in the price range under $10,000.
The Leaders Say About 1949

MILTON J. BROCK, President, National Association of Home Builders

There is every indication that home production will continue at a high level throughout 1949. Builders in every section of the United States are directing their efforts toward a production record of lower cost or economy housing. The backlog of demand and need for housing in the economy bracket is at an unprecedented high. The building industry has the ability and manpower to meet the demand. Whether or not our plans for 1949 can be carried to a successful conclusion will depend in a large part on the attitude and cooperation of lending institutions. Inadequate financing is the only threat to a continuing high level of construction, particularly in the lower price brackets. It is up to the lending institutions to see to it that financing obstacles, whether these be interest rates or secondary markets, are promptly removed. With this promise the industry will be well on the road to a complete elimination of the housing problem.

"It is essential that the good industry balance which has been carefully worked out must not be upset by artificial means. The most imminent such danger is the possibility of a public housing program which would draw men and materials from the fast moving private home building industry and throw them into a great, sprawling program which would keep the American people waiting years for proper housing."

JAMES M. ASHLEY, President, The Producers' Council, Inc.

"It is unlikely that the number of non-farm housing starts in 1949 will exceed 900,000 units. This would be a small decline as compared with the latest estimates for 1948. The decline from the peak figure indicates some abatement of the 'desperation' demand that has been a feature of the postwar period, and a renewed willingness to defer purchase or investment where the buyer's notion of a proper quality-price relationship does not agree with the seller's. The decline also reflects the presence of a tighter mortgage market than existed during 1946 and 1947. It is not felt, however, that mortgage funds will generally be much less readily available than during the middle part of 1948 nor that interest rates or down payment requirements will be more stringent.

"As in previous years, the great bulk of production will be of for sale. The increasingly confused and distorted condition of the rental housing market as a result of rent control has become a strong deterrent to new investment in this field, a deterrent against which the special governmental inducements of mortgage and yield insurance probably will be ineffective. There are indications that operative builders will erect generally less higher priced housing, where the market is the weakest, and show increasing interest in more modest units, for which there is still a strong demand."

R. A. COLGAN, Jr., Executive Vice President, National Lumber Manufacturers Association

Indications are that the demand for construction lumber in 1949 will be high. This opinion is based upon estimates of the construction industry and an application for a federal public housing program. As a forward-looking construction industry accepts the responsibility for providing low cost rental housing, 1949 will see a great increase in the number of frame houses constructed.

This will, in turn, call for an increase in the proportion of building materials used for construction purposes. Also, other construction materials are continuing in short supply, in turn increasing the demand for all types of lumber products.

"Last year saw many production records broken by America's lumber manufacturers. The lumber industry was able to meet the demand of the nation's builders in most grades and sizes. It is well to note that the building industry also had a record year. There has been a decline in the amount of lumber on order during the past two months of 1948, and while some of this is seasonal, other factors such as the longshoremen's strike on the West Coast have had their effect. It seems definite, however, that the change from a seller's to a buyer's market, is nearly complete, where lumber is concerned."

MATERIALS

For the first time since before World War II, the home building industry anticipates a year of peak activity when the supply of basic building materials will not be a limiting factor on operations. With the exception of cement and metals, which are expected to remain in tight supply, manufacturers express assurance of a continuing, adequate flow to builders. At this time it appears definite that the change from a seller's to a buyer's market in lumber is about complete. Producers of gypsum products, millwork and specialty items, which have been short, expect to meet demand because of increased production facilities plus some anticipated reduction in new dwelling starts.

DEALERS

In the face of an all-time peak production of materials for distribution, retail lumber and building material dealers are expressing concern over government programs which, if adopted, are expected to take a substantial proportion of materials out of conventional channels of distribution. A domestic public housing program, European Recovery Plan needs, accelerated military preparedness and rearming of Western Europe are the four principal points in mind. The feeling prevails that if these programs are pursued energetically by government, it is inevitable that material shortages will appear. Despite these uncertainties, however, dealers are optimistic over 1949 prospects.

BUILDERS

Builders are confident that 1949 will be another year of record high volume new home construction. In all quarters evidence appears that an all-out drive is under way to concentrate on housing in the low price ranges—$6,000 to $8,000. The industry is confident that the difficulties experienced in recent months in the mortgage finance field are temporary and will be removed early in 1949. This is now the only limiting factor in a building program which can equal the 1948 record in new home starts, although there is general agreement that starts in 1949 will be slightly below those of 1948. Demand has relaxed for new houses in the higher price brackets in some areas.
LEADERS SAY

THEODORE H. MAENNEK, President-Elect, National Association of Real Estate Boards

The general attitude of realtors of the United States who are most actively engaged in home building is that 1949 home production will continue at a higher rate. It is expected that there will be a good market for new homes priced from $5,000 to $7,500.

If this price range is divided into two ranges—$5,000 to $6,250 and $6,250 to $7,500, and careful account is taken of the kind of house that may be offered in the two price ranges, it is probable that the market in the latter price range exceeds the former. Our builders are making thoughtful effort to simplify their operations and designs so that prices in these ranges may be more generally attained. Prefabrication has its important part to play in this goal.

CHARLES E. DEVLIN, Managing Director, Douglas Fir Plywood Association

"In the year ahead, the capacity of the Douglas fir plywood industry will be at the rate of 2,200,000,000 square feet a year, an increase of about 10 per cent over 1948. And before the end of 1949, the rate may climb to the 2,400,000,000-foot tempo if demand makes such increase advisable.

"Plywood manufacturers are optimistic that demand will remain on an extremely high plateau provided forecasts of heavy construction, house building and general industrial activity are more accurate than pre-election polls. With a more ready supply of fir plywood indicated in 1949 than at any time since before the war, builders may again plan their projects to utilize the panels more fully. The industry now is advertising and promoting in fields, including the farm market, which could not be supplied for the past eight years."

D. J. CRANE, Vice President, Eiler Company

"Production of all types of plumbing fixtures should continue to increase during 1949. We believe the demand will continue to be great but we feel that the supply will be much more adequate than it has been in 1948. Availability of pig iron will still affect the amount of cast iron plumbing fixtures that will be produced, but we believe iron wood will be available to increase production considerably. Vitreous china water closet combinations have been shorter than anything else in the plumbing fixture line and in this particular category a substantial increase in production seems almost certain. Production of plumbing brass to trim fixtures should be adequate to meet all requirements. All in all, we believe the plumbing fixture industry will do a good job in taking care of demand during the coming year."

ALLEN HARRIS, Jr., President, National Oak Flooring Manufacturers’ Assn.

"It is quite generally felt in the oak flooring industry that sufficient oak flooring will be available for housing and other construction projects during 1949. The industry, starting from scratch at the end of World War II, has been able to rapidly expand production in an effort to meet the needs of home builders. With reasonably favorable weather, the production of rough lumber suitable for flooring manufacturers should be sufficient for volume operations. The extent of the housing program for 1949 will be the determining factor in whether or not there will be an adequate supply of oak flooring for all housing needs. If home building remains at the 1948 level there should be adequate oak flooring available so that builders and architects may safely specify that material without fear of difficulty in obtaining a sufficient supply."

E. W. RUDICK, General Manager, Ponderosa Pine Woodwork Association

"While there will be a heavy demand during 1949 for standard pine woodwork items, the supply situation should show some improvement over 1948. The production capacity of the industry, such that it can take care of the forecasted 1949 demand, provided it will be able to get the necessary amount of shop grade lumber, do so. Continued, and further acceptance and use of modular sizes by builders will play an important part in helping this industry to produce more windows. This also means economies for the builders. Along with attention to modular sizes there will be also a wider use and call for exterior woodwork that has been preservative treated, especially in those areas where such treatment is added protection against local climatic conditions."

JOSEPH F. BATTLEY, President, Nat’l Paint, Varnish and Lacquer Assn., Inc.

"Paint manufacturers will continue to supply dealers with sufficient quantities of their products to meet demand in 1949. While demand is crowding supply for some of the white pigments, particularly titanium and lead, and a few chemicals, most of the raw materials and pigments available now will probably be adequate. The most materials in short supply, actually a greater volume of new home starts, but also because we expect some increase in output. Although the order backlog has been reduced, and is showing improvement, it is still substantial."

M. C. FAIRFIELD, President, The Insulation Board Institute

"The insulating board industry, having completed its most productive year in history, looks forward with confidence to 1949. During 1948, shipments of insulating board to dealers reached a record high of approximately two billion square feet. Despite this substantial increase in production, output has not fully kept pace with demand. How far the 1949 output of insulating board will go toward meeting the needs will depend on a considerable measure upon lumber dealers and wholesale. The biggest demand will come during summer months. Manufacturers at present do not have warehouse facilities to cope with that period. To meet this situation, wholesalers and dealers should be on the alert to build up their own inventories. In that way home owners and builders will be able to get prompt delivery on their requirements."
E. W. SMITH, President, American Builder, January 1949.

BLAINE S. SMITH, President, Universal Atlas Cement Company.

"Cement shipments this year will probably approach 205,000,000 barrels, which is about 18 million barrels more than the year before or nearly 10 per cent increase. This is an all-time peak of production and shipments for the cement industry.

"It is believed that production and shipments in 1949 will be distinctly greater and that at least as much cement will be available for home building and light construction as in 1948. Even with a slight decline predicted in the total numbers of houses started in 1948, it is expected that the demand for cement will remain at peak levels in most fields of use. It is expected that there will be no serious supply problems in cement for new home construction. Our company will push production to the utmost and continue to distribute our products equitably."

HARRY B. HIGGINS, President, Pittsburgh Plate Glass Company.

"For the first time since the war's end, plate glass and paint products should be in sufficient quantity to meet the demand from the construction and building industry during 1949. Window glass will probably remain in short supply. The record 1948 production brought about by close cooperation of labor and management, technological improvements and increased availability of raw materials helped to reduce the backlog of orders. Both plate and window glass production is expected to continue at the present high levels, as is the output of paint and protective finishes. Production of brushes, particularly top quality, is meeting with difficulty and there is little hope of relief in the near future. Pure China bristle is in very short supply and is extremely costly—being many times above the war time price."


"The present high volume of glass production is expected to continue during 1949. New production facilities and techniques will increase the year's volume of plate glass blanks. A substantial increase above the record year of 1948 is expected in production of large insulating window units. The demand for these units continues to grow as the insulating glass is used in large commercial buildings and institutions as well as houses. The tremendous demand for window glass, which has been in short supply, is expected to continue but new production facilities, plus maximum use of existing plants, should improve the situation. With predictions of continued high production figures for new home construction, plus a high volume of commercial and institutional building, it is expected that 1949 will be another good year in glass production."

B. W. CLARK, President, National Electrical Manufacturers Association.

"This year will probably be as good for most electrical products lines as 1948—the largest volume year in the industry's history. Actual 1949 accomplishments will depend considerably on the steel and copper supply and on industrial peace in mining, transportation and manufacturing. Steel has been and apparently will be even more critical than copper. Probably 1949 will be the year in which supply of appliances will approximately match demand—a condition which has been expected since the end of 1947. "Electrical building material sales, with a few exceptions, will be dependent only on the volume of actual 1949 construction and the copper and steel supply. The industry has ample production capacity to fulfill all the requirements which we anticipate from the home building industry."

JOHN W. PEASE, President, Prefabricated Home Manufacturers' Institute.

"Production of American homes for 1949 should equal the high rate established in 1948 and will be accomplished with a constantly expanding use of prefabricated panels. In support of this prediction there is a generally satisfactory situation in the supply of housing material but a relatively tight labor market, which definitely favors the efficient and speedy operator. Large scale output of low-cost, line-produced homes must be the free enterpriser's answer to the accusation that the building industry has failed to produce homes for those in the lower wage brackets. With the cooperation of land developers and home builders, mortgagees and the public, a sound long-range federal housing policy, the end of 1949 should see many thousands of American families on the road to becoming better citizens through home ownership."

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

"It is difficult to forecast the business outlook for 1949 until after the new Congress convenes in January. I think, however, it is safe to assume that a housing bill will have top priority and that standing orders over materials will be dependent upon the easy of rapid delivery. The rate of production of new homes in 1949 will be dependent upon the rate of production of materials to the consumer."

CLYDE A. FULTON, Vice President, National Retail Lumber Dealers Association.

"Retail lumber dealers, particularly in agricultural areas, will find business good during the coming year. In 1949 the alert dealer will find it possible to offer to his prospects the best and most complete assortiment of building material that has been available since the beginning of the war. With improved methods of construction now being studied and tested, with new products to offer that will stimulate demand, with the assurance that there will be fewer delays because of material shortages, I am optimistic as to the active interest of our buying public.

"In 1949 in the hearts of the American public there will still be the longing for new homes and for improvement and modernization of the old ones. We, as dealers, will have what it takes to satisfy their wants."

The American Builder, January 1949.
W. P. ATKINSON, Home Builder, 
Oklahoma City, Oklahoma

I believe that we will enjoy a high level of general economic activity during 1949. I expect many of our basic economic indexes to continue to rise. Therefore, although the peak in housing demand has been passed, we should have a strong demand all through 1949, particularly in the medium and lower price fields. If Congress solves the home builders present serious financing problems by providing an unrestricted secondary mortgage market, then we should build near conversation with leading builders over the nation, that a much greater percentage of home construction in 1949 will be in the lower price field. The prospects are that all materials, with the exception of metal and cement, will be more available. Labor is expected to remain tight.

THOMAS P. COOGAN, Home Builder, 
Miami, Florida

"Everywhere in my travels I find the builders turning to the $6,000 house. The outlook for houses in this bracket is excellent and we think there is a tremendous expansion in this price range. There is only one drawback and that is, that builders encounter exceptional difficulties in obtaining mortgage financing on small houses. It is difficult enough to sell the mortgages on the larger houses but a great many investment institutions refuse to buy mortgages on houses of less than 800 square feet. I think that if a liberal secondary mortgage market could be provided we would have a tremendous volume of home building in a sales price range of $8,000 and under, with the $8,000 price prevailing in the northern states, and $6,000 prevailing in the southern states. There is a huge backlog of demand in these price ranges."

NICHOLAS F. MOLNAR, Home Builder, 
Cleveland, Ohio

"The outlook for 1949 home building, for sale or for rent, looks very encouraging because: (1) home builders are concentrating on low-cost housing; (2) mortgage money will ease up; (3) the fact that construction costs are not increasing will induce many buyers to act now; (4) builders all over the country, who are producing post-war homes with up-to-date features at moderate prices and financing arrangements not requiring very large down payments nor high monthly payments are having no trouble making sales long before completion, indicating an excellent market for 1949. A considerable percentage of the 1949 housing production will be in rental units—two, three and four-family structures. My views will be considerably revised, however, if a large-scale government housing program should be undertaken and deprive the industry of labor and material."

R. M. LOCKWOOD, Home Builder, 
Detroit, Michigan

"The present stringency in supply of home mortgage finance is compelling builders all over the country to curtail their plans for 1949. I look for a slightly lower production of housing in 1949 as compared with 1948. Production could become substantially lower if the mortgage finance stringency becomes more acute. Builders simply cannot plan large housing projects in the face of the fact that the present home finance mortgage market is making it necessary for home purchasers to pay more than ten per cent as a down payment. I look for housing in 1949 to cost about five per cent more than it did in 1948, principally because of the fourth round of wage increases. With the outlook for material supplies good, it appears that the principal problem will center around procurement of adequate financing, especially in the low price range."

H. L. STORELY, President, 
Lumbermen's Association of Texas

"Home building in most areas of Texas will decrease in 1949. Among those who can afford homes on usual terms, the demand is normal. The unsatisfied demand is among those who do not have the necessary cash for the down payment. The FHA and creates a secondary market for mortgage loans of this class, resulting in lower down payments. The average Texas family of modest means in need of housing much prefers a home of its own than to be tenants in a government 'project.' Some building materials are still in short supply but prices reached the peak several months ago."

NORMAN P. MASON, Dealer, 
North Chelmsford, Massachusetts

"We still have a need for housing, but it is not enough to permit extravagant profits to builders nor to permit a profit after wasteful practices. In addition to other factors which make the new housing market healthy, there is a growing realization among average Americans that housing prices, after all, are in line with other prices in the economy, and therefore, they should not wait but start building or buying now. So much talk of government subsidized housing may delay building for rental. This is the view because more than one unit in every five built in 1948 was for rental purposes. Continued low interest rates will make financing more difficult, especially on low-cost houses. With some commodity price adjustments now downward, the public may adopt a 'wait-and-see' attitude on housing that would weaken the market."

W. A. BARKEDALE, Builder-Dealer, 
Charlottesville, Va.

"Since 1945 practically all of the home building in this area has been small houses of about 5½ rooms, selling for just under $9,500, including land. There is no indication that this type of building will slow down in 1949. While mortgage lenders on the whole is tight, the operative builders with good reputations at lending institutions, and with good appraisals, report ready sales. There is also a backlog of demand for commercial and industrial building, with a notable increase in this type of building in the last few months. The state has planned $396,000,000 in new school facilities, a program that will be a source of volume for three to five years. Colleges and universities also have extensive building programs planned, to get under way as soon as officials assure themselves that building prices have stabilized."

W. P. ATKINSON. Home Builder, 
Oklahoma City, Oklahoma

American Builder, January 1949.
A RECORD YEAR of achievement for the building industry was established in 1948. It is expected that the final tally will show 925,000, new dwelling units started, just short of the all time record of 937,000 units in 1925, with increases over last year in all sections except the East South Central region. In the January 1948 issue of American Builder, 950,000 new dwelling units were forecast. It now appears that the final figure will be 25,000 less than the final estimate of last year.

What happened was a drop in starts in the fall under the record breaking months of 1947. This is generally attributed to the fact that the peak of building starts in the fall of 1947 was contra-seasonal and that 1948 followed a normal pattern with the peak in the spring and a decline in the fall months.

From here and there came reports of unsold houses, vacant for months, which leads some builders to suspect that buyers are striking or that the housing shortage is over in their communities. Generally, deals are harder to finance and new home prospects with a three or four thousand dollar down payment who meet all the requirements of the mortgage bankers are fewer and farther between than previously.

It is reported that the price of old houses, which soared to a level higher than anyone dreamed possible a few years ago, dropped during the year. The price of new houses in most instances increased thus making a bigger spread between the price of an old house and a new house.

Construction Costs Rise

A standard six-room frame house which cost $12,761 to build in July 1947, according to Roy Wenzlick & Co., rose to $14,402 in July 1948, an increase of $1,640. In prewar 1939, such a house cost $5,894. The 1948 price is 2 1/2 times the 1939 price. But what could be expected with lumber 3 1/2 times its 1939 level and building labor rates more than double their 1939 level? The building industry did not produce a miracle house for $5,000 in 1948. What it did do was to produce hundreds of thousands of well designed, well equipped houses for $6,000 to $10,000 in most parts of the country. No better picture is available of the products of the residential building industry last year than the one presented in the October 1948 issue of American Builder which shows pictures, plans, and prices of "Houses That Demonstrate Today's Values" in all the different sections of the country.

Literally millions of people made tours of the new houses in their com-
munities in the first observance of "National Home Week" in September. It was such a "natural" that it was a wonder that no one had thought of the idea that occurred to the editor of American Builder to devote a week or longer in the fall to publicizing the new crop of houses which builders placed on the market during the year and to invite the public to inspect the modern equipment and step-saving arrangements.

Prefabricated Houses

The dreams of government planners for prefabricated houses turned out on an assembly line did not materialize. The Wyatt Plan of 1945 envisioned 600,000 prefabs a year. No more than 50,000 were turned out in 1948. Most of the more than 200 companies which were building prefabs or planned to build them have folded. It may still be possible to produce a satisfactory prefabricated house that will represent a saving over conventional methods of construction but it has not appeared in quantities at the present time.

Public Housing

While builders were busy building a record number of houses last year, the halls of Congress were ringing with debate on the Taft-Ellender-Wagner bill, designed to build new houses at the rate of 1,500,000 per year for 10 years. Although passed by the Senate, the bill failed to be put to a vote in the House. A similar bill will undoubtedly be reintroduced in the 81st Congress, probably this month.

No one will quarrel with the objectives of the T-E-W bill which states that "the production of a large and continuous volume of housing during the post-war period is necessary for the:

—highest attainable level of investment and employment in house enterprise generally and for house production's share in full employment of labor.

—increase in the total housing supply required to eliminate current housing deficits and for national growth.

—encouragement of home ownership and provision for rental housing for those who find it most suited to their needs.

—replacement of slums and other sub-standard housing in urban and rural areas.

—systematic improvement of residential neighborhoods as the core of better city planning.

—correction and rehabilitation of the existing housing supply.

But detected in the facilities proposed for the attainment of these objectives and methods for effectuating policy are the familiar assistance to private enterprise, and governmental aid which have already made agriculture a vassal of government. Transportation, public utilities and the banking system also operate under government regulation. If the residential construction industry is ultimately regulated by the federal government, this will leave only private non-residential construction and segments of manufacturing, wholesale and retail trade and the service industries as are not affected by the construction industry and agriculture in the realm of private enterprise.

The first experiments with public housing from 1937 to 1942 resulted in the building of 189,000 dwelling units for use by low-income families. About 15,000 units were started last year and 30,000 are planned for 1949. The objective of the T-E-W bill is to build 500,000 low-rent family units in the next 5 years, an average of 100,000 a year. The target may be raised when Congress convenes this month. It can be expected that the public housing units would first appear as they have previously in large cities, but ultimately some would be built in smaller communities.

What to Do?

"The trend toward socialization of housing can be stopped only by the provision for an adequate housing supply and the elimination of slums," according to Fred T. Greene, president of the Federal Home Loan Bank of Indianapolis.

He suggested that savings and loan people in each community organize groups to make continuous studies at the local level of present and future housing needs because provisions of adequate housing for the population is a local problem and the responsibility for studying these problems and making progress to meet them rests first

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Dwelling Units Started 1920 to Date—By Type

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AMERICAN BUILDER CHART
of all on leaders in the local communities.

Members of the U. S. Savings and Loan League are being urged to concentrate on 1949 mortgage loans on new houses priced under $10,000. They believe that 'production of a million homes a year for the next two years would end the housing shortage in every community,' and that 'expansion of financing in the lower cost home building field would insure such production.'

1949 Forecast

The Departments of Commerce and Labor predict a drop in 1949 new house starts. Their estimate is 875,000 permanent units compared with 925,000 last year, but they forecast an increase in dollar volume allegedly in anticipation of further inflation. But there are once more signs that the drop in the price of lumber, which has been expected at various times for two years, may actually occur. This would have an important effect on construction costs. On the other hand this could be largely offset by a fourth round of wage increases.

If it could be expected that rent controls would be removed in populous areas, the market for new houses would expand. This is definitely not in the cards now. Increases in construction costs make rental units at frozen levels more attractive than before.

Non-residential Building

The number of new commercial buildings in urban areas including stores, garages, service stations, office and bank buildings and amusement buildings has declined in recent months from the previous year's level. However the dollar volume has been consistently higher.

A decline in both dollar and physical volume occurred last year in industrial building. Some companies have completed postwar construction plans. Others have shelved them on account of high costs.

Less private educational buildings were built last year in urban areas than the year before. The number of new churches has decreased.

Public building, including such items as highways, sewer, conservation and development projects as well as hospitals, educational and other public buildings, cost about $4 billion last year. It is expected to increase to $5 billion this year, an increase of 24 per cent.

All told, the Department of Commerce expects that new construction in 1949 will set a new high dollar value of $18.7 billion, a 5 per cent increase over last year's $17.8 billion. Physical volume will be about the same as last year.

Prospect for Lumber Dealers

In September 1948, the index of sales of building and hardware dealers stood at 456.4 (1939 = 100), the highest of any classification of retail stores. The building materials retailers did a business of $655 million in September 1948 as compared with $575 million the year before, an increase of 15 per cent. If the government's forecasts as to the amount of new construction in 1949 prove accurate and the dollar volume rises only 5 per cent above 1948, the sales of lumber dealers will not increase by the large percentages that have appeared on their reports for the last three years. It would be expected that the same physical volume of building materials will be handled this year as in 1948, unless the amount sold for maintenance and repair varies appreciably.

Whether business goes up or down depends on growth in the dealer's particular community: just as the opportunities for builders vary from place to place. Some communities still face a critical housing shortage. In others the situation has been greatly relieved. New commercial buildings, schools, hospitals and churches are needed by communities which have grown rapidly in the past three years. In others, urgent requirements have been taken care of.

Farmers are the best customers of many lumber dealers and they are being urged to help ease a slump by buying "better living." The Agriculture Committee on National Policy of the National Planning Association says that "if farmers built the approximately two million new farm houses they need; repaired another million that need it; put in such improvements as electricity, running water and plumbing, refrigerators and other household conveniences then they would come into the market as substantial consumers of industrial products."

Building Means Prosperity

The building industry never was in a better position to capitalize on the lessons of the past than it is now. A large pool of labor has been assembled and more efficient methods have been evolved during this period of peak activity. The 1949 builder is alert to changes in the market and has developed a sense of showmanship which will help to move his product. The public knows that the future appearance and prosperity of all communities depend upon builders.
Result is record of 914 houses built and sold in one year without expensive promotion. Behind achievement was technical experience and the ability to organize men, methods and materials.
THE STORY is one of a veteran subdivider and builder, Milton Kauffman, who surrounded himself with three young men—each of whom is an expert in his particular line. An expert, himself, Kauffman subdivided his first tract in 1907. He has been at it ever since. Altogether he has subdivided more than 15,000 lots and built 2,223 homes in Southern California. At a time of life when many men think about retiring, he began work in Norwalk Manor, about 15 miles from downtown Los Angeles, and formed the organization which established the record of 914 houses and sold before completion in one year.

In a phrase, Kauffman’s philosophy is “Live and let live.” He applies it to both his associates and his customers. He believes in making a profit for himself, but he sees to it that his key men are paid handsomely. He believes in a low profit per house on a lot of houses; one reasonable profit on the entire transaction, from raw land to final sale.

His executive vice president, Don Wilson, grew up in commercial and real estate loan work. He now controls all disbursements; handles all FHA matters and all loan negotiations. Since the company’s volume grew from nothing to $7,000,000 in one year, Wilson’s executive ability and genius for organization was taxed to the utmost in running the office and making the innumerable decisions which arise in a fast growing business.

The man responsible for the sale of the houses is Reno H. Sirrine. “Don’t let your prospect get too comfortable,” is one of this salesman’s instructions to his men—“sell him while he’s still on his feet.” Sirrine sold 914 houses in a single year—in the competitive Los Angeles market.

When the second unit comprising 600 more houses was started, Sirrine sold 146 houses valued at $1,307,550 in a single day.

He had accumulated the names of over 300 veterans who asked to be notified when more would be available. When the second unit was ready for sale, he wrote these veterans asking them to be at the tract the following Sunday. They came, and 146 of them bought homes and made deposits.

One unusual policy established by Sirrine which is paying big dividends in creating confidence is his practice of refunding down payments (less escrow cancellation charge and credit report fee) at any time prior to moving in, if the buyer changes his mind.
When it is considered that all of the 914 houses sold last year were sold from three to six months before they were completed, it will be realized that the buyers had a great deal of time to change their minds. This liberal policy undoubtedly cost some sales, but Sirrine feels that the confidence and good will it brings far offsets the disadvantages.

Sirrine believes that it is easier to sell from plans than from model homes. "All prospective homebuyers have a subconscious mental picture of exactly what they want," he says. "When they buy from the plans, the picture is not disturbed; then when a buyer watches his home develop under construction, he transfers his picture to the house he has bought."

In July, 1947, the company sold its two-bedroom house containing approximately 800 square feet of floor space, plus a one-car garage, on a 60x100 foot lot for $7,825. Today, in spite of the tremendous rise in the cost of labor and materials the same model is being offered at $8,150, an increase of only 4 per cent.

Frank C. Sheldon, vice president and associate builder, is the man who builds the houses at costs which enable his company to undersell competition. He is in complete charge of all building operations, including purchasing and expediting. He also directs the architectural department which produces the plans used. The architectural work was formerly done on the outside, but Sheldon has found that by doing it within the organization, he can exercise a closer control and avoid the use of plans and specifications which result in waste or in costly building procedures.

Sheldon started in the building business when he was just a boy, working as a carpenter. During the war, he was superintendent on a 3,200 house project in the Northwest. For the past two years, he has directed construction of some 3,000 housing units in the Los Angeles area. He is a firm believer in streamlined on-site methods, using specialized crews for each operation.

Starting from scratch, with no organization, he completed the first 914 houses in one year. The going was rough, he says, and required 14 hours a day on the part of himself and his assistants in order to establish a flow of materials, to coordinate the various trades, to select and train his supervisory personnel, to build up competent crews of mechanics. But gradually his present system and organization began to evolve, and today he feels no hesitation in predicting that the new group of 600 houses will be completed in six months.

Sheldon says that his work might be described as the "Four C's Program"—Coordination, Cooperation, Cost Control. Under the heading of coordination he describes the vast amount of advance planning which precedes the actual start of construction work, and then the coordination of supplies and labor necessary to maintain schedules. As soon as FHA approval has been secured on a new tract, and while waiting for recording of the loans, Sheldon starts placing orders for materials and lining up subcontractors who in turn order their materials. Subs are chosen not entirely on the basis of lowest bids, but on the basis of proved ability to get the work done on schedule and willingness to work harmoniously with other trades.

"I include the word cooperation in my program," says Sheldon, "because I have found that no amount of driving, prodding, or even threatening will take its place. If the various factors in a construction program do not cooperate, the program will bog down and it's almost impossible to fix the responsibility. That's why we hold weekly meetings with our purchasing, expediting, and field supervisory men all present. Any complaints one department may have against another are ironed out at these meetings."

Sheldon is much pleased with the cooperation he receives from union officials. He takes pains to keep them informed as to his probable future requirements, and they usually are able to take care of him. All four of the "C's" enter into the highly organized technique used in the actual building operation which involves specialized crews for each job to be done. The mudsill crew, for example, does nothing but attach mudsills to the foundations. They become expert at it, they know what to do without instructions, they usually establish a satisfactory performance which can be depended upon.

The various carpentry crews break down as follows:

1—Mudsills
2—Girders
3—Joists. (Laborers bring the lumber to the carpenters)
4—Laying subfloor in place and toenailing
5—Nailing of subfloor
6—Layout of bottom and top plates
7—Nailing of corner posts
8—Raising crew
9—Porch lintels and posts
10—Rafter
11—Facia and starter boards
12—Roof sheathing
13—Setting of window and door frames

RAFTERS are placed on two horses. Truck backs into load; first horse is pulled out, then second, as truck backs further.
14—Pick up and installs meter box, grounds and blocking.

It will readily be seen that this method of operation requires eternal vigilance on the part of the superintendent. If one crew bogs down, all the rest are thrown out of gear. On the other hand, this very fact is realized by all the men, and it tends to keep them on schedule. Frequently a friendly rivalry exists between crews performing the same operation.

The framing lumber is packaged at the lumber yard and a load comprising all the necessary lumber for a complete house except rafter stock

CRIPPLES, headers cut with power saw: "Doodle-bug" delivers concrete from the mixer to the forms

TO NAIL sub-floors, men sit on low seats with rollers. After driving one nail, they push themselves into position for the next nail—with very little time lost.
is dumped at the foundation, with the
mudsills and girders on top. The
2x4's are precut to exact size, but the
balance is cut on the job. One mem-
ber of practically every crew has a
power tool to do the cutting.

Rafter stock is not included in this
load because Sheldon has found that
by the time the men get to the rafters,
the necessary long lengths have
usually been used up for some other
purpose. The method used in cut-
ting the rafters and loading them on
a truck is shown in one of the pho-
tographs. This loading method saves
15 to 20 minutes.

A power saw on wheels is brought
to the particular spot where walls
are being raised, for the purpose of
cutting headers and cripples. In or-
der to prevent waste, a pick-up man
gathers the short lengths cut from
plates and takes them to the saw man.

Sheldon has experimented with
prefabricated forms for foundation
walls, but has not been able to arrive
at a saving. He now uses 2x6's, cut
to length, and nailed together for each
foundation. An interesting method of
hauling them from one foundation to
another is by a skid, or sled, built for
that purpose.

Concrete work is speeded up by use
of a skip-loader which puts sand
and stone into the mixer, and by the
use of a "Doodle-bug" to take
the concrete to the foundations. Another
skip-loader puts the fill into areas for
porches.

The rough plumbing assembly is
prefabricated at the plumber's shop.
The plumber goes beyond usual pro-
cedure, even for big operations, by
prefabricating his water lines to the
fullest extent possible.

The all important matter of con-
trolling costs was given much study.
Sheldon developed a "weekly cost
FLOOR plan is typical example of house with garage in Norwalk Manor project.

**Analysis** in order to keep a constant check. This is made up in three parts, or sheets; one covering concrete labor, one, rough carpentry labor, and the last, finish carpentry labor. The sheet on concrete labor is broken into five operations: excavating; form setting; pouring foundations and garage, stripping and cleanup; aprons, sidewalks and steps; concrete mixing and transit. An optimum cost is set up for each of the operations.

There are columns to the right of the sheets where the number of units completed as of each week and the actual cost are entered, thus enabling Sheldon to determine how his costs are running each week.

The same type of form is used on the rough carpentry and finish carpentry labor. They are broken down as follows: Rough carpentry labor—nudills and girders, subfloors, framing, rafters, roof sheathing, jambs, frames and grounds; finish carpentry labor—porch trim, plywood, siding, and doors, interior trim, finish hardware and screens.

Each man’s time is carefully charged against the type of work he does. If he works on several operations during the week, this shows on his time card. At the end of the week, his card is turned in to the payroll department where the time applied to each operation is taken off, totals computed and posted on weekly cost analysis forms in the general office.

In addition to the weekly cost analysis, a daily progress chart is used to record the progress made each day on all operations, including those done by subs. Every night, each superintendent sends in his progress report on the work under jurisdiction, and these reports are entered on the progress chart which is placed on Sheldon’s desk by 9 a.m. each day. Thus he can tell at a glance where pressure or help is needed in order to maintain scheduled operations.

The houses have stucco exteriors, with many models being embellished with boards or shingles. Interiors are plastered and floors are hardwood. Asphalt shingles are used on the roof. Lots are 60 feet wide by at least 100 feet deep. Sidewalks, curbs, gutters, paved streets and sewers are provided. One- or two-car garages are included.

The two-bedroom houses are priced from $8,150 to $8,575; the three-bedroom models run from $9,250 to $9,950. All houses are priced at the figures set by the Veterans Administration, or lower. Down payments are $500, including all charges and escrow fees.

Milton Kauffman is making plans for extending his operations and has just concluded negotiations for 277 lots in nearby Compton, where the same type of houses will be built.
THE CURRENT blueprint house is another of the typical Anicka houses that have proved to be very popular. Its characteristics make it adaptable to all climates and locations.

One of the interesting features is the irregular plan contour around the perimeter of the house. This makes it possible for the architect to obtain the proper visual appeal regardless of the angle from which a view of the house is taken. The nature of the plan contour is such that the prospective builder or owner is not limited to one feature elevation; rather he has a house that can be adjusted to conform to any site. This can be accomplished by orienting the house to the site requirements, using either the front, rear or garage side as the principal facade.

The plan is a typical Anicka arrangement. The rooms are separated into groups according to their functions. The reception room, living room, dining room and study form the center core. The quiet wing is composed of bedrooms and bath, while the service unit containing kitchen, garage, basement stair and entry flanks the other side of the center core.

In this plan, circulation revolves around the living room which becomes the focal point for all activities. The service entrance at the opposite end of the house is protected from the elements by a large roof overhang that extends over the garage door. Access to kitchen, basement and garage is obtained through this entrance. A large terrace at the rear of the house provides for outdoor living.

The basement under the center portion of the house provides space for a large recreation room in addition to laundry and heating facilities. Concrete stairs lead directly from grade level at the rear to the laundry. This arrangement allows easy access from the basement to the outside.

Roof lines of the house are kept simple yet effective. This has been accomplished despite the fact that the plan contour is irregular. The low, wide-spreading eaves accentuate the current design approach to the one-story house, as well as providing shade for large glass areas.

Construction of this house follows conventional methods. Anicka has established room sizes based upon standard joist dimensions in order that a minimum of cutting and fitting will be required.
Given dimensions not to be scaled.
New Type Classroom
In Northwest Schools

Seattle area utilizes both clerestory and directional glass blocks for even light distribution in one-story square class room.

The result of 20,000 miles of travel throughout the country observing school design and construction is manifested in the new type school room developed by William Arild Johnson, A.I.A., and Associates, architects and engineers, Everett, Wash.

Natural daylighting, as it applies to school classrooms, is one of the chief concerns of school designers. One of the new techniques employed by Johnson is the use of directional glass blocks above the bank of ventilating and viewing windows in the exterior wall. Used in conjunction with clerestory windows or a monitor in the roof, the glass block provides excellent light in all portions of the room, including the corridor side, which was Johnson's greatest concern. This arrangement throws light back into the room, thereby, equalizing the light throughout and eliminating the necessity of shades.

There has been considerable increase during the past few years in the use of the "square" type class room. A feature of this room is the use of glued-up laminated beams overhead which function as trusses, eliminating interior bearing walls. This method makes the interior of the building completely flexible. All interior partitions can be removed without danger to the structure. Future rooms can be cut smaller or larger as desired. The glued-up beams are supported on the outside walls by concrete block piers and on the inside by wood posts set flush with interior partitions.

The new type classroom does not present a structural problem. The laminated beams span the 30 foot width. Square classrooms are found to be more economical to build than the conventional type, where wood joist construction is used on a typical 24-foot span. An engineered factory and mill type of construction for the roof, together with a monitor, is employed. It makes possible more and better distributed daylight at reduced costs. This type of class room is better suited to one-story than to multiple-story buildings. The latter would present a structural problem because of the 30-foot span. Where a number of these class rooms are placed alongside each other in a group to form an entire school assembly, then a greater cost saving is made. It is possible to obtain a better use of the available ground area due to the dimensional change from the conventional type. Larger playground area is possible; water, sewer, electrical lines and corridors are reduced in length.

The school room space can be enclosed at less cost because it requires fewer linear feet of wall. The whole school plant is more compact; more efficient use is made of the building space.

From an educational standpoint the "square" type school room has a number of advantages over the conventional arrangement. Instead of the activity or work spaces being concentrated in one end of the room, they can be placed to the
CUTAWAY drawings at left of typical classroom. Drawing at top shows view of exterior and rear walls, with front and corridor walls removed. Arrangement of the laminated beams supporting the roof are clearly indicated here.

Drawing below shows view of front and corridor walls with exterior and rear walls removed. This view shows arrangement of blackboards, bookcase, cupboards and wardrobes.

PLAN of typical one-story square classroom. With the use of directional glass block and clerestory windows, this type room is receiving wide acceptance because of economy of construction.

VIEW in typical classroom showing exterior wall with bank of ventilating and viewing windows and glass block above. Light from clerestory windows shown in upper right hand corner of room.
The adoption of the "square" room and the accompanying innovations, Johnson is able to deliver schools at a lower cost per square foot. In the state of Washington in which Johnson operates, school building costs vary from $13 to $16 a square foot; the average cost being around $14. On the four schools of this type, built under his supervision, the cost was $9.20 a square foot. This saving is reflected in the speed of construction. The fact that the schools were built in five months each has served to cut down the contractor's cost and overhead. On a cubic foot computation, the cost is 55 cents a cubic foot.

In designing this type of school building, Johnson was concerned first with the cost and availability of materials. The fact that lumber was in ample supply in this area prompted him to turn to wood construction. The use of laminated, glued-up beams, 11 feet on centers, allowed 3x6-inch T&G roof sheathing to span the distance. A built-up roof is applied directly to the sheathing. One by three-inch wood strips are secured to the underside of the sheathing after Kimsul insulation is installed. Acoustically-treated ceiling material is applied to wood strips. The upper portion of the inside face of the corridor partition is also similarly covered.

All walls are exposed concrete or pumice block. In the class rooms, there is very little exposed block as most of it is covered with blackboards, tackboards and cabinets. The interior partitions are non-bearing of 4-inch pumice block. This can be painted or left unpainted. Concrete floor over the entire area is reinforced with a heavy gauge mesh. Asphalt tile is laid over the concrete.

Each room is completely equipped with built-in wardrobes, teacher's cabinets, files, activity center across the rear of the room with sink and drinking fountain.

The heating arrangements in the schools, completed by Johnson, consist of hot water wall radiation.
Giving
Apartments a
"Residential Look"

Careful study of exterior design
details produce a home atmos-
phere in multiple dwelling units

THE “Delmar and “Del-Oaks,” two
deluxe type apartments, designed
by Bernard McMahon architect,
Clayton, Mo., have recently been com-
pleted by Wendel Shassserre and R. O.
Dethloff, builders of St. Louis, Mo.
Located in a residential neighbor-
hood, McMahon was constrained to
conform to the nature of the com-

munity. This was done primarily by
keeping the first floor approximately
level with the terraced grade. The
sloping roof of asphalt shingles with
wide projecting eaves all around, to-
gether with face brick on all the
walls, completes the residential as-

pect.
The two buildings are similar in
design with the exception of the en-
trance door. McMahon’s concept of a
two-story apartment building follows
ABOVE: View in kitchen. All fixtures are confined to one wall. This affords an unusual opportunity for a novel concealed lighting arrangement in the ceiling.

RIGHT: View in typical second floor living room. Additional height is gained in this room by having finished ceiling follow the slope of the roof. Concealed lighting effects are arranged in back of canopy extensions at windows and rear wall of living room.

A general pattern that has had a ready acceptance in this area because of its practicability.

Each building contains four apartments. Each apartment has four rooms, consisting of combination living-and-dining room, kitchen, two bedrooms and bath. A garage for each apartment, and ample facilities for storage and laundering are located in the basement. Access to the garages are from the rear, with a driveway at one side, extending to the street.

The first floor is constructed of precast concrete joists with 3-inch reinforced concrete slab over the joists. Asphalt tile is laid directly over the slab. Second floor is wood joists, covered with subfloor and finished oak. Exterior walls are of brick and concrete with partitions of frame. An individual gas-fired furnace for each apartment is located in the basement.
St. Louis builder collaborates
with architect to perpetuate
established pattern of design
featuring "residential look"

<table>
<thead>
<tr>
<th>CONSTRUCTION OUTLINE</th>
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<tbody>
<tr>
<td>Precast concrete joist</td>
</tr>
<tr>
<td>Steel bar joist</td>
</tr>
<tr>
<td>Armstrong asphalt tile</td>
</tr>
<tr>
<td>Portland cement products</td>
</tr>
<tr>
<td>Flintkote asphalt shingles</td>
</tr>
<tr>
<td>Kohler plumbing fixtures</td>
</tr>
<tr>
<td>Revere copper pipe</td>
</tr>
<tr>
<td>Robertson Co. steel balconies</td>
</tr>
<tr>
<td>General Bronze aluminum windows</td>
</tr>
<tr>
<td>Mesker Bros. steel casements</td>
</tr>
<tr>
<td>Carr, Adams, and Collier Co. &quot;Superior D.N. wood windows&quot;</td>
</tr>
<tr>
<td>Car, Adams, and Collier Co. &quot;Bilt-Well&quot; cabinet and millwork</td>
</tr>
<tr>
<td>Kitchen Kraft equipment</td>
</tr>
<tr>
<td>Westinghouse refrigerators</td>
</tr>
<tr>
<td>General Electric refrigerators</td>
</tr>
<tr>
<td>General Electric ranges</td>
</tr>
<tr>
<td>Magic Chef ranges</td>
</tr>
<tr>
<td>Lennox gas-fired furnaces</td>
</tr>
<tr>
<td>Security gas-fired furnaces</td>
</tr>
<tr>
<td>Rockwool insulation</td>
</tr>
<tr>
<td>Pittsburgh Plate Glass Co. glass</td>
</tr>
</tbody>
</table>

Clayton, Mo., like other towns throughout the country, maintains certain building requirements and traditions that pose additional problems to builders of multiple dwelling structures. Some are imposed by law, others are self inflicted through a desire on the part of the builder to maintain a pattern of community development, that will perpetuate the high standards of building already established.

In the case of Clayton, Mo., a suburb of St. Louis, the bulk of the building is residential, therefore, it was desirable to maintain a "residential look" in the design of these apartments.

When the John C. Gross Construction Co. developed Clayton Gardens, the aid of Bernard McMahon, architect, who has gained widespread recognition for outstanding designs in connection with residential and apartment building, was enlisted.

Clayton Gardens is a $5,000,000 subdivision in a continued process of development. There is an area set apart for apartments flanking the business section. This area looks over a depressed portion, devoted to homes. Thus, it was axiomatic that the apartments had to conform to the adjoining homes as far as possible.

While two types of four-family apartments were fronted on automobile middens only wide enough to accommodate one small automobile, the architect designed only multipurpose rooms, so that all rooms in the house would be used, and the general appearance of the building was not hampered.
The apartments are arranged on both sides of a center entrance hall. The level of the first floor is approximately 12 inches above the terrace grade. A driveway at the side leads to garages in the basement. The garages are also accessible from the rear. Each apartment contains four rooms with a combination living and dining room, two bedrooms, kitchen and bath.

In this group of buildings, the designer held to conventional treatment of the rooms. Ceiling heights were kept at normal level in order to conform to a fixed cost. Steel bar joists and concrete slabs were used on the first floor with frame construction above. Face brick was used on all walls with Haydite backup. All interior partitions and ceilings are of frame with plaster surface. Each apartment is provided with a separate furnace located in the basement.
It is becoming apparent that the small home builder can never enjoy the economies of precutting and site fabrication unless the building material dealer gives him the chance. Recognizing this fact, and an opportunity, an Eastern dealer-builder has proved that it can be done by doing it.

Joseph Entress, of Rochester, N.Y., who has been a home builder for 25 years, also operates the Coldwater Lumber Co. The lumber company was established to give himself and other builders an opportunity to enjoy the advantages of precutting and site fabrication. His system can be adapted by any dealer to supply any builder with precut parts for any repetitive, standard design. The savings come from lack of waste, the elimination of much handling, and big time saved in marking and erecting the homes.

Ten years ago, when factory fabrication of homes was only an idea, Entress got the idea of applying certain techniques of prefabrication to conventional home building. This is based on the idea of standardization. With standardization of plans and parts, substantial economies are possible. These economies are increased when a large number of homes are built. Currently, Entress is proving these economies in a 90-house project in Rochester. All have the same floor plan, though the same floor plan is used throughout this 90-house project in Rochester, N.Y., there are eight exterior variations.
Precuts Homes for Small Builders

Sections, beams, plates, sills, and ridge boards are fabricated to exact length, spaced and marked, ready for immediate delivery. In fabricating a house 32 feet wide, 16-foot plates, sills, and ridge boards are used. These items are all marked for spacing before delivery.

Preassembled door sections are piled along driveway of yard for easy loading.

The plan, but there are eight exterior variations in elevation. They sell for $7,500 to $7,800.

For the basic house, a complete schedule of dimensioned parts is made. A similar trim schedule is worked out. These schedules make possible an exact pricing for the basic house.

For the alternate exterior variations, alternate schedules are worked out to show additions to and reductions from the basic house schedules. For example, the basic house design requires nine squares of shingles. Design variation No. 2 requires nine and a half squares. Therefore, if an order calls for Design No. 2, the basic list is changed to add a half square more of shingles.

The added materials are priced and totaled. The subtracted materials are priced and totaled. The difference in cost between the two represents the amount by which the basic house cost is increased or decreased.

This system enables Entress to stock enough parts at all times to complete several standard houses. If a small builder wanted to erect just one house, and was willing to accept one of the standard designs, Entress could deliver a complete house to whatever site he selected, could tell him the exact cost in advance, and would make it possible for the builder to erect the complete home without using many more tools than a hammer. Virtually no cutting on the site would be necessary.

How does Entress' Coldwater
Lumber Co. effect the economies in its part of the operation?
The lumber is delivered to his yard just as it is to any dealer—in freight car loads from the lumber mill. But instead of being stockpiled in the form in which it is received, much of it is processed immediately.
The railroad siding permits placing of the freight cars directly at a loading platform near which is installed appropriate power machinery. Lumber, unloaded by gravity rollers, is brought direct to the saw table where it is cut to predetermined lengths. As many as a carload of rafters may be cut at one saw setting with the lumber coming directly from the car. The cutting will include the proper miter at the top and the proper notching at the bottom. The same process applies to the preparation of studs and all the other dimensional parts.

In the case of sills, plates, ridge boards and similar pieces, a unique marking system is used. As framing members are cut to length, they are slid onto a wide table which holds many pieces at one time. Guide boards are installed on either side of the table which are grooved at intervals corresponding to spacing used on the construction site. The table is really a jig for marking, and is the only jig necessary. A rule, laid in the guide board notches, permits marking a whole group of plates for the position of all studs, saving any time for measuring on the site.

This system is rhythmic in operation and much faster and easier than it may seem from the printed description.

Where practical, various units of framing are assembled in the plant. These include door and window openings, corner posts, and so forth. Cutting is done accurately on power equipment. Units are assembled and stockpiled in accordance with a predetermined delivery schedule.

Items such as wardrobe closets are cut and delivered semi-assembled to a storage house on the project. There they are completely assembled and stored until needed.

Each employee at the plant is trained in his particular job and uses motor-driven, precision equipment to insure accuracy and speed far beyond that obtained by the small builder in conventional operation.

At various points in the lumber mill, blueprints of the eight types of houses, and the standard floor plan, are tacked on the wall. Alongside.

SECTIONS are being loaded from stock supply at assembly plant. Approximately 20 houses of framing are kept on hand ready for immediate delivery at all times.

PRECUT materials delivered to the site include the assembled sections plus corner posts, rafters and studding.
there is a plan of the development tract, with each lot numbered and with the number of the design that will be built on that lot. If a prospective buyer comes to the office, he can pick the design he likes and immediately see on the plot where one of that type is being erected.

A similar set of plans and blueprints is tacked on the wall at the dispatcher's office. Also, there is a master sheet which lists every piece of lumber and assembled units common to all houses. Besides this list is a schedule of the additional materials required for the various alternate designs. These two lists cover all materials needed for the complete house in any design, and the dispatcher can make out a detailed order for any design by reference to them. When he has filled out the order, material for the complete house is assembled and delivered all at one time. The necessary parts are already precut and stockpiled in inventory.

In addition to using the method described for precutting standard design for his own operative development, Entress has worked out standard lists for a design used by another firm of Rochester builders and is supplying this firm with completely precut houses. The two operations, at present, just about exhaust the capacity of the lumber company's operation, but the idea is capable of future expansion. It points the way by which dealers may serve small builders in more than just a warehousing capacity. The dealer who performs such a function will build good will among his builder customers and tend to discourage many from starting their own supply companies—a practice which some larger builders have been trending toward.

The standardized plan used by Entress has many of the modular features suggested by the National Retail Lumber Dealers Association in its campaign to lower building costs by efficient construction techniques.

The house is 32x24 feet. This permits the use of plates, sills and ridge boards 16 feet long. Marked in the jig table already described, each unit is interchangeable with any other unit of the same type, and also has no right or left, so that it cannot be installed backward.

Room dimensions are laid out so that full sheets of wall board can be used wherever possible; all cutting being confined to one side of the plan. Kitchen cabinet facings and shelves are standardized, precut and sanded in the mill. So are the drawers and doors for the closet combinations.

All framing is 16 inches on centers. Joists are 2x8; rafters 2x6 inches. Sidewalls are double coursed shingles. Insulation is mineral wool blanket; 2 inches in sidewalls and 4 inches above ceilings. Windows are weather-stripped. Kitchen has a cabinet sink; the bath, a built-in tub with shower. Chrome wall fixtures and a medicine cabinet are provided. Heat is from an oil-fired or gas-fired warm air furnace. There is a 20 gallon automatic gas water heater. Flooring is 3/4 inch prefinished oak.

KITCHENS in houses built by the lumber company have cupboards and cabinet sinks.
23 Years of Progress

In Basementless House Construction

by V. L. Sherman

Heating Engineer and Pioneer in Basementless House Construction

The new basementless home to be discussed is one of many designs, all of which have essentials in common. Without making use of a second floor, trusses can be used and room spaces enlarged beyond those possible for second floor joists of average dimensions. From the floor plan, it is seen that the living room is 20 feet, 6 inches by 21 feet, with plenty of glass at either end. The trusses measure 27 feet, 6 inches. Bearing walls were used across the width of the house as a precaution, not as a strict necessity.

Another notable advantage when trusses are used is in warm air delivery.

In this type of overhead system the ducts are led to any location, and though the warm air is fan driven this freedom of over-ceiling space permits duct design that is low in friction losses. The return air ducts or pipes beneath the floor can have very nearly straight runs from all rooms. Return air is not taken from the kitchen or bathroom. Both rooms are ventilated to the outdoors by small fans which are automatically protected by closing louvres when not in use.

Since the new type of one-story, truss-roofed house has become more popular, there is a possible opportunity for getting many more housewives who wish certain partitions could be moved to other locations. With a well-laid concrete sub-floor which maintains its level surface, and ample truss structure, partitions really need no beam support. Excepting those partitions carrying piping, it would be possible to shift partitions without endangering the whole structure.

In the old basementless house it would have been a hard job to move a wall, but this is not so now.

These overhead systems are very simple, and require nothing more than a warm air register to living room, all registers are fed from plenum chamber over false ceiling in hall, permitting warm air to come out above doorways—a hall-plenum system used in some construction today.
ADVANTAGES of one-story truss-roofed houses with proper concrete subfloors are many, says Sherman. Freedom of over ceiling space permits duct design that is low in friction losses, for one thing; partitions need not support beams, and if they carry no piping, they may later be shifted.

have been possible to take out one of the partitions between the kitchen and the hall to make a larger dining room, relocating the kitchen in the north bedroom (note plan). But that is about the only change that could be safely made.

Remarks come from many experiences with the after-thoughts of women who have endorsed floor designs before building and then wanted to change the room arrangement later. This is a strong point for roof trusses.

Foundations are different in design in various parts of the United States, and over different soils. The depth of the foundation wall depends on the frost line. Frosts should never get under the footings, nor should water ever get through the foundation. In unheated garages, with what were thought to be secure foundation walls extending below the frost line, cracks at the wall corners have admitted enough moisture to freeze in the soil and heave the floor. The cracks which developed left the ground exposed to constant renewals of moisture and continuous freezing and thawing.

Where a floor slab is used, as they usually and properly are in basementless houses today, there is not only the problem of keeping out the water but of keeping in the heat. For the first, the wall should be thoroughly waterproofed with gravel fill and drain tile along the footing. The site of the house should be on land that ensures good drainage. The corners of the foundation walls should be reinforced and protected with extra waterproofing material. Block foundations are not recommended.

So far as heat losses through the floor are concerned, there are these problems. In some smaller homes the pit-type furnace is used where one large register suffices for the whole house and the return air drops into the furnace around the register. There are more of these in warmer sections where ground temperatures are not too low, but, to conserve heat, the pit must be thoroughly insulated. The floors, too, could do with some insulation.

In the old basementless house there was an air space between the wood framed floor and the ground beneath. Air is a capital insulator if there are no convection currents. The grade was carried up very close to the trim. But

PLAN of new basementless house shows direction of warm and cold air flow. If slab is uninsulated, return air pipes under floor lose much heat.
in one spot where the creep-space was not filled in because water and sewer lines were to be accessible, there was a noticeable chill spot in one bedroom.

An 8-inch poured concrete wall will lose 7 B.T.U. per square foot per hour per degree difference in temperature inside and out. That is nearly as high a coefficient as that of a window without storm sash. A floor slab of concrete would have a still higher coefficient, and a main factor is the difference in temperatures above the floor and in the ground beneath. One contractor, explaining the lack of guarantee warm floors. But what if the soil within the slab insulation, contended that heat loss to the soil would and there were 400 square feet in the 8-inch foundation wall and fuel costs would include the expense of keeping the foundation walls was kept at an average of 50 degrees, and the owner wanted an electro-static air filter. The heat is furnished by an oil burner. The air is conditioned, and the house can be thoroughly sealed because renewal air for ventilation is taken in automatically and discharged.

The basementless house has another advantage. The convenience of a utility room just off the kitchen, where mildew is entirely absent, and no stairs to climb, mark two of the greatest advantages. One lack in this plan was a small lavatory in the utility room. The owner speaks highly of the fireplace, remarking that he gets more than the radiant heat of the fire by side convectors, and that by burning logs, he has plenty of wood ashes for his gardens which he "doesn't have to carry up from the basement ashpit."

There are many comforts to be derived from a basementless house, but 23 years ago one big comfort came in lopping off the cost of a basement. In an estimate at that time, it was found that a full basement would have added 22 per cent to the building cost. Reductions vary from less to more than that now, but it is certain that no occupant of a well-constructed house without a basement will ever regret investing money in it.

In an effort to determine the most satisfactory concrete slab floor from the standpoint of comfort, the University of Illinois in conjunction with the Small Homes Council studied the construction of concrete slab floors which are designed for use in climates where central heating is desirable. The floors tested were those for basementless houses having a conventional type of heating system; not those with heating pipes or ducts in, or under, them.

Edge insulation and a vapor barrier are foremost in their recommendations as a result of the tests. To be warm and dry, a concrete floor slab must also be laid on well-drained land with a fill of gravel or crushed rock.

"A 4-inch fill of coarse, washed gravel or crushed rock should be spread over the entire area where the floor is to
American Builder, January 1949.

be laid," stated a report issued by the University of Illinois Small Homes Council. Structural clay tile can also be used for a fill. Though the fill is designed to reduce the capillary rise of moisture, it is not designed as an insulation. A vapor barrier must be provided to prevent moisture from rising from the ground into the slab.

The vapor barrier must be placed over the fill, and should extend to the outside edge of the floor area. The material used as a vapor barrier should overlap 4 inches when it is laid, and should be sealed at the edges with asphalt cement. The material should be sufficiently strong so that when concrete is poured over the vapor barrier, it will resist puncturing.

"In zero weather," the Small Homes Council reported, "a floor slab having edge insulation will be about 20 degrees warmer along the outside wall than an uninsulated floor. A floor having no edge insulation may become so cold that moisture in the air condenses on the floor near the outside wall just as it sometimes does on windows."

At least 2-inches of rigid waterproof insulation placed along the exposed edge of the floor, extending 2-feet under the floor as a border, is recommended.

Drawings courtesy of Illinois University Small Homes Council.

TO ESTIMATE B.T.U. heat loss per hour for concrete slab floor, multiply length of exposed edges of room and factor in chart below that represents zone of construction and type insulation used. One way to insulate when grade beam is used and when panel heating system is used is shown above. Tested by Small Homes Council, nine different types of floors, below, revealed heat losses, temperatures at various points throughout floors, and amount of moisture passing from the ground to top of the slab.

### Design Factors for Three Types of Floor Construction

<table>
<thead>
<tr>
<th>Temperature Zone for Design Purposes</th>
<th>Recommended 2&quot; Edge Insulation</th>
<th>1&quot; Edge Insulation</th>
<th>*No Edge Insulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZONE A (Zone A and B)</td>
<td>-20°F 50</td>
<td>60</td>
<td>75</td>
</tr>
<tr>
<td>ZONE B</td>
<td>-10°F 45</td>
<td>55</td>
<td>65</td>
</tr>
<tr>
<td>ZONE C</td>
<td>0°F 40</td>
<td>50</td>
<td>60</td>
</tr>
</tbody>
</table>

*This floor is not recommended. It is included for comparison only.*
Of 65 adaptations of the Blanding's Dream House completed from coast to coast in the past several months, few are alike; and few, if any, are exact duplicates of the original house built in Hollywood for the RKO movie, "Mr. Blandings Builds His Dream House."

The three adaptations presented here substantiate that statement.

Main reasons why the adaptations varied were the choice and price of materials in given localities, and the nature or design of subdivisions in which the houses were constructed.

The Blanding's house in Tulsa, Okla., built by the M. W. Turner Co., and the house in Salt Lake City, Utah, built by Alan E. Brockbank, are examples of the application of brick in exterior walls, one of the more extreme variations from the Hollywood version, which was of frame construction. Like the original, the houses contain the latest in modern hardware; heating, kitchen and bathroom equipment, and appliances.

Building the Blanding's house adaptations gave some builders an opportunity to employ a few ideas that they otherwise might not have used; it gave them a chance to test buyers' attitudes toward certain materials and home equipment. The Blanding's house in Willow Terrace, Mt. Lebanon, Pa., built by the Nelson Brothers, is equipped with an intercommunicating system between rooms, Autosonic garage door operators, plug-in phones, and indirect lighting.
Behind the Scenes
In a Builders Hardware Plant

It takes ingenuity, precision engineering, fine machining equipment and skillful hands to produce today's quality builders hardware.

BACK of the simple lock and latch sets being installed in today's homes is a multi-million dollar builders hardware industry, manned by thousands of trained individuals pledged to produce and deliver a product of trouble-free, lifetime durability and beauty. In less than a hundred years the excellent finish hardware of today has evolved from the clumsy, handmade devices of the early nineteenth century. It was around 1865 that the modern, pin tumbler, cylinder lock was developed. The unit lock was introduced about 1902. In the early 1920's the now popular tubular lock, with the basic feature of simple installation, was first marketed.

Along with the amazing refinements in mechanical design, manufacturers have developed hundreds of automatic precision machines which not only produce a better product but do it faster and more economically than ever before. Beyond the "Employees Only" signs on the doors of the average modern builders hardware plant is an impressive, orderly array of some of the finest machining equipment to be found anywhere in the world. The raw materials of modern builders hardware—brass, bronze, nickel silver and steel—are routed through automatic screw machines, huge presses, trimming, shaping and polishing devices, plating and lacquering processes to the assembly department where all the various parts are put together to create the finished product, attractively packaged. With one manufacturer's line, for example—173 separate operations are required to produce a complete 5-pin tumbler.
AUTOMATIC screw machine making door knob shanks from solid brass rods. Machine will produce 216 precision pieces an hour.

cylinder lock set and 135 operations are involved in the manufacture of that firm’s bathroom latch set.

Intensive inspection at all stages of manufacture by highly trained individuals assures the home builder and ultimate purchaser that the guarantee or warranty placed on the product by the manufacturer is bona fide. Thousands of dollars are spent annually on research probing for possible weaknesses in current products and developing improved designs and working parts. Hundreds of expensive mounted specimens of builders hardware are made each year by manufacturers to help merchandise the products and reveal the inner workings of lock and latch sets.

In addition to manufacturing quality products that are easy and economical to install, manufacturers also design and produce special tools for carpenters to facilitate proper instal-

THE SCREW machine shapes the outside, drills and threads the spindle hole of the knob shank in one operation.

PRECISION tools and dies are essential. Tool and die maker works with dimensions smaller than thickness of printing paper.

POLISHING brass door knobs on huge machine. They pass ten different polishing stations before returning to operator.

HERE KNOBS are leaving the 12-foot polishing dial. Note how they sparkle. Inspector is near operator checking units.

AFTER KNOBS are polished, they are dipped in lacquer and run in a bake oven which cures the lacquer at 325° F.

ASSEMBLING the 5-pin tumbler cylinder—the heart of the lock. It takes skillful hands, precision machines and ingenuity to produce today’s quality builders hardware.

THIS IS a “washing machine,” cleaning stamping compound from lock cases preparatory to rust-resisting plating process.
EXERTING pressure of 80 tons, this huge press draws top of the knob from solid brass sheets at a high rate of speed. Thanks to the foresight and ingenuity of builders hardware manufacturers, homes of today can be equipped with the finest, longest wearing builders hardware ever made available, with each unit taking only minutes to install as compared with hours a few years ago.

IN ADDITION to the knobs, the other 33 parts of this tubular latch set are channeled to the assembly department.

INTERIOR working parts of these tubular latches are steel to assure long, trouble-free service after they are installed.

THIS MACHINE trims metal from knob top, after it comes from press at left, to produce a part with precision measurements.

KNOB TOP still requires more fabrication. Another process turns edges inward preparing it for attachment to knob shank.

IN ADDITION to the knobs, the other 33 parts of this tubular latch set are channeled to the assembly department.

BUILDERS hardware manufacturers spend thousands of dollars annually to prepare mounted specimens of their products for demonstration and inspection by builders and consumers. This is part of the merchandising help rendered by alert producers.
Built-ins Rate High

Ideas for unique and valuable built-ins topped all other suggestions in nationwide survey of features women want in homes.

This ranch-type bungalow has 1000 ideas incorporated into its design suggested by women throughout country.

Mrs. R. B. Butler, prominent Tulsa, Okla., home builder, queried 3,000 women realtors for suggestions of interesting features they would like in new homes. From their replies she culled 1,000 ideas which she incorporated into the design of a model house. The house, a rambling ranch-type dwelling, was exhibited to the public in August. It broke all previous demonstration home attendance records in Tulsa, and sold for $35,000 three days after it was put on the market.

Topping all other suggestions were ideas for unique and valuable built-in storage facilities. The inclusion of convenience items which add measurably to the comfort of a home comprised the balance.

The ideas for built-ins were skil-
With Women

MRS. R. B. BUTLER

fully and generously worked into the house plan. In the kitchen, a modern adaptation of the old fashioned pantry created a great deal of interest. An innovation in its compact design is the use of double doors which open French door style. The inner sides of the doors are utilized to provide storage space for pan covers, cookbooks, condiments and cooking utensils. Other features of the pantry are built-in bins for vegetables, a storage cabinet for fruit, and storage space for pots and pans.

In the bathroom, space for built-ins was gained by extending the lavatory counter the width of the room. Cupboards and open shelves were then installed above and below the counter, furnishing ample storage for towels, medicines, and sundry other articles related to the bath.

Spacious wardrobes were built in the bedrooms. To utilize every inch of space they were built to ceiling height to provide storage compartments for seasonal clothing or seldom used belongings.

Convenience items adopted by Mrs. Butler include the installation of an electric light in the front step, and the use of a transparent mirror in the front door. This latter feature permits the person inside to see out but prevents the outsider from seeing in.

The solid glass sliding door which separates the living room from the den was suggested by a Honolulu realtor and graciously accepted by the public, Mrs. Butler reports. Another novel feature is the use of a flower box made of glass brick to partition off the dining area from the living room.

The house is situated in an exclusive Tulsa neighborhood. A local stone was used for its exterior, and cedar shingles for its roofing. It has three bedrooms, two baths, living room, den with wood burning fireplace, two-car garage, laundry room, and an outdoor barbecue pit.

Mrs. Butler has made good kitchen planning a specialty. In this home she has built the combination kitchen and breakfast room in a U-shape. A large picture window in the breakfast nook permits a view of the barbecue pit, patio, and playground areas. Space for utilities is provided between the kitchen and the garage.
Fuel for the flames?

By R. E. Saberson

T HE DIRECT cause of the high cost of home building can be ascribed to the obvious fact that we have been trying to build too many houses in too short a time. We simply are not set up production-wise (with materials and man power) to end the pent-up demand as quickly as a great many people would like to see it terminated. That, of course, creates acute shortages and prices zoom skyward.

Yet whenever ways and means are discussed for “solving” the housing shortage or suggestions are offered as to how the cost of homes can be reduced, the disastrous efforts of “too-many-too-soon” are seldom considered. Strangely enough relief measures invariably veer in the opposite direction and it isn’t long before their sponsors find themselves groping ineffectually for some method whereby homes can be built in even larger quantities and at a greater speed for less money.

Notwithstanding the fact that such proposals do not make sense they still happen to be the end-of-the-rainbow objective that many happy politicians will be toying with during the next few months as the housing shortage is given new prominence and relief measures are churned up in an effort to reward voters who subscribed to the belief that the temporary problems of scarcity can be better solved politically than in any other manner.

In order to obtain a better perspective of the whole housing situation, and the cause of the temporary high prices, it merely is necessary to take a quick look at what we have been doing during the past three decades. We need not be ashamed of the record since our achievements have resulted in a larger percentage of home ownership, and better homes, than any nation has ever acquired. To have accomplished this satisfactory result called for the concerted efforts of skilled labor and a great deal of materials, efficient equipment, and all very wonderful to the happy families who have enjoyed them greatly down through the years.

The picture during the following decade was in sharp contrast and indicated conclusively that 700,000 houses per year was a bit too big a bite to swallow. The average for the Thirties dropped from 700,000 to 273,400 and there were five consecutive years when it was approximately 80,000 per year!

Now it doesn’t take much cogitating to figure out why leaf raking, during such a period, proved to be a Godsend to many men in the building trades or why building material manufacturers and distributors boarded up their windows. Houses were a dime a dozen and one of the largest and busiest federal agencies was formed to come to the aid of distressed home owners.

By the end of the Thirties we had begun to recover our financial equilibrium and our home building average for the last four years of the decade worked back up to 180,000 per year... still a far cry from the 700,000 average of the Twenties but much better than the low of 80,000.

In 1940 and 1941 we did right well. By the end of the Thirties we averaged better than 823,000 homes per year for three years in a row. To accomplish this herculean feat called for the help of all available skilled labor and a great deal not so skilled. It likewise required the use of all suitable materials and endless quantities that never would have been used had the proper materials been available. And it caused prices to zoom to unprecedented highs.

The mad rush to build too many homes too soon (based upon our productive capacity) created something akin to chaos for at least two years and provided an opportunity for hysterical politicians to come to the “aid” of their constituents by doing the very thing that made matters worse instead of better.
American Builder, January 1949.

With the boilers almost at the bursting point and the water running low the all-out cry was to add still more fuel to the flames!

Now that the housing shortage has eased off in many communities and another 900,000 or 1,000,000 units (the estimate for 1949 is 875,000) will accomplish the same purpose in practically all others, except the few abnormal spots, it behooves us to cast an appraising eye in several directions in an effort to determine where we are headed.

It is our steadfast conviction that we are now developing a productive capacity which will eventually result in the vast overproduction of homes. Excessive demand and high prices are all that it takes to bring about such an undesirable situation and its many attendant evils.

In the Twenties one method of construction and two basic materials were competing for the housing market. Today there are three major methods of construction and twelve materials fighting for it. Back in the carefree Twenties construction of a home was limited by the number of skilled craftsmen available to put it together. Today building parts, for assembly on the building site, are becoming larger and larger and are produced in streamlined factories. Individually built homes are now constructed with the aid of power equipment which begins with the excavating and extends to every part of the operation. Laborious hand labor has given way to power saws, sanders and scores of similar devices. Then, of course, on-site fabrication has advanced to the point where it represents intelligent effort in its most efficient form. And finally come the proponents of the factory-built houses who are proceeding with their prodigious plans despite the skepticism of the advocates of the more traditional methods.

In materials the competition for the house market is even greater. It represents the results of research activities that have projected many new and important products, available in huge quantities, into the home building field. Not all of these efforts have come to full bloom. Some are extremely revolutionary and may never prove successful. But while all this has been going on, giant strides have been made in the construction of homes by more conventional methods and we have proceeded far enough with less conventional plans to conclude that not all of them will come to naught.

As we are finding out how to build houses faster (and better, eventually) we shall likewise learn that a big dent has already been made in the housing shortage... a dent that is so sizable in some areas that the price of old homes has lessened materially and has even extended to new homes.

Certain building materials too are beginning to feel the effects of maximum production and declining demand. The price of lumber, one of the most important materials used in residential construction, has dropped substantially in all but a few grades and species. Price declines are showing up in other materials. This more or less orderly decline would not, doubt, continue were it not for the proposed plans of the federal government to provide for the construction of several hundred thousand new public housing units in the next five years. This on top of the "normal" program (875,000 houses) of the home building industry, could well be the fuel that causes the inflationary flames to burn even more furiously.

But there is another more serious aspect of the situation. High prices, created by the hysterical desire to provide houses too quickly for everybody, only serve to intensify the competitive efforts of new methods and the production of new material with oversupply the inevitable result.

Too much productive capacity, especially at a time when the great housing shortage is coming to an end, will make prices as much too low as they have been too high. When that happens it will take more letters than there are in the alphabet to name the federal agency that will have to be set up to bail out the millions of families who paid too much too soon.
How to Determine the Pitch of Sewer Tile

When it is necessary to determine the accurate slope to sewer tile or pipe, and if it is difficult to erect lines or resort to other usual methods, an old-time top-reading carpenter’s level can be used as shown. If more than one wedge is needed, take a piece of 2x4, 18 or 20 inches long and lay out the wedges from 0 to ¼ inch up to 0 to 1 inch in a length of 4 to 6 inches. Rip the end of the 2x4 and then cut it off. To use, place level on top of tile, with wedge at the low end, then adjust tile until the bubble reads “level.”

Submitted by L. G. KELLY, Lombard, Ill.

How an Auto Spring Is Converted to Handy Tool

A practical little gadget is made from a discarded auto spring by C. A. EGGBRATEN, Madison, S. Dak.

This gadget has proven to be quite a time and material saver when patching shingles or in removing siding.

To make this tool, an old auto spring is cut in two. Three notches are cut into the flattened end of the bar, and on the other end, a crossbar is welded on to provide a hand grip. The tool is slipped under the shingles raising them just enough to loosen the nails without splitting. Then the notched end of the tool is used to pull out the nails.

Submitted by C. A. EGGBRATEN, Madison, S. Dak.

How to Fasten Shelves or Pictures on Tile Walls

A method for overcoming the difficulty of securing objects to a tile wall is submitted by HERBERT E. FEY, New Braunfels, Texas.

A simple but practical way is by drilling a ¼ inch hole in the hollow tile and then inserting a permanent wooden plug in the hole. The shouldered plug is first inserted with the shoulder inside the tile. The wedge is then driven in to lock the assembly in place. The wedge is made about one half the size of the plug and screws and nails are driven into wedge. A plug of this kind will not crack the hollow tile.

How to Drill Holes For Stair Balusters

In submitting this suggestion JAMES A. ELLISON, Birmingham, Mich., says: “It was always a problem for me to keep the same angle when drilling holes for balusters in the bottom of a Colonial type stair rail. I devised the above ‘jig’ which can be made from a piece of 2x4 and held by means of a ‘C’ clamp. The ‘jig’ may be marked and drilled by means of a ‘stair pitch block’. From then on the same angle can be obtained for each hole.”

Selected Exterior Residential Details

Selected Exterior Residential Details

By R. J. Alexander

Exterior features of residential work require careful study and detailing. Items such as porch cornices, rails and balustrades must be designed in proper scale to the balance of the house in order to obtain the desired results.

The highly ornamental porch of the Victorian period with its intricately moulded cornices, turned balusters, and other features has been superseded by the simple straightforward lines of today’s modern porch.

The scale of porches and the parts that make up the various units should receive careful study. Obviously a large house will require a larger porch or entry than a small cottage. Similarly the units of a large porch will be made proportionately larger than the same parts adapted for a small porch.

This month’s detail sheet offers suggestions and ideas for the construction of a flat roof porch and balustrades. Balustrades used on this type roof require particular attention in construction to insure against leaking.

Of first importance is the deck covering. A permanent material such as copper is recommended. It should be well flashed against the adjoining building and newel posts.

The detail shown at “B” for fastening newel to deck, should provide a rigid, leakproof construction. The anchor block should be solidly anchored to the joist framing. The block is then flashed, after which the newel post is slipped over the block. Members should be primed on sides and end surfaces before assembly.

SECTION AT "B":
- Moulded Gutter
- 3/4" x 11 1/2" rail
- Ceiling: 3/4" x 11/2" 2
- Beam: 2x8
- Rafters: 2x6
- Ceiling: 3/4" x 11/2" 2

SECTION AT "C":
- 3x3x8 Black 1/2 Bolt
- Block
- Mastic

PLAN AT "B":
- Modern Type Cornice & Rail
- Mastic
- 3x3x8 Black 1/2 Bolt
- Mastic

PLAN AT "H":
- 2x4 Rafter
- Ceiling: 3/4" x 11/2" 2
- Port cap

Details of flat porch roofs & cornices.

Suggested designs for balustrades.
- Top and bottom rail: 1 1/2" x 2 1/2"
- Lattice: 1 1/8" x 2 1/2"

Suggested designs for stoop railings.

Sections - Base - Details of porch columns.
NEW PRODUCTS
Offered by Manufacturers

ADJUSTABLE SUPPLY TEES AB1923
Bronze adjustable supply tees with solder connections for copper one-pipe hot water heating installations, available in four sizes: \( \frac{1}{4} \times \frac{1}{2} \times \frac{1}{2} \)-inch; \( \frac{1}{2} \times \frac{3}{8} \times \frac{1}{2} \)-inch; \( \frac{3}{8} \times \frac{1}{2} \times \frac{1}{2} \)-inch, and \( \frac{1}{4} \times \frac{1}{2} \times \frac{1}{2} \)-inch. Adjustable supply tee makes possible close control of water flow through each radiator, and provides balanced, uniform heating. Any amount of flow can be diverted through each radiator. Shutting off a radiator opens the main flow completely. Manufacturer: H. A. Thrush & Co., Peru, Ind.

ALUMINUM SCREENS AB1907
"Tension-Tite" screens are installed from inside with five screws—no other hardware needed. Adjustment channel at bottom of each screen slips off to serve as template for accurately placing the screws. Top and bottom bars and wire cloth are made of aluminum alloy. Manufacturer: Rudiger-Long Co., 8th and Carleton Sts., Berkeley, Calif.

COMPACT REFRIGERATOR AB1926

CONCEALED DOOR CLOSER AB1931
Door closer provides concealed control for metal interior door up to 3 feet 6 inches by 7 feet 3/4 inches in size. Closing mechanism concealed within top rail of door. Slender arm only is visible, attached to frame by recessed soffit plate. Shock-absorber and hold-open arm may be specified. Manufacturer: LCN Closers, Inc., 466 W. Superior St., Chicago, Ill.

AIR CONDITIONING UNITS AB1924
Two new Series "80" oil-fired air conditioning units have Underwriters' Laboratory approval. Available in both conventional and Hiboy designs. Capacity, 80,000 B.T.U. Both Hiboy designs are automatically fired by oil, delivered completely assembled, wired, and ready, for installation. Manufacturer: Ko-Z-Aire, Inc., Red Oak, Iowa.

COMMERICAL SCALE MODELS AB1915
Single and multi-floor buildings, 1/4-inch scale, of clear lucite, are built to exact print dimensions with engraved scale grid floors. Designed to enable architects, engineers, and layout men to study building and planning problems. Models, of any type of commercial or industrial buildings, are complete with all columns, stairwells, elevator shafts, and other physical building characteristics exactly to specifications. Manufacturer: Visual Planning Equipment Co., Inc., Oakmont, Pa.

SPINDLE SHAPER AB1928
Atlas spindle shaper, a big-capacity portable machine, is of heavy construction. Precision ground table is 15x21 inches, with 2-inch vertical travel. Cutter capacity, 1 1/2 inches high, 1 1/2-inch bore; 3/4-inch diameter spindle, turned to 1/2-inch for cutters. Operates from 1/2 h.p.; 3450 r.p.m. motor. Over-all dimensions less motor: 26 inches long by 15 1/2 inches wide by 18 1/4 inches high with table in highest position. Manufacturer: Atlas Press Co., 26010 N. Pitcher St., Kalamazoo, Mich.

ALUMINUM WALL TILE AB1929
Hastings Alumitile, aluminum wall tile, may be applied to any smooth wall to supply adequate light for entire bathroom. Color, sprayed onto aircraft aluminum, is controlled to absolute uniformity. Sizes are stamped out of the metal after finish has been sprayed and baked on. Manufacturer: Metal Tile Products, Inc., Hastings, Mich.

LIGHTED BATH CABINETS AB1903
Lighted cabinets are wired at factory to supply adequate light for entire bathroom. Designed in a pattern that is appropriate for all styles of interior trim, fixture is die stamped from heavy metal, heavily chrome plated. Each fixture is made of wrought brass or bronze in polished brass, dull bronze, and polished chromium plated finishes, is suitable for use on linen closets, cabinets in playrooms, dining rooms, kitchens, or

CABINET HARDWARE AB1921
"Matched" set of cabinet hardware, made of wrought brass or bronze in polished brass, dull bronze, and polished chromium plated finishes, is suitable for use on linen closets, cabinets in playrooms, dining rooms, kitchens, or
bathrooms. Suitable for use on painted or natural finishes. Manufacturer: American Cabinet Hardware Corp., 416 S. Main St., Rockford, Ill.

ALUMINUM SURFACE COATING AB1930
"Alodine" can be applied by dipping, spraying or brushing the aluminum parts. Produces protective covering in two minutes or less. Coating is indescent in color. Manufacturer: American Chemical Paint Co., Box 301, Ambler, Pa.

OIL BURNING FLOOR FURNACE AB1922
"Evenheat," Model EVF, 20x36 inches, requires 36 inches of subfloor space for installation. Available in flat floor type, No. EVF, or dual wall register type, No. EVD. Output, 72,850 B.T.U. per hour. One blower supplies air for fuel combustion, regardless of draft conditions, and circulation of warm air to the rooms. Fully automatic, with thermostatic controls. Manufacturer: Kreisky Manufacturing Co., Inc., Petaluma, Calif.

DOOR HANGER AB1902
"Floating action" door hanger requires neither tracks at bottom nor hangers above. Doors are suspended by steel scissor mechanism which is noiseless. Door may be moved at touch of finger. May be installed in any regulation 4-inch wall, in new or existing home. Easily repaired. Manufacturer: Dorfla Manufacturing Co., 1902 First Ave., Hibbing, Minn.

FLYING FLOOR FURNACE AB1922
"Evenheat," Model EVF, 20x36 inches, requires 36 inches of subfloor space for installation. Available in flat floor type, No. EVF, or dual wall register type, No. EVD. Output, 72,850 B.T.U. per hour. One blower supplies air for fuel combustion, regardless of draft conditions, and circulation of warm air to the rooms. Fully automatic, with thermostatic controls. Manufacturer: American Cabinet Hardware Corp., 416 S. Main St., Rockford, Ill.

ALUMINUM SURFACE COATING AB1930
"Alodine" can be applied by dipping, spraying or brushing the aluminum parts. Produces protective covering in two minutes or less. Coating is indescent in color. Manufacturer: American Chemical Paint Co., Box 301, Ambler, Pa.

PREFABRICATED SHOWER CABINET AB1925
All-stainless steel prefabricated shower cabinets are self-contained and leak-proof. May be assembled from the inside, if space is limited, or may be erected complete and moved into position for connection to water and drain. No extra floor or wall preparation necessary. Available now in 36-inch size. Manufacturer: Bathe-Rite Div'n of Milwaukee Stamping Co., 865 S. 72nd St., Milwaukee 14, Wis.

WALL TILING AB1910
"Crya-Glas," an all glass wall tile, is available in 15 different non-fade colors. Light weight, it is 1/32-in thick, and can be applied to any kind of surface. A nonaging rubber mastic is applied to the back of the tile to make it adhere to the wall. Mastic remains resilient and acts as shock absorber, protecting tile from damage due to settling of the building, expansion and contraction. Manufacturer: The Dearborn Glass Co., 2414 W. 21st St., Chicago 8, Ill.

TILTING ARBOR SAW AB1932
Model No. 192, 12-inch tilting arbor saw, is gasoline engine-driven. Handles jobs calling for straight ripping, cut off, angular cutting, grooving, dadoing, shaping and rabbeting. Main table, made of gray iron, is 20 inches wide and 27 inches long. Equipped with three aluminum extensions to provide working surface of 42x32 inches. Manufacturer: Toolkraft Corp., 449 Meadow St., Waterbury 91, Conn.

LADDER BRACKET AB1908
Offset ladder bracket, designed to be used with any ladder, will not damage gutters and cornices. Ladders secure. (Continued to page 132)
DEALER REVIEW

NEWS OF NRLDA AND STATE AND REGIONAL ASSOCIATIONS

Officers and Executive Committee of NRLDA Conduct Annual Fall Meeting

The annual meeting of the executive committee and officers of the National Retail Lumber Dealers Association was held at Miami Beach, Fla., November 8 to 11. In addition to the usual review of activities and accomplishments for the past 12 months, and discussions of policy for the coming year, the program was highlighted by the address of retiring President Norman P. Mason and the award of plaques to dealers being cited for outstanding public relations work during 1948. Mason issued a ringing challenge for management in "this great nationwide industry of small businesses to meet the needs and desires of the public of America while preserving the spirit of initiative which has made America great."

Delivering his annual report to practically all of the 400 lumber and building material dealers who attended, H. R. Northup, executive vice president, said the industry's major concerns are with material supply and export controls, and said that the probability of stand-by regulation laws, the freight rate basing point problem and the newly imposed credit restrictions will all (Continued to page 120)


TOP-RANKING officers of NRLDA at Miami Beach meeting: seated, left, Norman P. Mason, retiring president, North Chelmsford, Mass.; right, C. B. Sweet, president-elect, Longview, Wash.; standing, left, H. R. Northup, executive vice president; right, vice president-elect, Clyde Fulton, Charlotte, Mich.

The President's Column

By C. B. SWEET
President, NRLDA

As the new president of NRLDA, C. B. Sweet becomes a regular contributor to American Builder, beginning with the January issue, succeeding Norman P. Mason, who has been writing "The President's Column." The new president is manager of the 13-Lumber Co. retail lumber and building material stores in the Pacific Northwest. He has been with the company since 1922, when he started as a logger. He is a native of Kansas City, Mo., and attended Culver Military Academy and the University of Kansas.

As the new president of the National Retail Lumber Dealers Association, I would like to take this opportunity to greet the readers of American Builder and to thank the editor for the privilege of giving you my views each month.

Those of you who attended the annual meeting of the National Retail Lumber Dealers Association in Miami Beach the first part of November, went home, I am sure, with a feeling of satisfaction. There was concrete evidence that the building material industry was awake to its multiple responsibilities and was actually doing something about them—not just talking about them. This was dramatically demonstrated by the excellent entries in the annual Awards for Outstanding Service to the Industry and to the Community. They proved conclusively that the retail lumber dealer is an outstanding individual and leader in his community. He is not one who is just living and doing business in his community—he is working for it. (Continued to page 120)
Just what the Builder ordered

*Every inch a Ro-Way Overhead Type Door*

Whenever you specify Ro-Way Overhead Type Doors... for commercial, industrial or residential installations... you *know* you'll get exactly what you order.

That's because every Ro-Way is *every inch* a Ro-Way, completely fabricated and built in Ro-Way's own plant. From millwork to hardware—the product of Ro-Way design, engineering, workmanship, and quality control.

What's more, when a Ro-Way Door is installed by a Ro-Way distributor, he takes as much care and pride in its installation as we do in its construction.

All of which is why so many builders, architects and owners *insist* on Ro-Way Overhead Type Doors. Specify Ro-Way on your next job.

*Dependable Ro-Way sales and installation service is available nationwide. Consult your classified telephone directory, or write for distributor's name.*

There's a Ro-Way for every Doorway!
The President's Column

(Continued from page 118)

It is difficult to forecast the business outlook for 1949 until after the new Congress convenes in January. I think, however, it is safe to assume that a housing bill will have top priority and that standby controls will be granted. In other words, we all dealers will have government as a competitor. This will mean that we must consistently and everlastingly keep telling the people at home the true facts about how this will affect them, so that they in turn can intelligently guide the thinking and action of their Congressmen. Consequently, an aggressive public relations program is vital.

Was the result of the November 2nd election an indication of a change in the American philosophy or was it merely apathy on the part of scores of individuals? It seems to me this question should be given careful consideration. If it was due to apathy, then we as Americans must see that our cherished franchise is not again ignored. If, on the other hand, it was due to the spread of ideologies inimical to and destructive of everything that has made this country great, then each one of us is duty bound to give of his time and effort to prevent it. We must not let the unique and previous American way be discarded, and its virtues laid aside in favor of the very weaknesses which have destroyed other countries while we have forged ahead.

In closing, may I wish you a very Merry Christmas and a most prosperous New Year.

NRLDA Annual Meeting

(Continued from page 118)

have a bearing on home construction rates, costs, and building material distribution.

Plaques for outstanding public relations activities during the year were awarded to F. S. Pendleton Lumber Co., McComb, Ohio, Class 1; Sterne Coal and Lumber Co., Belmar, N.J., Class 2; Richards & Krueger Co., New Braunfels, Texas, Class 3; L. Grossman Sons, Inc., Quincy, Mass., Class 4; A. W. Burritt Co., Bridgeport, Conn., Class 5; Tulsa Lumbermens Association, Tulsa, Okla., Class 6, group public relations programs. Edward Hines Lumber Co., Chicago, Ill., special Industry Engineered Homes award.

Officers elected for the coming year are C. B. Sweet, Longview, Wash., president; Clyde Fulton, Charlotte, Mich., vice president; W. Allie Barksdale, Charlottesville, Va., treasurer.
TWO-HUNDRED years ago porcelain enameled steel bath tubs were merely a dream. Ten years ago AllianceWare tubs—after much scientific research and experiment—had to prove themselves.

And prove themselves they did.

When introduced, acceptance for AllianceWare was immediate. Today, the thousands and thousands of AllianceWare tubs that have been installed in all types of buildings have proved the beauty and durability of AllianceWare design as well as the practicability of AllianceWare formed metal construction.

There are sound reasons for this acceptance of AllianceWare. The modern styling and gleaming surfaces of AllianceWare fit cottage or mansion... enhance the beauty of large bathrooms or small.

Other practical details of AllianceWare construction such as exact dimensions, wall guard flange that stops water seepage around the rim at the wall line, and anchor lugs which prevent shifting or settling of tub are added values popular with builders.

Your plumbing contractor can give you complete details of AllianceWare. Or, if you prefer, write us,

ALLIANCEWARE, INC. • Alliance, Ohio
Bathtubs • Lavatories • Sinks
Paco concrete-form spreader-ties provide the fastest, most economical method of setting up forms that has ever been devised. One 5-man crew completed nine basements, 24 ft. x 32 ft. in eight days. Forms removed after 18 hours. Ties rest vertically in form; permit easy flow of concrete; eliminate air spaces and assure permanently dry wall. More than 1,000 walls have been poured without a single failure.

IMMEDIATELY AVAILABLE
Paco spreader-ties are in full production. Ample stocks are maintained to assure immediate shipment in any quantity.

PRICES and SIZES
A complete range of sizes from 6-inch to 36-inch length is available. 8-inch ties, $47.50 per thousand; 10-inch ties, $50.00 per thousand. Keys, fit all sizes, $42.00 per thousand. Keys are retained as permanent equipment. Prices on other sizes quoted on request.

FREIGHT PREPAID ON INTRODUCTORY ORDERS
Where Paco ties are not available through your regular dealer we will ship C.O.D., freight prepaid, with schematic drawing and instructions. Mention name of dealer when ordering.

JOBBERS and DEALERS WANTED
Write, now, for sample tie prices and discounts.

American Builder, January 1949

Outlook for Building and Building Materials In 1949
By H. R. Northup
Executive Vice President National Retail Lumber Dealers Association

DESPITE the fact that the heavy hand of uncertainty is tipping the scale, business in 1949 should still be very good for lumber and building material dealers.

Certainly the demand for middle and low-income priced homes will continue heavy, and many areas report that financing for soundly constructed homes is not too hard to get.

Were it not for the three factors that will be threatened to tip the scales throughout the year, the outlook for 1949 would indeed be bright. These factors are: (1.) An omnibus government housing program; (2.) Allocations, priorities, and price controls based largely upon a defense program; and (3.) An almost inevitable fourth round of wage increases to be followed by an increase in living costs.

If anything of a normal nature could be expected, the outlook for an adequate supply of building materials for homes, commercial, and industrial use would be highly favorable.

Dealer inventories of common lumber are averaging close to 100 percent; upper grades of lumber are becoming more plentiful: without the strain of unusual demands for abroad and at home, millwork, including doors, windows, trim and cabinets could be expected to round out into good supply in 1949.

With several new gypsum plants coming into full production, the supply of gypsum wall board and plaster base could be expected to be adequate, with only spotty or regional shortages in evidence during 1949.

Steel supply will be affected by our foreign commitments; cement supply, while adequate in itself, may still be showing spotty shortages because of the new court rulings eliminating the basing point method of pricing.

Hardware manufacturers seem to have overcome most of their labor problems; and plumbing and heating manufacturers are in full production and the former backlog of orders is disappearing.

Pressing against this all-time peak production of building materials are the four programs which the Administration is urging. These are: (a.) Public Housing - domestic requirements; (b.) European Recovery Plan requirements; (c.) Our speeded-up military preparedness requirements; and (d.) Re-arming Western Europe requirements.

(Continued on page 124)
Here's why HEABEL'S the Builders' Department Store used APAC ASBESTOS-CEMENT SHEETS

The Heabel Company, Cedar Rapids, Iowa, remodeled their store recently...and they specified 3' x 10' Apac on the exterior walls. That's a particularly good testimonial, because Heabel's have been handling builders' supplies for many years.

K & M "Century" APAC features:

- **Easy to Use and Apply**
  With Apac you save cutting time...just score it and snap off. You can lay up its 4' x 8' sheets 32 sq. ft. at a time...fasten them with nails or screws.

- **Durable**
  Made of asbestos and Portland cement...Apac sheets are completely fire-resistant...rot-proof...rust-proof...weather-proof. They grow tougher with age!

- **Attractive**
  Because of their smooth finish and pleasing light gray color...your finished job will be neat and attractive. And Apac never needs painting...though you can paint it when desirable for decorative reasons.

- **Economical**
  Low first cost...long maintenance-free life makes Apac a leader in long range economy. Invaluable in building customer goodwill.

That's why the Heabel Company used K&M "Century" Apac...and why you'll want to use this building material. Get full information about "Century" Apac from your K&M dealer...or write directly to us. We'll attend to your inquiry promptly.

Original manufacturers of asbestos-cement roofing shingles in this country.

KEASBEY & MATTISON COMPANY • AMBLER • PENNSYLVANIA
Write for illustrated booklet: "Locks by Schlage"

Two Holes...
Two Screws...
Two Bolts...

…and the Lock is in!

SCHLAGE LOCK COMPANY
SAN FRANCISCO   NEW YORK

ORIGINATORS OF THE CYLINDRICAL LOCK

American Builder, January 1949,

(Continued from page 122)

If all of these programs are pursued energetically by the present Administration, it is almost inevitable that material shortages will appear—first at one point and then another; and such an extension of our resources may have a marked effect upon our economic price structure.

The Administration's housing program has been clarified by the Foley-Truman statement embodying a four-point government housing program.

The four points of the Foley-Truman housing proposal include the features of the T-E-W Bill which were not passed by the third session of the 80th Congress. They are: (1) Public housing; (2) Slum clearance; (3) Farm housing; and (4) Government research into housing.

A public housing program at this time is regrettable on two counts:

1. It will spend the people's money for high cost housing at a time when all construction costs are high, without adding one house to the number that would be built anyway by private industry.
2. It will slow down and may block private building by creating distortions in building material distribution and by diverting materials being used in private housing to public housing sites.

Both of the above probabilities may add to the present inflation of living costs and to building costs.

There is very little that we in business can expect except change. Next year the situation will undoubtedly be different than it is this year. Only the forewarned are forearmed enough to cope with such imponderable mass types of change and evolution as we see before us.

Carolina Association Dates
Set for March 23, 24 and 25

THE CAROLINA Lumber and Building Supply Association annual convention dates have been set for March 23, 24 and 25 instead of the dates announced earlier. Convention sessions and exhibits will be at the Asheville Civic Auditorium in Asheville, N.C., with the George Vanderbilt and Battery Park serving as convention hotels.

Supreme Nine of Hoo-Hoo Holds Meeting in Chicago

RECOGNIZING the vital need for the training and education in greater productivity of every classification of the lumber industry's manpower in all branches the Supreme Nine of Hoo-Hoo in its annual meeting in Chicago in November took positive action toward the adoption of an educational program for club activity.
KOHLER PLUMBING FIXTURES

a source of permanent pride and satisfaction

No explanations are needed when plumbing fixtures carry the Kohler name. Home owners know the Kohler name and quality reputation, built through 76 years of doing things well. They know "Kohler" means beauty and dependability in the highest degree.

The Times Square Bath is roomy and convenient to use, yet its compact 4' x 4' dimensions often allow extra closet room. This bath has a handy corner seat. Fixtures come in pure white or delicate pastel shades.

Kohler’s extra value at no extra cost is represented in the lustrous, glass-hard, easy-to-clean Kohler surfaces—in the non-flexing iron base of the bath, cast for rugged strength and permanent rigidity—in the precision-made, chromium-plated brass fittings. The efficient Triton shower fitting is shown with the Niedecken mixer. Graceful, convenient Jamestown pedestal lavatory is made of highest quality vitreous china. Well-worth close-coupled closet works smoothly and quietly. Kohler Co., Dept. 22G, Kohler, Wisconsin.

KOHLER OF KOHLER

PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS
Here is a modernly designed, rugged, high-speed, low-priced planer that is ideally suited for every shop and industrial plant requiring a quality surface. The Parks No. 20 Planer has a four-knife cutterhead with a speed of 3600 R.P.M. and offers two feed speeds — 20 and 40 F.P.M., and 40 and 80 F.P.M. Write for complete descriptive literature.

The PARKS Heavy-Duty 12" x 4" Planer

A compact, sturdy, thickness planer that offers mill planer precision and ruggedness at a sensationally low price. Write for descriptive catalog sheet.

The PARKS WOODWORKING MACHINE CO., Dept.30-M, 1546 Knowlton St., Cincinnati 23, O.

Catalogs and HOW-TO-DO-IT INFORMATION

488—HEATERS AND ACCESSORIES—a catalog of the Hotstream line of heating equipment has been released by The Hotstream Heater Co., 2963 E. 69th St., Cleveland 4, Ohio. Products of Hotstream described and pictured include water heaters, heating boilers, floor furnaces, thermostats, valves and related equipment.

489—BAKED ENAMEL FINISHED WALL BOARD—is the subject of a pamphlet offered by the Wallace Manufacturing Co., 10th and Fayette St., North Kansas City, Mo. A color guide in full color, suggested applications, and illustrations of typical installations comprise the contents.

490—MODERN FLOORS OF SOLID RUBBER—where and how rubber floors may be used, and various patterns of Rubberlock flooring available are discussed in an eight-page catalog released by the R. L. Mitchell Rubber Co., 2130 San Fernando Road, Los Angeles 41, Calif. Well-illustrated catalog presents installation information, showing how unusual product may be installed without mastic or cement.

491—“CUTTING COSTS WITHOUT CUTTING CORNERS”—six-page bulletin on new square or rectangular Agitair “RTC” air diffuser, illustrates how the RTC is installed in various methods of suspended ceiling construction. Product is especially designed for use in acoustical ceilings, and made in modular sizes to conform to standard tile dimensions. Sizes, patterns, and typical installations are shown in this bulletin issued by Air Devices, Inc., Dept. RTC, 17 E. 42nd St., New York 17, N.Y.

492—PLUMBING REFERENCE BOOK—is the new 144-page illustrated catalog now available from Kohler Co., Kohler, Wis. Commemorating the 75th anniversary of the company, 100 pages are devoted to pictures illustrated Kohler of Kohler products. Full color illustrations, with floor plans, followed by a series of matched sets, provide helpful suggestions for the architect, plumber and home builder.

493—HOW WINTERIZED WINDOWS SAVE MONEY—is shown in a two-color 16-page folder released by Detroit Steel Products Co., 3101 Griffin St., Detroit 11, Mich. The folder, “Fenestra Inside Metal Storm Windows,” discusses reasons for window glass condensation and offers preventive recommendations. Choice of styles in inside storm windows for various casements are illustrated.

494—AUTOMATIC TACKERS—their wide application and versatility are described in a 26-page catalog issued by the Fastener Corp., 860-902 Fletcher St., Chicago 14, Ill. Various models of the Duo-Fast tackers are shown, plus instructions on their maintenance and operation.

495—ASBESTOS CEMENT BUILDING MATERIALS—of all kinds are discussed in a 24-page new products guide distributed by the Asbestos Cement (Continued to page 128)
That's an easy way of giving your customers extra value without costing you extra money. Insulite builds... and insulates at the same time. That's why it's called DOUBLE-DUTY Insulite. You get another plus value in the time saved putting it up. Handles easy, saws easy, fits easy. That adds up to a better profit on every job for you.
Catalogs

(Continued from page 126)

Products Association, 509 Madison Ave., New York 22, N.Y. The booklet, "The Asbestos Cement Products Reference Book," provides answers to the questions most likely to arise concerning methods of handling and application. Handling procedures are illustrated by photographs and drawings.

496—MULTI-PURPOSE LIQUID ADMIXTURE—for concrete, mortar, stucco and cement plaster is a product discussed in a six-page folder issued by L. Sonnewborn Sons, Inc., New York 11, N.Y. Application methods of the product, "Trimix," are illustrated. Results of tests of the material are shown, as well as specifications for its use.

497—SIMPLIFIED METHOD OF SPECIFYING FINISHING HARDWARE—is presented in a unique 24-page architect's manual issued by the Lockwood Hardware Manufacturing Co., Fitchbury, Mass. Profusely illustrated manual presents hardware specifications for residences, apartments, hospitals, hotels, schools, commercial and public buildings.

498—STEEL BRACES FOR WOOD JOISTS—methods of installation, drawings, diagrams and illustrations, are presented in a four-page brochure issued by Beloit Steel Industries, Inc., 307 City Hall Bldg., Rockford, Ill. Beloit's product, "Sta-Tite" steel braces, is described.

499—FIFTEEN BASIC PLANS—with photographs and individual sheets showing elevations of each house are presented in a loose leaf portfolio distributed by the General Timber Services, Inc., Dubuque, Iowa. Available to dealers, the plans are designed by capable architects and meet all FHA requirements.

500—ART IN IRON—by the Artercraft Ornamental Iron Co., 724 E. Hudson St., Columbus, Ohio, is a profusely illustrated, 40-page catalog that presents many ideas on the artistic and practical use of iron in different types of construction.

501—TRUSS RAFTER CONSTRUCTION—is discussed in a seven-page catalog entitled "Clear Span Teco Trussed Rafters in Modern Home Planning" issued by the Timber Engineering Co., 1319 18th St., N.W., Washington 6, D.C. Economics, mechanics, and planning, are topic headings, and each topic is illustrated with photographs and diagrams.

SERVICE COUPON—CLIP and MAIL to CHICAGO

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American Builder, 105 W. Adams St., Chicago 3, Ill.  

Please send me additional information on the following product items, or the catalogs, listed in this department:

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*Please note that occupation must be stated if full service is to be given.
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SEALING THE VALLEYS IS EASY AS... 1-2-3

Revere Home Flashing is a packaged system developed exclusively for use in valleys and flashing on low-cost houses. Based on a special size, special temper and special gauge of sheet copper, it is packaged, complete, ready for economical installation.

Each package contains 10 sheets of this special copper, pre-cut to 18" x 48"; bronze nails; complete, illustrated instructions for installation.

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Revere Home Flashing provides economical weather-proofing in valleys, around chimneys, 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.

Your building supply dealer has Revere Home Flashing in stock or can get it for you promptly. Ask him about Revere Home Flashing today.
Homes Dressed Up

QUICKLY—EASILY
At Low Cost

... with Coffman Grilles, Posts, Brackets, and Entrance Rails

SMALL HOMES are easily beautified at very little expense with Coffman Ornamental Iron! All the charm of Old New Orleans and Charleston is built into these hand-wrought ornamental iron posts, brackets, grilles and railings. Designed by master craftsmen, their architectural proportion is exact, their quality—unsurpassed!

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Lumber and Building Supply Dealers have Coffman Ornamental Iron instantly available from stock. Easy to install, all Coffman designs save labor, give lasting satisfaction. They are superior to wood or masonry, and won't rot, split, warp, or shrink; and, of course, they are termite-proof.

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Coffman low cost hand-wrought ornamental iron has a wide market in the small home field. Its quality of design and construction, together with standardized production economies, makes selling easy to the low cost home builder... he can afford ornamental iron, NOW! If you are not stocking this line at present, be sure to get the facts.

Write Department A-B, 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. F. Coffman Co., Inc.
Orlando, Florida

How to Lay Sewage And Drainage Pipe

(Continued from page 114)

TRENCH WIDTH, variations in soil, bracing and sheeting, foundation, alignment, slope, and joints must be properly handled to obtain a good drainage or sewage clay pipe installation.

Sufficient bracing and sheeting should be placed in the trench before the pipe is laid. Obtaining a proper trench width and adjustments for soil variations will add structural strength to the pipe.

The bottom quadrant of the clay pipe should be fully and uniformly supported. Bell holes should be carefully excavated at proper intervals so that no part of the load is supported by the bells. The full load should rest on the barrel of the pipe.

For proper pipe bedding, it is recommended that mechanical excavation be held four inches above the final invert grade. The remainder of the trench should be shaped by manual excavation.

If the bottom of the trench is not sufficiently stable, supplementary foundations are essential. The simplest supplementary foundation is a layer of broken stone, gravel or other coarse aggregate. In extreme cases it may be necessary to install continuous timber or masonry bridging supported upon a pile foundation.

If the pipe is laid in rock trenches, a layer of sand or small-sized broken stone or gravel, at least four inches thick under the pipe, should be applied.

Where loose uneven material is used, tamping may be necessary for the full depth of the trench to prevent excessive settlement. Wet tamping is not recommended.

Where sewer and drainage pipes lie below the ground water level, it is necessary to minimize infiltration. Hot-poured joints are recommended to obtain water-tight joints. Trenches should be kept water-free until jointing material has had sufficient time to become fully set.
NOW STRAND ANNOUNCES a track-type door for 16' x 7' openings, with the same sturdy strength, ease of operation and other advantages of Strand all-steel single doors. The new Strand double-garage door saves you about 15% of the cost of two single doors, eliminates the cost of building a center post, and ensures an unobstructed opening 16' wide, with ample space for two of the new, wider cars.

INSTALLED QUICKER—Strand all-steel doors for double-garages are shipped in two 8' x 7' door leaf units, with splice channel and packaged hardware. Surprisingly quick and easy to install.

THE PROTECTION OF GALVANEALING, added to the strength of steel, assures lifetime durability of Strand Doors. They’re hot galvanized for rust protection—and annealed, too— for a smooth, uniformly coated surface and a clinging base for paint without need for a special priming coat.

BUILT FOR STRENGTH—welded all-steel 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.

Strand Doors are available without waiting and without limit. Mail the coupon now for more information.
NEW PRODUCTS

Continued from page 117

Their bearing by a swivel bearing plate from roof slopes, regardless of roof pitch. Ladder rails are thus kept free from cornice members. Brackets may be used in pairs as a scaffold. The scaffold arm is always level, without adjustment, when the ladder is set at proper pitch, and may be used on either inside or outside slope of the ladder rails. Rigid steel construction. Manufacturer: Steadfast Equipment Co., 57 Wheeler Ave., Pleasantville, N. Y.

ELECTRIC RANGE AB1911

For modern electric cooking in confined kitchen areas, range has four surface units and full size oven. Measuring 42 inches high overall, 21 inches wide, and 25½ inches deep, range has one-piece acid-resisting porcelain cooking top and backsplasher. High speed broiler is included. Range may be placed flush against wall. Manufacturer: Frigidaire Div'n, General Motors Corp., 300 Taylor St., Dayton 1, Ohio.

METAL FOLDING RULE AB1913

All-metal rule, ¾ inches wide, has white face for easy reading of numerals and calibrations, and is equipped with spring steel joints that snap into place and remain rigid. Straight edge is maintained along joints so that line may be marked all along full 72-inch length without break or irregularity. Inside markings for additional convenience. Manufacturer: George E. Watson Co., 164 W. Lake St., Chicago 1, III.

SMALL HOME FURNACE AB1916

The "Challenger" has a one-piece, 20-inch all-steel body, and is designed for homes requiring 75,000 B.T.U. at the bonnet. Encased in enameled finish square casing of two-tone color. Simple to operate; adaptable to coal, oil, or gas firing. Manufacturer: Wheeling Furnace Corp., Martins Ferry, Ohio.

(Continued to page 134)
Western Pine Region

Sets Production Record

To meet the demand of the building industry the Western Pine region produced 7¾ billion feet of Western Pines and Associated Woods* in 1948—½ billion feet more than in 1947 which was the previous all-time high. Shipments also set a new record in 1948.

The member mills of the Western Pine Association extend to the retail lumber dealer, the wholesaler, the building contractor, the architect, and industrial buyer their sincere appreciation for the part each has played in the marketing of Western Pine products.

And for the future the Western Pine Association is pledged to a policy of harvesting timber resources under private management in a manner which will support a high level of production and provide a more than adequate timber supply.

*These are the Western Pines
Idaho White Pine • Ponderosa Pine • Sugar Pine

*These are Associated Woods
Larch • Douglas Fir • White Fir • Engelmann Spruce
Incense Cedar and Red Cedar • Lodgepole Pine

Will manufactured—thoroughly seasoned—carefully graded—by all Association member mills
 Zinc
SERVES YOU

Galvanizing (Zinc coating) insures long-time, low-cost service. For as long as iron or steel is coated with Zinc, it cannot rust. For satisfaction, use galvanized materials. They're "Sealed-in Zinc" against rust.

NEW PRODUCTS
(Continued from page 132)

WATER HEATER  AB1917

Rex "XL" model contains no projecting parts. All functioning parts, thermostat, and gas safety pilot are concealed. Temperature control knob enables housewife to have hot water at almost any temperature desired. Safety pilot cuts off all gas supply to burner, in any emergency, and a temperature and pressure relief valve further adds to safety. Manufacturer: The Cleveland Heater Co., 2310 Superior Ave., Cleveland 14, Ohio.

CEMENT BASE WATER SEAL  AB1919

"Stonfil," a cement base water seal for masonry surfaces, seals brick, unglazed tile, stucco, concrete, stone or precast blocks against moisture penetration. Applied to inside or outside surfaces, above or below grade. Scrubbed into pores of clean masonry surfaces, it expands as it sets; then seals pores. Contains no organic binder. Packaged in 25 pound bags, one package providing four gallons of paste, sufficient to cover 400 square feet, depending upon porosity of surface. Manufacturer: Ross Industrial Products Co., 3908 Olive St., St. Louis, Mo.

LAUNDRY TUB  AB1920

"Easy-Kleen" aluminum laundry tub is available with twin or single compartments, unfinished, or with special baked-on white vinyl finish if desired. Joints are permanently fused. Tub can be installed with or without utility shelf. Weight, 25 pounds. Equipped with two 3-inch cadmium plated brass strainers with rubber stoppers and waste connectors. Manufacturer: Aluminum Door Corp., 467 S. Woodward Ave., Birmingham, Mich.

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Fully illustrated and packed with practical information on galvanized sheets and Metallic Zinc Paint. Send for them, today!

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Send me without cost or obligation the illustrated booklets I have checked:
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For all types of new safe buildings. Use any type building material that is noncombustible or resistant to fire. Lith-I-Bar joists are "Class A" fire resistant according to National Fire Protection Association standards. Lumber and Concrete Makers incorporate Lith-I-Bar joists in their building requirements. Write, wire or call for information.

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More and more — AMERICAN
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Please send latest catalog on the following,
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- Floor Sanders  - Floor Edgers  - Saws
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NEW PRODUCTS

(Continued from page 134)

SHALLOW FLOOR FURNACE AB1901
Temco Model 506-1, shallow gas floor furnace, measures 25 1/2 inches overall depth. Unit is equipped with porcelain enamel heat chamber which is guaranteed not to rust, corrode or burn out. Ceramic surface treatment on heat chamber is type developed by National Bureau of Standards for use on aircraft power plants. Includes safety pilots. Automatic electric temperature controls optional. Furnace line includes 35,000, 50,000, and 70,000 B.T.U. models. Manufacturer: Tennessee Enamel Manufacturing Co., Nashville, Tenn.

GARAGE DOORS AB1906
"Taylor-Made," jack knife type door is adaptable to openings that are unusually high and wide where door must raise up and out of the way. Doors are made in two sections with extruded aluminum frame and heavy aluminum face. Requires no room for the door installation inside the garage. Manufacturer: R. L. Taylor, Inc., 12480 Evergreen Rd., Detroit 28, Mich.

AIR CONDITIONING FURNACE AB1935
"Toridheet," package all-steel winter air conditioning furnace unit, incorporates rotary wall flame burner in a welded boiler plate combustion cham-

be. Round cornered steel cabinet, finished in sage-green baked enamel, is elevated above floor on full length metal skids. Access doors lift out entirely. Shipped assembled with Underwriter-approved control accessories and float controlled humidifier as standard equipment. Sizes: 60,000 and 90,000 B.T.U. at register. Manufacturer: Toridheet Div’n, Cleveland Steel Products Corp., 7306 Madison Ave., Cleveland, Ohio.

(Continued to page 140)
It's a Box of "Matches" that will "LIGHTEN" YOUR HARDWARE PROBLEM

Now YALE gives you a complete "Package of Protection" for front and back doors.
XP22 Front and Back Door Lock Set has XP74281 Handle Set for front door . . . plus 170 KA Tubular Deadlock for back door.
A. Exposed front door units are matched in design.
B. Back door deadlock has chromium plated inside trim to match modern kitchen fixtures.
C. Keys match for both locks.
Other Yale packaged combinations are:

XP2 which consists of XP291 tubular latch set and 170KA tubular deadlock with matching cylinder collar for front door, plus 170 KA tubular deadlock for back door.
XP1—same as above, without back door lock.
The combinations are also available in XH design.
Simplify your hardware selection—choose a YALE "Package of Protection". THE YALE & TOWNE MANUFACTURING COMPANY, Stamford, Conn., U. S. A.

Makers of the famous YALE lines of Locks, Door Closers, Hardware; Pumps; Heating Units; Hoists, Industrial Trucks, Scales.
Don't sacrifice

IT PAYS IN MANY

* Top insulating performance. Low thermal conductivity. Unaffected by moisture. Stays efficient because it stays put.

* Easy to handle. Fiberglas Building Insulation is light in weight; workmen can handle it with little effort. Compres-

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FIBERGLAS is the trade-mark (Reg. U. S. Pat. Off.) of Owens-Corning Fiberglas Corporation for a variety of products made of or with glass fibers.
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1 INORGANIC...AGELESS GLASS WOOL
- Fiberglas®, the most efficient mineral wool, made of glass fibers which can't rot, burn or absorb moisture.
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- Permanently efficient barrier to heat.
- Provides no food for insects or vermin.

2 ENCLOSED ROLL BLANKET...CONTINUOUS VAPOR BARRIER
- Speedy, foolproof installation.
- Superior moisture protection.
- Easy to handle—compression packages save space.

ONLY FIBERGLAS BUILDING INSULATION GIVES YOU BOTH!

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WAYS TO USE FIBERGLAS BUILDING INSULATION
- Insulation packages save up to 40% of storage and trucking space, can be passed through stud and joist spaces. No bulky cartons to dispose of.
- Full range of types and sizes. There is a type and size of Fiberglas Building Insulation for every building need. Speeds installation, makes for a better job.
- Economical to use. Competitively priced with ordinary insulations. Cuts installation costs.
- Nationally known. You customers know Fiberglas Insulations as quality materials that are used in buildings, home appliances, trains, trucks, buses and planes. A good selling feature.

INCLUDE FIBERGLAS BUILDING INSULATION IN ALL YOUR PLANS

DISTRIBUTED BY

INDUSTRY LEADERS

Save scarce fuel... Insure comfort... Insulate with FIBERGLAS
NEW PRODUCTS
(Continued from page 136)

CONCRETE-FORM SPREADER TIES
AB1905
Paco tiles rest vertically in form; designed to permit easy flow of concrete and to eliminate air spaces and assure permanently dry walls. Complete range of sizes from 6-inch to 36-inch length. Manufacturer: Paco, 327 S. Market St., Wichita 2, Kan.

BUILDING PAPER AB1918
Leatherback All-Purpose Building Paper is a heavy base stock with an average uniform asphalt impregnation of 30 per cent of the sheet cross-section. It is approved by FHA as a Class "D" breather type paper. Base stock is made up of 80 per cent new long fibres. Weight: 500 square foot roll, 25 pounds. Manufacturer: Protective Papers Inc., Union, Ill.

WOOD BORING TOOL AB1912
"Whiz-Bit," flat type high speed wood bit is designed for use with drill presses, portable electric or pneumatic drills. Long pilot starts hole and maintains hole diameter to close tolerances. Holes can be bored in any direction, wherever pilot can bite into wood. Bit shank is 1/2 inches long, and holes can be bored to full shank length without re-moving bit. Made of one-piece forged "moly" steel. Available in sizes from 1/8 inches to 1 1/8 inches. Standard set consists of six bits and one countersink, in canvas case. Manufacturer: Rex Laboratories, 1717 Gent Ave., Indianapolis 2, Ind.

INTERLOCKING SHINGLE AB1927
Four-way interlocking aluminum shingle for residences and institutions has three sections, each embossed with cedar-like grain. One nail fastens each shingle. Nail, driven through a tab, is concealed by the shingle above. Weight: 40 pounds per 100 square feet. Manufacturer: The Aluma-Lock Corp., Equitable Bldg., Portland, Ore.

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, Underwriter approved, retail at $33.75. 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 convenient 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 fixtures. 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.

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For free information, see your building material dealer or write—

MARCO STAIRWAYS
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BOICE-CRANE NO. 2514
Has 10" arbor, the largest arbor and heaviest bearings of any 10" saw. Handles heavy overloads.

Motor is entirely separate from machine and away from the dust, keeping vibration from the saw arbor and eliminating needless wear on trunnions and slide ways. With motor weight off the arbor, the arbor always stays accurately locked in any tilted position.

28" long cast iron rip fence, precision ground both sides, features one-knob lighting-fast automatic control of both front and rear locks. Fence is aligned as it midpoint sets, saving the necessity of reaching over blade to set or adjust fence. Secure and accurate alignment on first lock-up.

Conveniently grouped controls for quickly, accurately tilting, raising and lowering saw blade. Positive locks. Easy-to-read accurate gauges. Large dust chute encloses lower portion of blade, and discharges sawdust away from motor.

Finest miter gauge yet designed, with patented planer-tilting and adjustable stops for 45° and 90°.

Approved tilting safety guard shields entire blade. Reinforced splitter prevents binding, has anti-kickback feature.

Powerful V-belt drive, capable of transmitting up to TWO horsepower. Available in bench or floor models.

SPECIFICATIONS:

Table: 20" x 27" with extension 36" x 27".
Saw Blades: 16" dia., max. — Blade Heads, 6" dia. x 1-1/2" wide.

Drill Capacity: No. 2660—27 max. No. 2260—32 max.
Cut-and Capacity: 1/2" clear before blade.

Write for free literature
For more than a half-century, the name Roddis has been associated with the finest quality doors. A recent testimonial to their quality was the selection of Roddiscraft Solid Core Flush Doors by the builders of the new Terrace Plaza Hotel in Cincinnati, Ohio.

Glance at the hinge rail on the door as you enter your room when next you stop at this beautiful hotel. You will see the built-in red-white-and-blue dowel... symbol of Roddiscraft Solid Core Flush Doors. The designer of this modern hotel selected Roddiscraft Flush Doors not only to carry out the modern design but because of their combination of beauty and rugged ability to stand up under heavy hotel traffic.
WEATHERTIGHT. Special roller crank closing action moves the entire door smoothly and evenly against the stop strips in the last few inches of its downward travel, effectively sealing the opening against dust, dirt, litter, snow, rain, sleet, and wind.

EASY WORKING. Tailored twin-torsion counterbalancing springs accurately support the weight of the door, so minimum effort is required for raising or lowering. Sticking is eliminated by the fast-freeing effect of the closing action.

DURABLE. Barcol OVERdoors give long, trouble-free service because they are strongly built, accurately assembled, and carefully installed by factory-trained men.

NEW PRODUCTS
(Continued from page 140)

OIL BURNING HEATER AB1909
"Deluxe" model portable heater, using kerosene for fuel, is adaptable to temporary and semi-permanent heating applications. Has sufficient capacity to heat three ordinary five-room houses. Unit powered with electric motor, and standard equipment includes two 12-inch diameter by 12-foot long collapsible canvas ducts through which the heated air may, when desired, be conveyed to areas where needed. Ignition and operation are automatic, with manual controls for starting and stopping. Manufacturer: Herman Nelson Corp., Moline, Ill.

AIR CONDITIONING FURNACE AB1933
Superflex Model 4100 is equipped with pressure atomizing gun-type burner which is designed to burn heavy "cat" cracked fuel oils. Incorporates two-stage fuel pump and a two-stage air circulator. Triple-flue heat exchanger gives a heating surface of 6,216 square inches. Heavy welded steel construction.

FREEZE PROOF LIFETIME TAP
AB1878
A new lifetime tap that is always self-sealing. It has a ball valve to prevent back-siphonage. It is made in sizes 1/4, 1/2, and 3/4 inches. The "Guardian," a combination fire and lawn hose holder. Holder is installed in basement, and hose is fed from holder to lawn through a special pipe. When not in use, hose retracts through pipe in the basement wall, automatically coiling in the holder. Hose may be always connected for immediate use without danger of freezing. Water shuts off at sill cock. Detachable handle for shut-off valve is provided. Manufacturer: The Guardian Manufacturing Co., 225 S. Fifth St., Minneapolis 2, Minn.
When considering Doors remember this:

Weldwood Doors Are Guaranteed
against warpage or binding
in opening due to any dimensionial changes in the door.

IT'S a fact! These beautiful new Weldwood flush veneer doors are guaranteed against swelling and sticking in the summer...or shrinking and rattling in the winter.

Combine that feature with light weight and the rich beauty of real wood...and you have a truly superior door that you'll want for your next job.

Write or contact our nearest branch for full information on this new Weldwood Flush Veneer Door. Also ask about the amazing new Weldwood Fire Door which carries the Underwriters' label for Class B openings.

ONLY WELDWOOD DOORS GIVE YOU THESE 5 UNIQUE ADVANTAGES

1. PERMANENT HOT PLATE BONDING of veneers to core and banding with TEGO Film Waterproof Glue.

2. VERMIN AND DECAY PROOF mineral core resists fungus, decay and termites for life of structure.

3. INSULATING PROPERTIES are superior to double glazing, such as opening protected by storm door...when door is installed in an exterior opening with weather stripping.

4. EXCELLENT VAPOR BARRIER assured by TEGO Film Phenolic Glue bond between core and veneer.

5. INCOMBUSTIBLE MINERAL CORE has a fibrous reinforcing with a nominal density of 20 lbs. per cubic foot. This material has a sturdiness which assures proper performance under most severe conditions.

UNITED STATES PLYWOOD CORPORATION

Distributing units in Baltimore, Boston, Brooklyn, Buffalo, Chicago, Cincinnati, Cleveland, Detroit, Fresno, High Point, Los Angeles, Milwaukee, Newark, New York, Oakland, Philadelphia, Pittsburgh, Portland, Ore., Richmond, Rochester, San Francisco, Seattle. Also

M. C. Fairfield Elected President of Insulation Board Institute

M. C. FAIRFIELD, Minneapolis, Minn., was elected president of the Insulation Board Institute at the Institute's annual meeting in Chicago, Ill. Fairfield, who is sales manager of Young Convec tors, specified for modern hospitals because they are easy to keep clean, and provide a steady, draftless flow of heat at proper temperatures. Such qualities make them ideal also for homes, apartments, offices, public and commercial buildings, schools and institutions. Mail coupon now.

Above: Typical installations in Swedish and Minneapolis, Minneapolis, Magnuson- Type & Setter, Architects and Engineers

M. C. FAIRFIELD

Insluite, succeeds James V. Jones of Armstrong Cork Co., Lancaster, Pa., Dean Cran dall of National Gypsum Co., Buffalo, N.Y., was named vice president, and Marvin Greenwood of Celotex Corp., Chicago, became the new treasurer. The board of directors, in addition to the officers, includes Jones, plus James B. McCorde of United States Gypsum Co., and D. M. Pattie of Wood Conversion Co.

Wood Conversion Company Names New Sales Manager

THE APPOINTMENT of Marland S. Wolf as general sales manager, Wood Conversion Co., was announced by D. M. Pattie, vice president and general manager.

Wolf, formerly associated with the U. S. Gypsum Co., has spent more than 19 years in the insulation and building products field.

He will be located in the Wood Conversion Co. general sales offices in St. Paul, where he will direct the sales programs of Balsami-Wood, Nu-Wood, Tuftlex and other products. Wolf, who attended Knox college and University of London School of Economics, has written several popular books on home insulation and modernization.

Realtors to Continue Work for Unshackled Housing

THE NATIONAL Association of Real Estate Boards will continue to explain to the public how perpetuation of residential rent control in peace time and the extension of federally owned and operated housing void the constitutional guarantees of individual property ownership. This was the promise made by Hobart C. Brady, retiring president of NAREB at the association's 41st annual convention in New York.

The realtors also will continue to explain to people, he said, how the mounting costs of government lower our standard of living by increasing deductions from the paycheck. Large scale government spending has contributed to the high cost of housing while lowering the buying power of the people.

Pointing out that the passing year has provided a challenge to courageous citizenship, he declared, "It has been our privilege to lead the resistance to attacks on individual property ownership in America. We have steadfastly reminded the people that our experiment in popular constitutional government succeeded where others failed because the founders of our republic understood that only freeholders can be free. They sought to preserve in our Constitution the freedom of property ownership as a basis for the preservation of civil liberties. They considered the encouragement of individual property ownership a proper concern of government."

Home building for the low income group is expected to move forward in 1949, W. L. Cooper of Port Huron told the convention, "The home building industry is making a real drive to build economy houses with the new (Continued to page 146)
"My FORD is the BEST truck I ever OWNED"

"My F.7 FORD dump truck has already given me 7,000 miles of top service, and I haven't babied it either," reports Ivan Hobbs who uses his truck in construction work in the Findlay, Ohio area.

"My usual load is 18,000 lbs. of crushed stone and my hauls are under all kinds of conditions. My Ford is the best truck I ever owned and I bought it because my previous Ford Trucks lasted longer and cost me less to operate."

Thus does Mr. Hobbs add his voice to a nationwide chorus of Ford Truck enthusiasts. Truck users everywhere are pepped up about Ford Truck performance. They love the luxury of the new Ford Million Dollar Cab. And they get the biggest bang out of Ford Bonus Built construction . . . 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 16-inch by 5-inch rear brakes in the F-8; 16½-inch by 3½-inch in the F-7.
- Ford Super Quadrax 2-speed axle with vacuum shift for performance flexibility in Model F-8 (single speed axle also available); single-speed Quadrax 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 25,500 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.
sections of the Housing Act of 1948. Reports from FHA indicate that construction of rental housing under this act is accelerating."

Planning for permanence was indicated as a basic challenge to builders and realtors by J. C. Nichols of Kansas City.

To check depreciation losses, he indicated, homes must have value lasting for generations. Neighborhoods must have ample playgrounds (but not the 10 per cent of whole subdivisions advocated by some federal planners); adequate park areas, quiet, carefully planned curving residential streets to discourage through traffic; major highways, boulevards, parkways and circumferential drives, all worked out to fit a good municipal and regional pattern.

Theodore H. Maenner of Omaha was elected president of NAREB to succeed Brady. Other newly elected officers included H. Walter Graves of Philadelphia, treasurer, and the following regional vice presidents: Tom Coppage, Seattle; Chaiborn A. Saint, Los Angeles; Ray E. Patterson, Fort Smith, Ark.; Clarence W. Treadwell, Detroit; Robert W. Leavitt, Lake George, N.Y.; Harold J. Grove, Omaha; Albert M. Rome, Hartford; William Lynes, Savannah, Ga.; Russell Wilkinson, Memphis; F. Orin Woodbury, Salt Lake City; Henry W. Matthieu, Norristown, Pa.; Jules Fisher, Chicago, and Charles A. Bourgeois, New Orleans.

**Insulating Siding Elects New Officers**

HARRY F. ALTHEIDE, vice president of Globe Siding Products Co., Chicago, was elected president of the

Altheide, in heading the association during its third year, announced the further expansion of a publicity program for insulating siding that will include newspaper, trade and farm paper publicity. A special slide film presentation of the application of siding to farm structures for use at various group meetings is also planned.

**Devoe Appoints New Advertising Manager**

WILLIAM J. NEVIN is the new advertising manager and executive assistant to A. H. Mohrhusen, general merchandising manager of Devoe & Reynolds Co., Inc. The announcement was made by William H. Mathews, executive vice president of Devoe & Reynolds.

Nevin joins Devoe & Reynolds with twenty years merchandising and advertising experience; twelve years devoted to the paint industry. He succeeds G. Purdy Hall, who has returned to a sales capacity as New York branch manager.

**John D. McCrystle Joins Upson Company**

APPOINTMENT of John D. McCrystle as assistant to the president has been announced by W. H. Upson, Jr., president of the Upson Co., Lockport, N.Y.

McCrystle is a graduate of the University of Maine with the professional degree of chemical engineer. For about 20 years, he was associated with The Brown Co. in Lattupe, Quebec, Canada, and Berlin, N.H., in progressive executive positions to the post of manager of operations.

For the past five years, McCrystle has been serving the paper, textile and plastics industries as management consultant with offices in New York City. He is widely known as an authority on fibres and fibre processes associated in an executive capacity with Johnson & Johnson, and the Barrett division of Allied Chemical & Dye Co.
Will owners of your new houses find the kitchen their only warm room?

Not if you specify ANTHRACITE Equipment!

There are no Ifs, Ands or Buts when you specify Automatic Anthracite Heating

Owners of your new houses can have plenty of worry-free heat because there's plenty of hard coal and there is anthracite equipment to fit any heating requirement.

A whole winter's supply of anthracite can be stored easily in advance. Everyone wants this kind of security and convenience. They have just that when you specify automatic anthracite equipment.

Look over the two types of domestic anthracite equipment shown here. They burn the cheaper sizes of economical hard coal ... completely automatic from bin feed to ash removal.

Write to us for more detailed information on all types of anthracite heating equipment—domestic and commercial.

ANTHRACITE INSTITUTE
101 Park Avenue • New York 17, New York
Buyer resistance to the ever-increasing prices of homes can be eliminated only by reducing building costs. That is exactly what you do when you build with LFI Homes that are factory produced in standard sections. Available in many types and sizes, LFI houses are "builder's houses"... factory manufacture has been carried only to the point where it results in maximum savings to the builder, but does not hamper him in interior arrangement and finish.

Make More Money

 Builders now using LFI Homes find that they can sell for less than their competitors and still earn a larger profit.

Fast Turnover

LFI Homes can be ready for occupancy in surprisingly short time. Section-built and precision-cut materials are carried in stock for immediate shipment.

Exceptional Quality

LFI Homes are made from dry, thoroughly seasoned lumber, joists, studding and rafters are spaced on 16" centers.

Easier to Finance

Dealers report they require lower down payment as they get higher percentage of selling figure in FHA appraisal.

MAIL COUPON TODAY

LUMBER FABRICATORS INC., 728 Fisher Building, Detroit 2, Mich.

Please send me complete information on how I can use LFI to offer better homes at lower prices and at the same time make more money for myself.

NAME

COMPANY

ADDRESS

CITY AND ZONE

STATE

Exceptional Quality

LFI Homes are made from dry, thoroughly seasoned lumber, joists, studding and rafters are spaced on 16" centers.

Easier to Finance

Dealers report they require lower down payment as they get higher percentage of selling figure in FHA appraisal.

LUMBER FABRICATORS INC., 728 Fisher Building, Detroit 2, Mich.

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NAME

COMPANY

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CITY AND ZONE

STATE

MAIL COUPON TODAY

LUMBER FABRICATORS INC., 728 Fisher Building, Detroit 2, Mich.

A NATIONAL ORGANIZATION FROM COAST TO COAST

We promise the field of demand will be ex- traordinarily big.

To see more of the pictures, turn to page 150.
We proudly present our newest achievement in the cutting field designed specifically to meet flooring contractors demands. Now you need only this one machine to cut accurately all the above types of floor tile, which you can readily see means more jobs in less time at less cost than ever before. Cut yourself in on your share of the profits from the biggest installation success in years!

SPECFICATIONS

<table>
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We Will Answer All Inquiries Promptly

J.M.J. PRODUCTS CO.
NOW...WATERPROOF IN FREEZING WEATHER!

with CRYSTAL Silicone WATERPROOFING NON-FREEZING! LASTINGLY EFFECTIVE!

When cold weather slows up construction jobs—you can speed up their completion by following through with CRYSTAL exterior waterproofing. CRYSTAL can be applied quickly and easily by brush or spray—at temperatures below freezing—an exclusive feature that can save you time and money this winter on concrete block, brick and stucco construction.*

All these extra advantages—found only in CRYSTAL—mean faster, more dependable waterproofing jobs for you all year 'round!

- **ONE-COAT.** Crystal penetrates deeply, waterproofs the entire depth. One gallon covers 100 to 200 square feet of surface.
- **TRANSPARENT.** Crystal is invisible after application. Will not change surface color or texture.
- **STAINPROOFS.** Makes surfaces self-cleansing, prevents efflorescence.

* SURFACES MUST BE DRY.

TRY CRYSTAL AT OUR RISK!

Send this convenient coupon for PROMPT ACTION

WURDACK CHEMICAL CO., 4956 Fyler Ave., St. Louis, Mo.

- Ship to me, one gallon can of CRYSTAL—for which I will pay $5.35 if I am satisfied...otherwise there will be no charge or obligation on my part.
- Send me literature and prices on CRYSTAL.

Name
Firm
Address
City... State... Zone...

My supplier's name is:

RYERSON

TAKES THE GUESSWORK OUT OF MEASURING!

The unique design of this fine measuring instrument makes guesswork and inaccuracies in measuring a thing of the past. Note the lever brake for holding a reading on an inside measurement—which is read directly on the rule—no adding or subtracting. Extra long tip, graduations on both sides of the blade and smooth sliding action are only some of its outstanding features. Add to these its rugged construction, sleek polished chrome finish, and you have the finest in steel tapes. 6 and 8 foot lengths. Blades replaceable. See your hardware dealer or use the coupon.

Master Rule Mfg. Co., Inc.
201 Main Street, White Plains, N. Y.

Gentlemen:

I enclose $2.25 for the 6 ft. Streamline.
I enclose $2.50 for the 8 ft. Streamline.

Name
Address
City... State...
Douglas Fir Doors marked "FDI-B" meet these Department of Commerce Standards

STILES, RAILS, AND MULLIONS—This stock shall be of vertical grain faces with some coarse grain permitted. It shall be sound in all respects, and may contain sap, light stains, streaks, burls, and neatly repaired pitch seams. Glued-up members are permissible. A moisture-resistant glue shall be used. Mixing of woods is permissible provided both stiles are of a single specie.

PANELS—FLAT VENEERED—The standard thickness of 3-ply flat veneered panels shall be \( \frac{1}{4} \) inch after sanding. Each face shall be of one or more pieces of firm smoothly cut veneer. When of more than one piece, it shall be well joined and reasonably matched for grain and color at the joints. It shall be free from knots, splits, checks, pitch pockets, and other open defects. Streaks, discolorations, sapwood, shims, and neatly made patches shall be admitted.

PANELS—RAISED—The standard thickness of raised panels shall be not more than 9.16 inch before sanding and not less than 7.16 inch after sanding. They may be either slash or mixed grain, or mixed woods and shall conform to the grade of the stiles and rails. Glued-up, solid panels are permissible.
Keep your power plane cutter sharp on the job. You can resharpen the cutter in a matter of minutes, sharp as new. Just set the plane in the bench bracket, remove the cutter arbor and replace it with the grinding arbor and wheel. Mount the grinding attachment on the plane and switch on the power.

3 to 5 times faster than hand planing . . . Doors, screens, storm sash, transoms . . . any edge at all . . . can be planed faster than the best hand planing with a Stanley-Carter Power Plane. And better!

Smother, even against the grain . . . The combination of real speed . . . 18,000 r.p.m . . . , and patented spiral cutter gives perfectly smooth cuts at any depth setting, regardless of grain direction.

Convenient adjustments . . . Depth of cut is adjusted before or during work just by turning dial on front of plane. Fence can be adjusted in a second for any bevel cut up to 45 degrees.

Here's the hurry-up tool you need to compete in costs, in time, in quality of work. Get the whole story on the J-5. Write for folder, Stanley Electric Tools, Stanley-Carter Sales Dept., 534 Myrtle St., New Britain, Conn.
Add the outdoors
...and you add Salability

The spaciousness, the color and the sunlight of the outdoors are added attractions when you use quality glass in the windows of your houses. Good glass is not an expensive material—it adds so much for so little.

Today, home buyers expect generous window treatment—more windows, bigger windows. They are the mark of an up-to-date house.

This makes your choice of the right glass more important than ever. The well-known L-O-F label on window glass in your houses tells prospects that you use good materials...that you have provided better, clearer glass for their enjoyment of the outdoor view.

- - -
Libbey·Owens·Ford
Glass Company, 4319 Nicholas Building, Toledo 3, Ohio.

L-O-F also makes polished plate glass, safety glass, colorful Vitrolite® glass facing, Tuf·flex® tempered plate glass and other flat glasses. Only Libbey·Owens·Ford makes Thermo-pane®—the first mass-produced insulating windowpane.

Libbey · Owens · Ford
a Great Name in GLASS
MOST PRACTICAL ALL-AROUND BUILDER'S INSTRUMENT EVER DESIGNED!

Highly accurate, amazingly rugged, the Universal Level-Transit does all survey and check-up operations in building and road construction!

Quickly convertible from level to transit, its novel type of design protects parts which were formerly exposed to damage and inaccuracies. Other features include: a patented ball-bearing race, lock and release lever system, and perfect alignment adjustments.

12" Telescope, 25 power, horizontal guarded circle, Verniers to 5 minutes, Vertical arc, 3".

Write today for full details and free booklet "How to lay out building lots."

MANUFACTURERS OF INSTRUMENTS FOR ENGINEERS, SURVEYORS AND BUILDERS.

311 West Court St., Milwaukee 12, Wis.
NOW! AMAZING NEW STEEL CASEMENT BORN OF REVOLUTIONARY MANUFACTURING METHOD...

BETTER 11 WAYS!

CHECK THESE 11 BIG ADVANTAGES:

1. Deeper Sections . . . 1½" . . . Mean Added Strength, Rigidity.
2. Double Weathering Water-Tight Contact All Around.
4. Cold Rolled Steel Surfaces Make Better Painting Surfaces.
6. Deeper (1¼") Muntins Add Greater Strength to Entire Casement.
7. 1¼" Section Depth Permits Double, Thermopane, or Insulation Glazing.
10. Larger Bottom Slats for Condensation Drainage.
11. IMMEDIATE DELIVERY FOR YOU!

You Are Assured Prompt Delivery... and Complete Home-Owner Satisfaction!

This is it... clearly the first major improvement in the casement window industry since the introduction of the under-screed geared operator 20 years ago! Now, after months of intensive research, STEELCRAFT has developed a standard casement window to make the once exceptional product even better than ever before. Here is truly a revelation in casement manufacture—a cold rolled steel sash with deeper sections, that makes the most economical use of materials, that becomes strongest, most adaptable, most perfectly constructed casement in building history.

The combined viewpoints of contractors, glaziers, engineers and architects formed the groundwork for the design of this new casement. On that STEELCRAFT'S top-skilled engineers built this new standard type casement, embodying all the advantages of the far more costly custom-built window... and then some—yet staying well within the economy-priced bracket of standard casements. Send now for complete construction and installation details of the brand new, ALL-NEW STEELCRAFT Standard Type Casement... as well as information on the complete line of STEELCRAFT Casements.

Mail This Coupon TODAY!

STEELCRAFT MANUFACTURING COMPANY,
9137 Blue Ash Road, Rossmoyne, Ohio
(in Greater Cincinnati)
Please send me your free new catalog on the Complete Steelcraft Casement Window Line.

Name
Business Address
City State
My Position Type of Business

Write For Catalog
STEELCRAFT MANUFACTURING COMPANY
ROSSMOYNE, OHIO (IN GREATER CINCINNATI)

[Image of a man with a steel casement window]
THE ORIGINAL HERMAN NELSON
Gasoline-Burning Portable Heater

- Provides Quick, Clean, Safe Heat—
  without soot, fumes or open flame!
- Abundant fresh, heated air—forced
to areas where most needed!

These time-tested, job-proved Portable Heaters
step up winter production by eliminating delays
caused by cold weather. Can be used for count-
less applications requiring temporary or emer-
gency heat. Especially suited to jobs requiring
a self-contained, self-powered heating unit. Full
250,000 BTU per hour capacity—enough to heat
three ordinary five room houses — yet no bigger
than a kitchen stove!

Also Available

New Herman Nelson De Luxe Model Portable Heater — Oil
Burning — Electric Motor Powered — Automatic Ignition — 250,000
BTU per hour.

New Herman Nelson Economy Model Portable Heater — Oil
Burning — Electric Motor Powered — Low First Cost — 125,000
BTU per hour.

Write for Interesting Free Booklet on "COST CONTROL"

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Since 1906 Manufacturers of Quality Heating and Ventilating Products

How to be Sure About Costs
When You Estimate a Building Job

THE SIMPLE TAMBLYN SYSTEM OF ESTIMATING REDUCES
BUILDING MATERIALS and LABOR COSTS TO EASY-TO-USE FACTORS!

Do you get that creepy feeling about your estimates? Why take a chance
when you can be sure? Just multiply by our simple factors to determine
your labor and material costs. The Tamblyn System is simple, fast,
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YOU MAY SAVE MANY TIMES ITS LOW COST IN ONE USE!

In order to get your share of profitable building contracts, you must be
able to figure jobs fast and accurately. You must be sure your estimate
is just right—low enough to get the job—high enough to give you a
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Many of the largest and most successful contractors in the United
States and Canada—thousands of them—have used the Tamblyn System
of estimating. It is tried and tested—it has been used for more than 25
years. Forty years of experience in construction and building is behind
it. And you can study the system for 10 days without cost.

TEST THE TAMBLYN SYSTEM IN YOUR OWN OFFICE WITHOUT OBLIGATION

Send the coupon below for your complete Tamblyn System. Examine it
in the privacy of your own home or office for 10 days. Try it on new
jobs—check it against completed jobs. There is no obligation unless
you keep it.

SEND NO MONEY—TRY IT FOR 10 DAYS FREE!

THE TAMBLYN SYSTEM, 1115 So. Pearl St., A-25, DENVER, COLO.
“After the leaves fall...  
JANITROL WARM COMFORT KEEPS MY HOMES SOLD”
Says Builder Dillon

WITH JANITROL GRAVITY FURNACES YOU FEATURE MODERN HEATING AT LOW COST

From the very beginning, early in 1948, Dillonvale, a model community in suburban Cincinnati, was a huge success. Developer and Builder Dillon is using quality materials and equipment... mass production methods for a contemplated 600 homes have kept these attractive two and three bedroom homes in a reasonable $13,000 price bracket.

In keeping with the policy of using only high quality products, Janitrol Gas-Fired Gravity Furnaces are used exclusively.

Designed for easy installation, these Janitrol units provide economical, fully automatic heat... builders can feature their modern appearance and operation, yet make savings on their installation costs.

To add greater value and sale-appeal to your homes without increasing your costs, write today for name of your local Janitrol representative, who is prepared to help you.

See Janitrol’s exhibit, National Association of Home Builders Booths 126-127—Hotel Stevens Chicago.

TIME-PROVEN GAS HEATING
Winter Air Conditioners, Gravity Furnaces, Triple Service Systems, Boilers, Conversion Burners

SURFACE COMBUSTION CORPORATION • TOLEDO 1, OHIO
Cost-saving construction methods, standardization and advanced design are the aims of NAHB's Technical Service Department. Established to provide a ready source of technical information for Home Builders, this department gathers latest data from construction laboratories and field operations.

Improved techniques, new materials and latest power tools are studied for practical application in home building everywhere. Reports to the industry are made regularly through the publications of NAHB—The Washington Letter, weekly and The Correlator, monthly.

The Economy House is a primary goal of Technical Service. Research is conducted to lessen costs and meet the demand of the great mass market. The findings of Technical Service are available to all NAHB members. Moving shoulder to shoulder with the other operating departments of NAHB, Technical Service helps Home Builders work better, faster.

Membership in NAHB brings benefits to every Home Builder regardless of the volume of his activities. See for yourself how NAHB works for YOU. Send today for the free booklet, "Men, Homes and YOU."

send for your FREE booklet...
"I saved 40% for my client..."

on installation costs by recommending and installing WARM AIR heating instead of wet heat"

"My client... Mr. Frank Anderson, owner of the Recreation Center at Saginaw, Michigan... after a review of actual warm air as compared to estimated wet heat installation costs... informed me that warm air was approximately 40% less expensive.

Besides cutting installation costs to the bone... warm air heating has given my client low cost operation and top performance.

During the summer months, the blower and ductwork are utilized to provide frequent filtered and humidified air changes and thus obviate a summer air conditioning system... a definite plus feature... cost-and-comfort-wise.

All in all, I have found that warm air heating has so many exclusive combinations of values that it is my first choice every time."


Blower unit equipped with twenty 16" x 25" SWEET'S filters provides four changes of air per hour. Installed in attic space which otherwise would have been unusable,

Statement of Mr. Alfred M. Klopf on file with Jackson & Church Company.
THE KITCHEN-AIRE EXHAUST FAN
Is Different . . .!

Lifet ime Service
In a scientifically controlled test, a sash equipped with HIDALIFT Sash Balances was subjected to a full continuous movement for 270 hours. This test is equivalent to opening and closing the sash once a day for 715 years. The balance disclosed no signs of wear.

Easy Installation
Hidalift is the quickest, easiest sash balance to install. Simply plough the sash and attach with two screws. A self-centering guide bushing maintains perfect balance... prevents jamming . . . eliminates the use of templates in installation.

... and Economy
In these days of costly hard-to-get labor, HIDALIFT which cuts installation time in two, offers you real savings in time and money on the job. The building owner will appreciate the freedom from maintenance costs. Tenants will like the lowered fuel costs afforded by weather tight windows. With HIDALIFT Sash balances there's true economy all around.

WRITE for name of your nearest dealer. Completely descriptive literature showing installation and sizes and specifications available.

THE TURNER & SEYMOUR MFG. CO.
TORRINGTON, CONN.
BUILDERS SAY:

Brick is first

TEN IMPORTANT WAYS!

TIPS ON GOOD
MASONRY PRACTICE

CORBELLING 8 INCH FOUNDATIONS

Many building codes permit 8" foundations for 10" cavity and brick veneered walls not over 1½ stories high. For economy in construction you can use 8" foundations and corbel to the required 10".

PROCEDURE:

1. The first course of brick is composed of 2 stretchers with the inner wythe projecting over the foundation wall ½ of the desired maximum corbelling. (Note: Building codes limit the projection of any one unit to ½ its height.)

2. The second course consists of a stretcher unit and a clipped header unit projecting as shown.

3. The third course consists of a "queen" brick as a stretcher and a full header as back-up. (Note: Building codes require top corbel course to be a full header.)

Write for planbook 'BRICK ENGINEERED HOMES'
Shows you how to build all of brick's advantages into six beautiful small homes. Easy to build, modular designed, detailed drawings available. Send 25¢ with your name and address to Structural Clay Products Institute, 1756 K Street, N.W., Dept. AB-1, Washington 6, D.C.

You builders are the men who know.

And you say, by an overwhelming majority, that brick is tops.

Tops with your customers and tops with you... for beauty, permanence, fire safety, real value... for almost every other quality that helps you build better—sell faster.

In a recent nationwide survey you rated brick first, over all other structural materials, in 10 such qualities out of 12 (and very near first in the other two)!

What better assurance of dependability and all-around quality than the endorsement of men like yourself—whose job it is to know? Remember this endorsement and remember brick, next time you build.

STRUCTURAL CLAY PRODUCTS INSTITUTE
1756 K Street, N.W.
Washington 6, D.C.
Insulation problems are simplified with the new fully enclosed Insl-Cotton insulation on the job. A rugged insulation built to take rough handling, it can be jerked and pulled with no danger of the insulation coming loose. Fully protected, it has a heavy vapor-proof barrier with tacking flaps on one side and strong, sturdy paper on the other. Enclosed Insl-Cotton cuts installation time and trouble...it is the ideal insulation where extra strength is needed.

**Certified**

Insl-Cotton contains no second-hand material. Every lot is tested and certified to the U. S. Government. No other insulation except flame-proof, fire-retarding cotton insulation made under Federal supervision can make this claim.

**INSL-COTTON DIVISION**

TAYLOR BEDDING MFG. CO.

TAYLOR, TEXAS • BELTON, TEXAS

Originators of Flame-Proof, Fire Retarding Cotton Insulation

MAIL THIS COUPON TODAY!

TAYLOR BEDDING MFG. CO., Taylor, Texas

Gentlemen,

Please send specifications and full information on Insl-Cotton

Name: ____________________________

Address: __________________________

City and State: _____________________

Check Here: 

- [] Distributor  - [] Dealer  - [] Architect  - [] Building Contractor

**THE BUILDER'S SAW...ON WHEELS!**

- Portable
- Profitable
- Versatile

Compare before you buy—for here is the best money-making saw for contractors ever built!

The Wallace No. 1 Radial Saw is specifically designed for you. It is trailer-mounted, for portability. Exclusive angular cutting system alternately cuts plate and plumb angles with one set-up and one handling of material. High spindle speed gives faster, smoother saw cuts—better dadoing, shaping, rabbetting and cabinet operations.

Write for free bulletins—also inquire about our universal saws, jointers, bandsaws, shapers, mortisers, dowel-borers and other tools.

J. D. WALLACE & CO.

136 So. California Ave.

Chicago 12, Ill.

BUILDERS • CONTRACTORS

**CUT COSTS**

**With MULKEY'S**

**All-Steel**

**PORTABLE ELEVATOR**

It's Balanced

★ For bricks, blocks, mortar in buckets, sand, roofing, lumber, boxes, dirt, sacks, etc.

★ One man can handle and operate...easily trailed up to 35 miles per hour.

★ Clutch and Brake Assembly own design (Extra)

Basic Length 24 ft. • 17½ ft. Maximum Lift
8' and 14' Extensions Available
Also Available: 16' Elevator (Same Design)

Write for FREE Literature and Prices!

SAM MULKEY COMPANY

1627-KG Locust

Kansas City 8, Mo.
ONE UNYIELDING STANDARD OF

Quality...

Modern Functional Design for the Most Discriminating
Taste in Interior Decoration

General Controls new, compact, snap-action, T-70 Metrotherm Thermostat sets a new standard of functional beauty and accuracy in room temperature control. The harmonizing, lustrous stainless steel cover is connected directly to the thermally responsive element so that the entire cover, sensitive to air temperature and radiant heat, immediately transmits temperature changes to the control mechanism. Its remarkable sensitivity insures constant heating comfort. It is truly a thermostat that lives thermally in the room.

The T-70 Metrotherm Thermostat extends only 7/16" from the wall. Its ivory plastic base acts as a blanket to thermally isolate the thermostat from the wall. From every point of view—both appearance and performance—this thermostat typifies the ultimate in modern engineering design.

Between studs it is easy to apply insulation with the Hansen. Simply place insulation in position, hold it with one hand and tack it with the other. Between rafters, overhead or in other hard-to-get-at positions, Hansen speeds the application.

With the strong gripping power of Hansen staples, material is held closer to frame, and less likely to buckle. Speedy, one-hand operation leaves other hand free to hold materials. REQUEST FOLDER.

Between studs it is easy to apply insulation with the Hansen. Simply place insulation in position, hold it with one hand and tack it with the other. Between rafters, overhead or in other hard-to-get-at positions, Hansen speeds the application.

With the strong gripping power of Hansen staples, material is held closer to frame, and less likely to buckle. Speedy, one-hand operation leaves other hand free to hold materials. REQUEST FOLDER.

The T-70 Metrotherm Thermostat extends only 7/16" from the wall. Its ivory plastic base acts as a blanket to thermally isolate the thermostat from the wall. From every point of view—both appearance and performance—this thermostat typifies the ultimate in modern engineering design.

Goldblatt

LONG HANDLE CEMENTERS' and PAVERS' TROWELS

Highest grade spring steel blade.

Steel-mounted ash handle 7 feet long.
Size 18 x 5 inches, Price each
Size 24 x 5 inches, Price each
Size 30 x 5 inches, Price each
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American Builder, January 1949.
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<table>
<thead>
<tr>
<th>Feature</th>
<th>✔</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARRYABILITY</td>
<td>✔</td>
</tr>
<tr>
<td>FAST SELF-PRIMING</td>
<td>✔</td>
</tr>
<tr>
<td>AUTOMATIC SEEPAGE CONTROL</td>
<td>✔</td>
</tr>
<tr>
<td>HIGH 28-FOOT SUCTION LIFT</td>
<td>✔</td>
</tr>
<tr>
<td>NON-CLOGGING DESIGN</td>
<td>✔</td>
</tr>
<tr>
<td>MAINTAINED RATED CAPACITY</td>
<td>✔</td>
</tr>
<tr>
<td>DISCHARGE PRESSURE</td>
<td>✔</td>
</tr>
<tr>
<td>DEPENDABILITY</td>
<td>✔</td>
</tr>
<tr>
<td>SIMPLE DESIGN AND OPERATION</td>
<td>✔</td>
</tr>
</tbody>
</table>

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ALPHABETICAL INDEX TO ADVERTISERS, JANUARY, 1949

A

Allied Chemical & Dye Corporation...174
Allied-Purol, Inc. 173
American Builder 32-13
American Central Division 35
American Radiator & Standard Sanitary Corporation 18-19
American Roof Tins Co. 175
American Structural Products Company 20
American Telephone & Telegraph Co. 22
American Wire Fabrics Corporation 16
American Zinc Institute 134
Auntie Institute 147
Arkansas Soft Pine Bureau 34
Arlington Homes Manufacturing Corporation, The 169
Armstrong Cork Co. 57
Armco Enameling & Iron Co. 136
Array Corporation 171
Asphalt Roofing Industry Bureau 40
Associated Plywood Mills, Inc. 175
Atlas Nail Co., Inc. 176
Atwater Company, Paul 122
Aveo Manufacturing Corporation 21

B

Barber-Colman Company 142
Bechtel Steel Industries, Inc. 176
Bird & Son, Inc. 176
Black & Decker Mfg. Co., The 31
Boise-Crane Company 140
Brainerd Steel Company 31
Brown Company 58
Bruce Co., E. L. 35

C

Cabinet Incorporated, Samuel 51
Carter Div., R. L. 152
Ceco Steel Products Corporation 89
Celdex Corporation, The 2
Chelten Furnace & Blower Co., Inc. 158
Chevrolet Motor Division 38
Chrysler Corporation 177
Clipper Manufacturing Co., The 23
Coffman Co., Inc., The R. G. 180
Colorado Fuel and Iron Corporation 16
Columbia Mills, Inc., The 10
Connie Lumber and Land Company 172
Consolidated Machinery & Supply Co., Ltd. 179
Con-O-Aire Heater Corporation, The 15
Crane Co. 28
Croft Steel Products, Inc. 166

D

Detroit Steel Products Company 3
DeWalt, Inc. 166
Dodge Division, Chrysler Corporation 177
Douglas Fir Plywood Association 36

E

Edwards Manufacturing Co., The 168
Eljer Co. 59-60-61-62

F

Fastener Corporation 132
Fenton Craftsman, The 176
Fire Door Institute 151
Firestone 179
Flintkote Company, The 13
Fluorescent Lighting Co. 140
Foley Mfg. Co. 174
Ford Motor Co. 145

G

General Controls 163
General Electric Company 49
General Motors Corporation 38
Gerity-Michigan Division 41
Guthlaut Tool Co. 161
Grand Rapids Hardware Company 174
Great Lakes Steel Corporation 44-45

H

Homavest Company 48
Homelite Company 173
Hotpoint, Inc. 52
House & Garden 42

I

Illinois Zinc Company 172
Ind-Cotton Division 162
Insulate Division, Minnesota & Ontario Paper Company 127
Irvington Form & Tank Corp. 174

J

J. M. J. Products Co. 149
Jackson & Church Co. 139
Jergen Machine Company, The 154
Jitterbug Sander Company 152
Johns-Manville 26
Jones & Brown, Inc. 69

K

Keasley & Matthison Company 123
Kelvinator Division 70
Kemble Steel & Wire Company 24
Kohler Co. 125
Krosby Mfg. Co., Inc. 171

L

La Belle Industries, Inc. 134
Lawson Co., The F. H. 176
Lilby-Owens-Ford Glass Company 153
Lith-I-Bar Co. 114
Lumber Fabricators, Inc. 148

M

Mackinburg Duncan Co. 140
Marco Stairways 140
Masonite Corporation 11
Master Rite Mfg. Co., Inc. 160
McGrath-Hill Book Co., Inc. 168
Milwaukee Strip Service, Inc. 163
Minneapolis-Honeywell 47
Minnesota Mining Corporation 164
Micro-Glo Cabinet Co., The 165
Mulline Manufacturing Company 20
Mullite, Company, San 167
Mullins Manufacturing Corporation 46

N

Nash-Kelvinator Corporation 70
National Association of Home Builders 158-168
National Electrical Manufacturers Association 51-52
National Gypsum Company 47
National Lumber Company 166
National Manufacturing Company 4th Cover
National Steel Corporation 44-45
Nelson Corporation, The Herman 156
Nordahl 164

O

Oklahoma Elevator Company 165
Overhead Door Corporation 3rd Cover
Owens-Corning Fiberglas Corporation 138-139
Owens-Illinois Glass Company 30

P

Paco 122
Paine Company, The 176
Parks Woodworking Machine Co., The 126
Parsons Corporation 7
Pioneer Company, The 167
Pittsburgh Plate Glass Company 37
Pittsburgh Steel Company 68
Pittsburgh Steel Products Company 66

R

Readybuilt Products Co., The 174
Red Devil Tools 134
Republic Steel Corporation 12
Revere Copper and Brass Incorporated 129
Richard Radiator Company 53
Riddles Plywood Corporation 141
Rowe Manufacturing Company 119
Royal Heaters, Inc. 128
Ryan & Sons, Inc., Joseph T. 150

S

Sargent & Company 17
Schlage Lock Company 124
Scott & Sons Co., O. M. 126
Seldahl, Inc. 126
Skilwau, Inc. 11
Solay Sales Division 124
Southern Lumber Co. 11
Southern Pine Association 56
Standard Dry Wall Products 171
Stanley Tools 120
Stanley Works, The 28
Steel Kitchen Cabinet Institute 169
Steel Scaffolding Co., Inc., The 132
Steelcraft Manufacturing Corp. 153
Stewart Manufacturing Company 169
Strang Steel Division 44-45
Strand Building Products Company 131
Structural Clay Products Institute 161
Surface Combustion Corporation 137

T

Tamblyn System, The 156
Taylor Building Mfg. Co. 162
Thore Company, J. S. 167
Tile-Ex Co., Inc., The 164
Toolkraft Corporation 167
Tri-States Building Materials Co. 170
Truscon Steel Company 128
Turner & Seymour Mfg. Co., The 169

U

Unique Balance Co., Inc. 89
United States Plywood Corporation 141
United States Steel Corporation Subsidiary 14
Universal Atlas Cement Company 14
Upon Company, The 4

W

Waldner & Co., J. D. 162
Wallace Laboratories, Inc. 136
Western Pine Association 134
White Company, David 184
Wickersham Steel Division 16
Wineco Ventilator Co. 172
Woodworkers Tool Works 170
Wurwick Chemical Co. 180

Y

Yale & Towne Manufacturing Company, The 137
Young Radiator Co. 144
To our many friends the Overhead Door Corporation and all its distributors extend sincerest good wishes for a Happy and Prosperous New Year.
The National Line for '49

In 1949, as always, National Hardware of the highest quality will be manufactured, and as great a volume will be produced as availability of raw materials permits.

As a convenience to customers, every National Dealer has a large wall chart showing the entire line of National Builders' Hardware. Select your hardware from this chart and your Dealer will cooperate in supplying as many of your needs as possible. Best wishes for 1949.