

# AMERICAN BUILDER

AND  
BUILDING  
AGE

THE WORLD'S GREATEST BUILDING PAPER



A SALES MANUAL FOR  
THE BUILDING INDUSTRY

*Presenting*  
"FORTIFY YOUR  
FUTURE THROUGH  
HOME OWNERSHIP"

BUILD NOW FOR SECURITY

CELOTEX IS TELLING AMERICA—  
**NOW IS THE TIME TO BUILD!**

BECAUSE:

- ✓ *Financing is Easy*      ✓ *Interest Rates are Low*
- ✓ *Material Costs are Low*
- ✓ *Labor is Plentiful*



Portland, Oregon, home  
 planned by Architects  
 Cash & Wolf

**Celotex Insulation Guards the Owner's Investment  
 Because It's Guaranteed for the Life of the Building!\***

**I**N EVERY Celotex national advertisement, from now to the end of the year, we are telling America, "NOW IS THE TIME TO BUILD!" With economic conditions changing rapidly, we firmly believe that the ownership of a new home is today's safest investment and a "hedge" against the future.

Builders tell us that prospects are quick to appreciate the soundness of this reasoning. Many are going ahead with their building plans.

Prospective home owners in your community will ask you for the facts. And when you have shown them that this is the time to build, they will ask you *how* to build. Show them how

Celotex Guaranteed Insulation protects investment, because it's *guaranteed in writing for the life of the building.\** And it means low-cost protection, because Celotex Insulating Sheathing and Celotex Insulating Lath *replace* other needed materials. Ask us for complete information!

\*When issued, applies only within Continental United States

THE CELOTEX CORPORATION AH 10-40  
 919 N. Michigan Ave., Chicago, Ill.  
 Please send complete information on all Celotex  
 Guaranteed Insulation Products.

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 Address.....  
 City.....  
 County..... State.....

**CELOTEX**  
REG. U. S. PAT. OFF.  
**BUILDING PRODUCTS**  
**INSULATING SHEATHING, LATH, INTERIOR FINISHES**  
**ASPHALT SHINGLES, SIDING, ROLL ROOFING**  
**HARD BOARDS • ROCK WOOL BLANKETS, BATTS**  
**GYP SUM PLASTERS, LATH, WALL BOARDS**  
*Sales Distributors Throughout the World*  
*We favor adequate preparedness for National Defense*

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(A Simmons-Boardman Publication)

# AMERICAN BUILDER

and Building Age

## CONTENTS FOR OCTOBER, 1940

Publisher's Page—This Is <i>Not</i> Recovery—by Samuel O. Dunn.....	35
Editorial—Housing for Defense Workers.....	37
"The Best Investment You Can Make".....	38
What \$1 Per Day Buys in a Modern Home.....	40
Home Ownership vs. Rent Paying.....	41
The Only "Indestructible Security".....	42
Security on "an Acre of Good Earth".....	44
Quality Products Save More Than They Cost—Provide Security Against High Upkeep.....	46
Newspaper Stories That Will Help Promote Home Building Now....	48
How to Avoid Paying \$10,500 Rent.....	50
Detroit Approves Better Value Models.....	52
"Trade-In" Plan Offers Better Security.....	53
Security Expressed in Brick.....	56
Security Homes Appeal to Chicago Buyers.....	58
New Panel-Size Plywood Siding Demonstrated on Oregon Home....	60
Asbestos Siding Featured in "Full Value" Homes—by J. Harold Hawkins.....	62
Building Materials Store Displays Products in Use.....	65
Modernizing Main Street—by F. T. Brown.....	66
Light Load Bearing Structures Feature Speed Welding.....	68
Service to Readers.....	70
Shopcrafters' Corner—Suggestions for Various Business Signs.....	78
Model Offices Show New Style Trend.....	80
Interesting Use of Pine in Small Chapel.....	82
What Thickness Insulation?—by W. T. Miller.....	86
News of the Month.....	92
Unused Space Made Into Rentable Small Apartment.....	100
"Buy Home with Rent Money" Is a Timely Sales Approach for Builders.....	102
Books on Building.....	105
Letters from Readers.....	107
TruCost Department.....	115
Advertisers' Index.....	127



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*Everywhere*

HOME OWNERS ARE MAKING  
NEW CLIENTS FOR YOU!



## The NEW INSULITE WALL OF PROTECTION

When home owners are satisfied with a product they don't keep the name of that product a secret.

Thousands and thousands of homes have been built with the New Insulite Wall of Protection. These owners talk with pride to their friends and neighbors.

And no wonder, for Bildrite Sheathing applies quickly, easily, thus reducing labor costs. Bildrite has four times the bracing strength of wood sheathing when applied horizontally. It offers insulation against summer's heat and winter's cold, saves fuel and gives lasting comfort and protection.

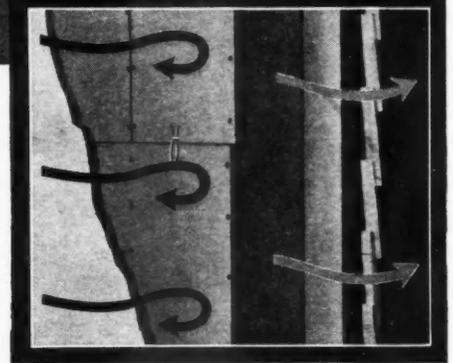
Sealed Lok-Joint Lath, the other half of the Wall of Protection, is a smooth, safe plaster base. Its patented "loks" form one continuous strong wall with more than twice the bond of wood lath, thus reducing the danger of plaster cracks to a minimum.

Write for samples & specifications.

In the U. S. address Dept. AB100, Insulite, Minneapolis, Minn.

In Canada, address Dept. AB100. EASTERN CANADA: Robert Bury & Co. (Canada), Ltd., King Street West and Sudbury Street, Toronto, Ontario.

WESTERN CANADA: K e e watin Lumber Company, Ltd., Kenora, Ontario.



Here's how the New Insulite Wall of Protection eliminates moisture and solves the condensation problem. Sealed Graylite Lok-Joint Lath, made with an asphalt barrier on the stud side of the wall, effectively stops vapor. Then, Bildrite Sheathing allows what traces of vapor may escape the barrier, to flow freely toward outside air.

### INSULITE PRODUCTS INCLUDE

**Structural:** Sealed Graylite Lok-Joint Lath, Graylite Lok-Joint Lath, Ins-Lite Lok-Joint Lath, Bildrite Sheathing.

**Interior Finishes:** Ins-Lite, Graylite, Smoothcote, Satincote in 4 washable colors, Hardboards, Acoustilite, Fiberlite.

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by Insulite

# INSULITE



MINNEAPOLIS  
MINNESOTA

THE ORIGINAL WOOD FIBRE STRUCTURAL INSULATING BOARD

# PUBLISHER'S PAGE

## This Is *Not* Recovery

**I**N A month there will occur a national election which may prove the most important in the history of this country.

The *American Builder*, being a *business* paper, has no *politics*. But, because it is a business paper, it is against all *policies* that it believes will *restrict business* and in favor of all *policies* that it believes will *stimulate business*—and it doesn't care what politician's or party's policies they are, either. Also, being a business paper, it doesn't know what policies will be good *politics*, but does claim to know at least as well as any *politician* what policies will be good for *business*—especially building.

Accordingly, this paper began some years ago and has been ever since criticizing certain policies of the New Deal because it has believed them inimical to business. Who do developments show has been right about these policies? The people are going to show what they think about that by the way they vote next month. On what are they going to base their decision? Well, on what did they base it in 1932, when they turned the Republicans out? They looked at *facts* showing that business, including building, had been bad during the three years 1930-1931-1932; and on the basis of those facts they decided to make a change.

If that was a sensible way to reach a decision in 1932, it is a sensible way to reach one in 1940. What, then, do the *facts* available in 1940 show regarding the effects of the *New Deal's* policies on business, and, therefore, what should be done with the New Dealers?

**W**E WILL use figures of the U. S. Bureau of Foreign and Domestic Commerce regarding *home building* in answer to that question, because *home building* is the business in which this paper, its readers and customers are most interested. *Average annual expenditures* for non-

farm home building during the four periods of five years each from 1920 to 1939 were as shown by the figures in the accompanying table. Which of these figures indicate

### Expenditures on Non-Farm Home Building 1920-1939, Inclusive

Annual average, 1920-1924, inclusive.....	2,852 million dollars
Annual average, 1925-1929, inclusive.....	4,170 million dollars
Annual average, 1930-1934, inclusive.....	964 million dollars
Annual average, 1935-1939, inclusive.....	1,315 million dollars

what would have been a *normal* average annual expenditure for home building in this country during the last five years if good business and prosperity had been restored? Obviously, *not* those of the five depression years 1930-1934. Why not those of the *entire ten years 1920-1929, inclusive*, when the average annual expenditure was over 3½ billion dollars? That seems reasonable, because you can hardly say the expenditures of an entire decade were abnormally large. But if we are to conclude that an average annual expenditure of 3½ billion would have been normal in the years 1935-1939, inclusive, what are we to conclude from the fact that in those years, *under New Deal policies*, the average annual expenditure was *actually only 1½ billion dollars, or 55 per cent less than in the ten years 1920-1929, inclusive?*

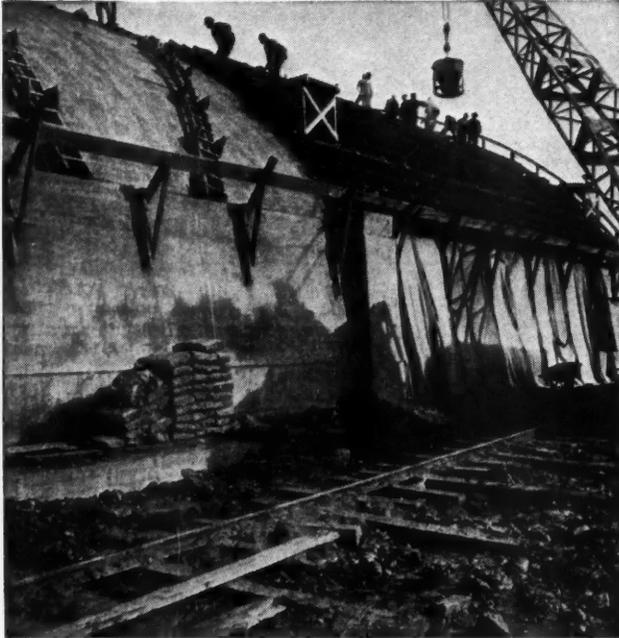
**W**HAT the *American Builder* concludes is that the figures prove beyond any reasonable question whatever that the New Deal has *prevented* the normal recovery of business in general and building in particular that would have occurred excepting for its policies, and that the people should turn the New Deal politicians out—just as they turned out some other politicians in 1932.

*Samuel O. Dunn*

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# CONSTRUCTION PREPAREDNESS

## NAVY'S SHIP-MODEL TESTING BASIN READY SIX MONTHS AHEAD OF SCHEDULE



15,000 BARRELS of 'Incor' 24-Hour Cement, used in concrete roof of U. S. Navy Ship-Model Testing Basin, Carderock, Md., aided in completion six months ahead of contract date. About 60,000 bbl. of Lone Star Cement were also used.

**... TYPICAL OF TIME-SAVING ON BUILDINGS, BRIDGES, HIGHWAYS—THROUGH GOOD JOB PLANNING AND USE OF 'INCOR' 24-HOUR CEMENT**

**V**ITAL months saved... new plants in production weeks sooner... through good job planning and the use of 'Incor' 24-Hour Cement. Forms are filled with 'Incor' concrete one day, stripped the next, saving four to five days on each pour. Immediate form re-use cuts costs—fewer form-sets needed. And earlier completion reduces overhead expense.

Navy Engineers, recognizing these economies, specified high early strength cement for the roof of the new Ship-Model Testing Basin (left). 'Incor' strengths exceeded form-removal specifications—helped Turner Construction Co., New York, general contractor, complete the structure six months ahead of contract date.

'Incor's dependable 24-hour service strength saves time, cuts costs... and 'Incor' quality assures long-time durability. An 'Incor'\* engineer will be glad to confer with you on concrete problems. Lone Star Cement Corporation, 342 Madison Avenue, New York. \*Reg. U. S. Pat. Off.

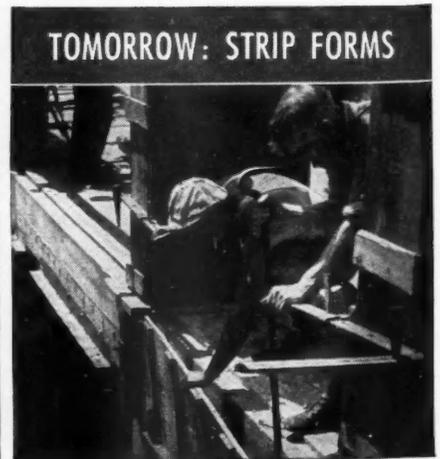
**USE 'INCOR', FOR MAXIMUM SPEED AT MINIMUM COST**



13 YEARS' performance: Over 10-million barrels of 'Incor' have been used. That means service and performance... based on the quality and uniformity of this first high early strength Portland cement.



**TODAY: POUR CONCRETE**



**TOMORROW: STRIP FORMS**

**LONE STAR CEMENT CORPORATION**  
MAKERS OF LONE STAR CEMENT • • • 'INCOR' 24-HOUR CEMENT

# AMERICAN BUILDER

AND BUILDING AGE

## Housing for Defense Workers

**S**TRONG support for this publication's position on industrial housing (by private building and not by the Government) is furnished by the special research report of the Housing Committee of the Twentieth Century Fund, recently released. This research has been conducted by a staff headed by Miles L. Colean, former FHA Deputy-Administrator, and will be accepted as unbiased and authoritative. It should help to turn the present wild rush toward "war housing" by direct government action into a more sane and orderly encouragement of private home building and rental housing where needed in connection with defense industry expansion.

"Private industry has the capacity to provide the major part of the housing needs of our defense program but immediate action is necessary if we are to avoid the delays and mistakes that seriously crippled America's war effort in 1917-1918," this research report states.

"The housing crisis of the last war may lead us to think that the government is the only resort in an emergency, yet a careful study of that period does not prove it. Only in a comparatively few places did the ordinary processes of supplying houses break down sufficiently to create a necessity for direct governmental operation. These places were centers of high concentration of war activities where competition for labor and materials was intense, where transportation was overtaxed, and where the certainty of decline in industrial operations after the emergency discouraged private enterprise.

"Even in the most intense year of war activity, however, and after the governmental housing agencies had been set up, over 90 per cent of the total 200,000 dwelling units started represented private operations. It is also possible that if the need for housing had been clearly revealed in advance of the crisis there might have been less difficulty in maintaining housing production."

**T**HE RESEARCH report finds that the private building industry faces the present emergency with more favorable factors than in 1917-1918. "No general labor shortages in construction or manufacturing threaten us. Building materials of all kinds are readily available. There is, moreover, no likelihood of a general shortage of funds to lend for sound housing operations. In contrast to the last crisis, there is real momentum now behind the house building program. Today, the skill of designers and the capacity of builders are both much greater than they were twenty-three years ago. This is especially true in the low-priced field."

However, the research staff sharply warns against un-

due optimism. "The experience of the last war, as well as these first warning signals from the present emergency, show that the work of providing adequate shelter for the workers in defense industries must parallel, and not lag behind, the expansion of those industries."

The report gives striking examples of how failure to do this seriously hampered the production of war materials in 1917-1918.

"No advance effort had been made to estimate the housing needs of workers in the war industries. There was no effort to enlist the full resources of the building industry while there was still time for these resources to count. There was much groping after facts and duplication of effort on the part of many different federal bodies, no one of which had any authority to co-ordinate the others. Finally, after severe crises had developed, the government itself financed and built houses."

The government's activities were carried on by two agencies, the Emergency Fleet Corporation and the United States Housing Corporation.

Even more important than the actual construction of homes were some of the other services carried on by these agencies. They conducted registration and rental services to bring existing accommodations into the market, stimulated private building and remodeling and acted to improve transportation facilities to bring more dwellings within the work-commuting area.

The research staff reports that the two housing agencies "together were able to take care of something like 360,000 workers. This figure may be roughly broken down in the following way: 46,000 workers housed by direct government construction (assuming two workers per dwelling unit); 30,000 by private builders through priority licenses (estimated in the same way); 100,000 by placements through the homes registration service, and probably over 184,000 through transportation improvements. From this it is apparent that the great bulk of housing provided was in privately owned structures and that the most effective methods were the measures to extend and improve transportation and the homes registration service.

**L**OOKING to needs of the present defense program the research report says, "The chances of maintaining private housebuilding should be greater than in 1917 and 1918. We can see the obvious desirability of limiting, so far as possible, the administrative burdens of government and the general tax burden on the public. We can see, too, the probable greater speed, flexibility and economy of private as against public housing."



Photo by Ewing Galloway

"YOU CAN ANCHOR your living costs by building now, and turn your rent payments into home SAVINGS."

## "The Best Investment You Can Make"

Advice of a father to his son and daughter-in-law on home ownership

**Y**OU'VE asked for my advice on buying a home, and here it is.

"Of course, it's a big step. That's the way I felt 30 years ago.

"It's one of the big events in life, like getting married or having a baby, or saving your first \$500.

"Such things take effort and sacrifice—but they're worth it. And as for buying a home of your own now, the strongest way I can put it is, *it's the best investment you'll ever make.*

"A home of your own is a secure refuge when you're old, and the best kind of a *saving plan* when you're young.

"You young folks today have many advantages we didn't have a few years back. You can buy a house with monthly payments the same as you would pay rent—only rent is an out-of-pocket expense, while what you pay on a home is like putting money in the bank. Instead of just acquiring rent receipts you build up a savings fund in an equity in your own home.

"Let me tell you, it's the finest and safest investment you can make because it always has *use value*. Money you might put in stocks or bonds, or even in the bank, isn't much good if something goes radically wrong. But no matter what happens to business or to the country, your investment in a home pays dividends because you

can live in it and enjoy it, and your children will have the proper surroundings.

"Of course, I expect you to be sensible and keep your obligations in connection with this house within reason. With a 25-year mortgage and lower interest rates than we've ever had in this country before, your monthly payments will buy a lot of house. But don't let that give you a Cadillac appetite for your Ford income. Figure out all the cost: taxes, upkeep, heat, insurance, everything—and make sure that it is a figure you can handle easily just as though it were rent. You can do it if you set out to.

"Right now there are some especially sound reasons for buying or building a home. With so many things uncertain, you need something you can tie to and count on, like a house of your own with your 'Security Number' tacked above the door.

"There's a good chance that rents and prices in general are going to go up—you can't spend 14 billions for national defense without setting off some far-reaching changes. Maybe it'll mean more jobs and more prosperity. Maybe a boom. Or, it may mean such a boom that we'd give it another name—inflation. In that case, you will be glad you are living in your own home with your monthly payments fixed for the next 20 or 25 years at a low interest rate. You may see people paying sky-

### 15 Reasons for Building Now

1. You protect yourself against increasing rents.
2. Prices are right—may go higher.
3. Interest rates and financing charges are lowest in history.
4. You make low monthly payments like rent—but instead of going to the landlord they pay for your own home.
5. A home is your best protection against inflation or a boom that means higher rents and prices, as well as higher wages.
6. Under the long-term FHA insured mortgage or savings and loan plan, your monthly payments are **GUARANTEED** not to increase, no matter how much rents or living costs go up.
7. A home is a safe investment which always will have some market value and can be lived in and **USED**. Because of this it is a safer investment than stocks, bonds or money in the bank, which may decrease in real value.
8. A home continues to provide **SHELTER** and **SECURITY** no matter what happens to political or economic conditions.
9. In case of war a home is a refuge against higher rents.
10. Men with families are least likely to be drafted.
11. Interest and real estate taxes paid on a home are **DEDUCTIBLE ITEMS** from federal and state income taxes.
12. A home of your own provides the kind of environment and surroundings you want for your children.
13. Rent is an out and out expense, but payment on a home is like money in the bank, an investment in the future.
14. You get a better home and higher value for your money than ever before. Home ownership costs, including low interest, low heating and upkeep, are lowest in history.
15. You protect your standard of living and fortify your future by building now.

high rentals, and you will be in the nice position of paying off your mortgage with 'cheap' money.

"Owning your own home in the years ahead will be a big help in maintaining a decent standard of living for you and your children. You'll **ANCHOR** your living costs by building now.

"While we're on this subject of protecting your standard of living, don't forget what it means to you and the children to be able to pick the kind of neighborhood you want to have them grow up in and have a house that's one they'll remember for all the comfortable, secure and happy days they spent there. You can't get that kind of secure feeling hopping around from one rented place to another. As I look back over the 30 years since we bought our home, it seems to me this is one of the most important things of all.

"All the time you're living in and enjoying this house you also have the fine feeling that each month you're reducing the amount of your mortgage and getting closer to owning it clear and free.

"You get a lot of house today for your money, too. More comfort, convenience and built-in value than ever before. You get insulation, automatic heat, modern kitchens and permanent life-time materials that we couldn't buy at any price a few years back. That's another thing that makes owning a home of your own today so desirable. They've taken all the drudgery and unpleasantness out of it.

"Another reason why you'll be wise to build a home right away is that building costs are mighty reasonable now: but they may not stay as low as they are for long.



Photo: Stadler Studios for U. S. Savings & Loan League

It looks to me as though there's going to be a shortage of skilled labor in some sections that will send prices up, and these big batches of government orders for lumber, steel and other materials for national defense are likely to make shortages in some lines. Right now, the builders and material men are able to give you a lot of house for the money. They've made big progress in using power equipment and improved building materials. I can remember the prices people were paying for houses back in 1925 to '30, and I can tell you that the ones being built and sold today are a whole lot better at a lot less cost. When you figure it out, as I'm urging you to do, in terms of the monthly upkeep of the house which includes low interest rates, low heating bills and low upkeep, you'll find that the *total cost* of home ownership today is 30 to 40 per cent less than it was then.

"I know some people—stock brokers and such—are saying some pretty scary things that may make you worried. No sane person believes many of them. But supposing the worst does happen, and we get involved in war or some unforeseen upsets to our economic system? You still have to have a place to live, and the money you have invested in a home will do you as much or more good as it could anywhere else. A war would mean, if anything, higher rentals, so that you'd be better off in your own home, and the chances of a man with a family being drafted are pretty slim.

"I haven't covered all the ground, but these are some of the important reasons for building now. I say, the sooner you start, the better off you'll be."

# What \$1 Per Day Buys in a Modern Home

ONE of the most prominent and successful builders in the Southeast, H. C. Fonde and Son of Knoxville, Tenn., have adopted a straightforward way of showing what the person who buys one of their well-built homes for \$1 a day gets. As illustrated in the table below under the title, "So Much for So Little!—\$1 Per Day," they show the complete breakdown of ownership costs in a striking fashion. For instance, they show that the cost of completely automatic oil heat and insulation in their houses is only 10 cents per day.

This table is included in an attractive spiral-bound

folder with the title, "Enjoy Better Living in a Fonde-Built Home." In another part of the booklet is presented a complete record of heating costs of a number of recent Fonde-built homes which shows that the average cost of automatic hot air heat, using fuel oil, was \$33.28 the past year.

Another table of much interest included in Fonde's folder is the one shown below with the title, "Put Your Rent Money to Work," which shows that a person paying \$50 a month rental would lay out \$15,000 in 25 years and have only rent receipts to show for it. The same \$50 rent would buy a Fonde-built home priced at \$6,250, the table shows. The Fonde organization has several well-laid out and most attractive subdivisions in Knoxville which have been very successful. (The operations of the firm were described extensively in an article in the October 1938 *American Builder*.)

Prominent among the products featured by Fonde are the following: Airtemp oil furnaces, Chrysler Corp.; mineral wool, Standard Lime & Stone; Gold Bond board, National Gypsum; weatherstripped windows, The N. S. W. Co.; brass hardware, Skillman Co.; Streamline flooring, E. L. Bruce Co.; wallpaper and paints, Sherwin-Williams; Over-the-Top garage doors, Frantz Mfg. Co.; asbestos roofs and siding, Keasbey-Mattison; asphalt roofing and building felt, Logan Long Co.; millwork, building materials, Knoxville Builders Supply Co.

## SO MUCH FOR SO LITTLE! \$1.00 PER DAY

(Estimates on 25 Year Loan of \$3,800.00  
in Knox County, Tenn.)

### HERE IS YOUR INVESTMENT

Principal and Interest.....	70.4c per day
FHA Insurance .....	3.7c per day
Fire and Tornado Insurance...	10.8c per day
Taxes .....	15.1c per day
<b>TOTAL .....</b>	<b>\$1.00</b>

HERE IS HOW YOUR INVESTMENT IS DIVIDED IN THE PURCHASE OF YOUR HOME AFTER THE REQUIRED 10% HAS BEEN PAID DOWN:

ITEM	Cost Per Day Including Interest
Lot appraisal value \$500.00.....	9.2c
Excavation, grading driveway, shrubs, walks, steps..	3.2c
Superstructure of house.....	10.0c
Flooring and siding .....	3.7c
Plaster or wallboard and papering.....	4.4c
Painting or floor finishing.....	4.1c
Roof .....	1.7c
Sheet metal and gutters.....	0.7c
Doors, cabinets, windows, shelving, trim, screens, bookcases, paneling, etc. ....	9.2c
Plumbing, including automatic electric water heater...	6.5c
*Automatic oil heat, Chrysler "Airtemp".....	7.5c
*Insulation and weatherstrip.....	2.5c
Barclay tile walls, linoleum floors.....	2.3c
Hardware .....	0.9c
Electrical wiring and fixtures.....	2.5c
Miscellaneous items .....	2.0c
<b>TOTAL COST PER DAY.....</b>	<b>70.4c</b>

\*Notice that the cost of "Airtemp" automatic oil heat including insulation is only 10c per day. You can add to the above an electric dish washer and garbage disposal for an additional 10c per day.

THERE IS NOWHERE ELSE YOUR DOLLAR CAN DO AS MUCH FOR YOU

## PUT YOUR RENT MONEY TO WORK

(The following is based on FHA 25 Year loan  
in Knox County, Tenn.)

Rent per Month	For 300 Months	These Same Payments Will Pay Expenses and Buy You a Home Valued at
\$25.00.....	\$ 7,500.00.....	\$3,125.00*
30.00.....	9,000.00.....	3,750.00*
35.00.....	10,500.00.....	4,375.00*
40.00.....	12,000.00.....	5,000.00*
45.00.....	13,500.00.....	5,625.00*
50.00.....	15,000.00.....	6,250.00*
55.00.....	16,500.00.....	6,875.00*
60.00.....	18,000.00.....	7,500.00*

Generally Not Well Arranged; Needing Repairs; Not Well Suited to Your Need	What Have You? RENT RECEIPTS	You Now Own Your Home, Which Represents a Saving as Shown Above
--	------------------------------	---

\*Indicates approximate values.



A HOME OF YOUR OWN—the basis of all security (floor plan on page 43)

Photo by John Grass

## Home Ownership vs. Rent Paying

THE HIGH COST of a "pile of rent receipts" is graphically shown in the table below. At \$40 a month, a renter pays out \$12,000 in 25 years and has nothing but regrets and rent receipts to show for it. This same monthly payment of \$40 would buy him a modern, well equipped home especially planned for

his family. At the end of 25 years he OWNS the house clear and free, and from then on lives in it with no further payments except local taxes. He has PROTECTED himself against high rentals and has acquired a valuable property with money he might have frittered away in rent.

### The COSTLY Rent Paying Way

YOU PAY \$40 per month rent for old-fashioned, inconvenient quarters and have nothing to show for it. The landlord MAY raise your rent.

AT END OF 20 YEARS you have paid \$9,600 and you are NOT getting any younger.

AT END OF TWENTY-FIVE YEARS you are STILL paying rent—or perhaps getting ready to move in on your son-in-law. You have paid out \$12,000 and still have NOTHING to show for it. This is the costly rent-paying way.

NOTE TO BUILDERS AND DEALERS: THIS TABLE IS INTENDED FOR YOUR USE IN PROMOTING HOME BUILDING IN YOUR COMMUNITY, AND PERMISSION IS HEREBY GRANTED TO REPRINT OR REPUBLISH IT IN PART OR IN WHOLE. IT IS SUGGESTED THAT LOCAL FIGURES BE INSERTED SUITABLE TO LOCAL CONDITIONS.

### The THRIFTY "Security" Way

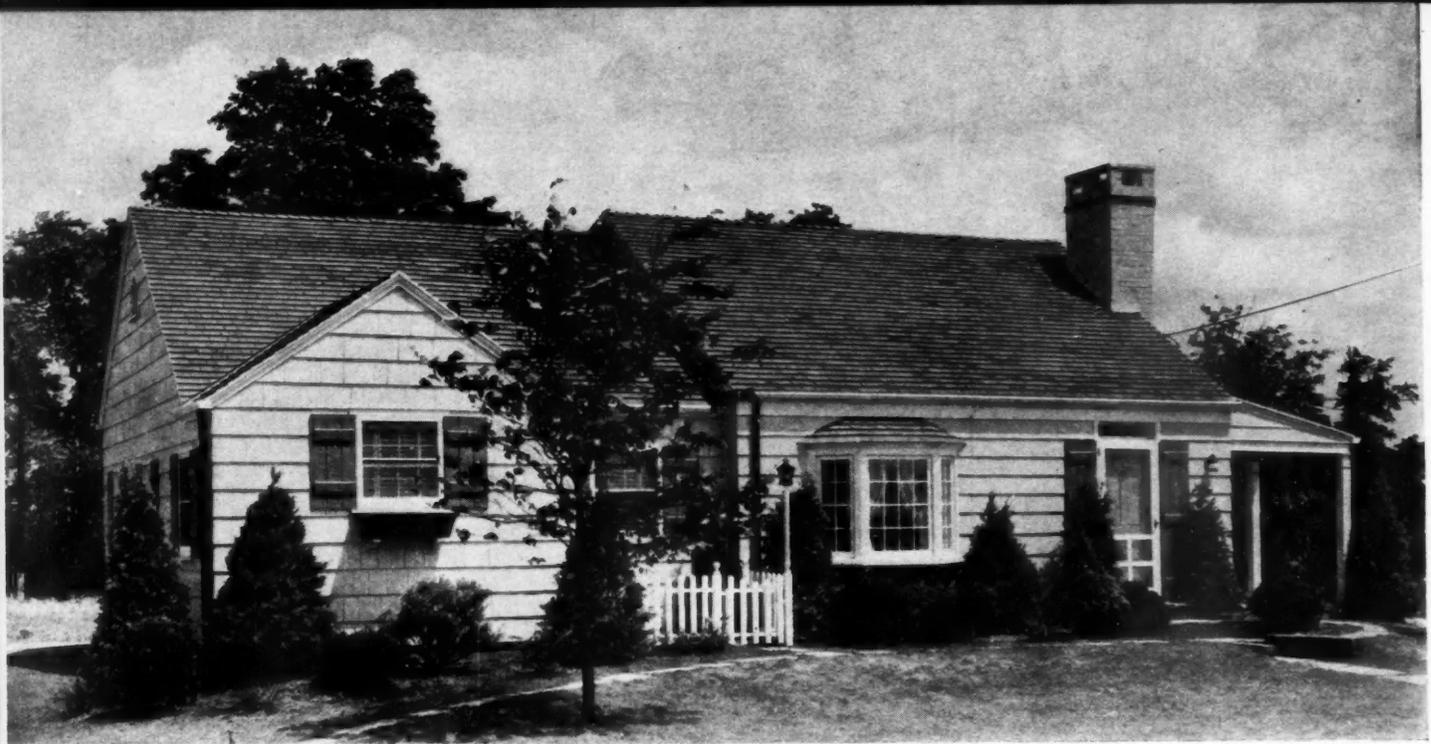
YOU INVEST 10 PERCENT in a modern \$5,000 home of your own built exactly to suit YOUR family. Your monthly payments on the 25-year FHA insured mortgage at 4½ per cent are then as follows:

Principal and Interest.....	\$25.02
FHA Mortgage Insurance Premium.....	1.81
Taxes (estimated) .....	8.00
Fire Insurance .....	.67
Reserve for Upkeep.....	4.50

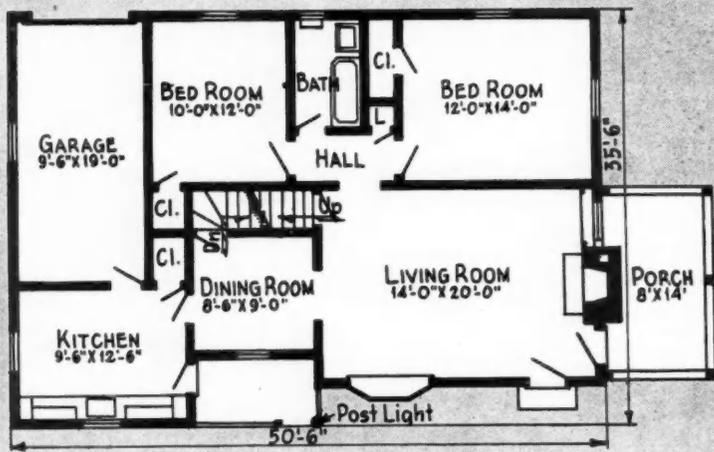
Total Monthly Payment.....\$40.00

YOU ARE PROTECTED against rent increases or inflation. AT THE END OF 10 YEARS you have built up a SUBSTANTIAL equity in YOUR OWN HOME—a valuable SAVINGS fund.

AT END OF 25 YEARS you OWN house clear and free—a safe, inexpensive refuge providing SECURITY in your old age.



NELBREN-BUILT HOME at Chappaqua Ridge, N.Y., designed by Earl G. Nelson.



SUBURBAN COTTAGE PLAN with spacious rooms. Typical Nelbren living room below.



## The only "INDESTRUCTIBLE

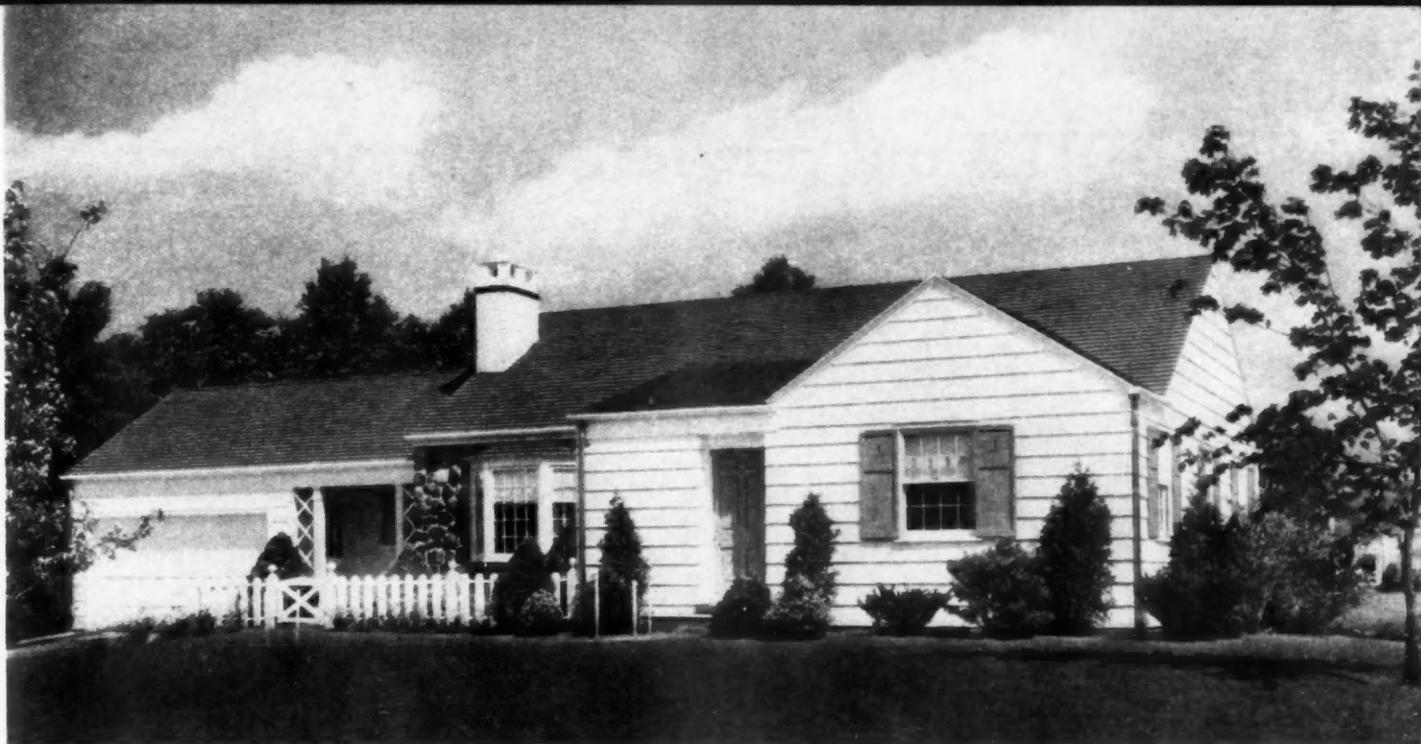
"**R**EAL estate is an imperishable asset, ever increasing in value. It is the most solid security that human ingenuity has devised. It is the basis of all security and about the only indestructible security."—RUSSELL SAGE.

The above quotation by the great Russell Sage appears on the cover of an attractive new booklet put out by Nelbren, Inc., builders and developers of White Plains, N.Y., describing the attractive houses they have built in Mayfair Acres, Chappaqua Ridge and Chappaqua Farms.

The quotation applies with particular appropriateness to the Nelbren-built homes, for they have the kind of charming Colonial appearance that inspires a sense of security in the minds of the home owner. The Nelbren houses are designed by Earl G. Nelson. In Chappaqua Ridge, the latest Nelbren development, the price range starts at \$5,990, and the following minimum payment plan is advertised, using 4¼ per cent 25-year FHA insured mortgages:

House.....	\$5,990.00
Down Payment on Contract.....	299.00
Upon Taking Title.....	300.00
MONTHLY PAYMENTS	
Interest and Savings on Mortgage.....\$	29.26
FHA Insurance.....	2.16
Fire Insurance.....	.61
Total Taxes (approx.).....	9.80

Total Monthly Outlay.....\$ 41.83  
Under the Nelbren building plan the firm advertises that "there are no unknown or unseen costs." They state, "We design your home, ar-



HOME AND SECURITY are expressed in the lines of this early Colonial cottage built by Nelbren, Inc.

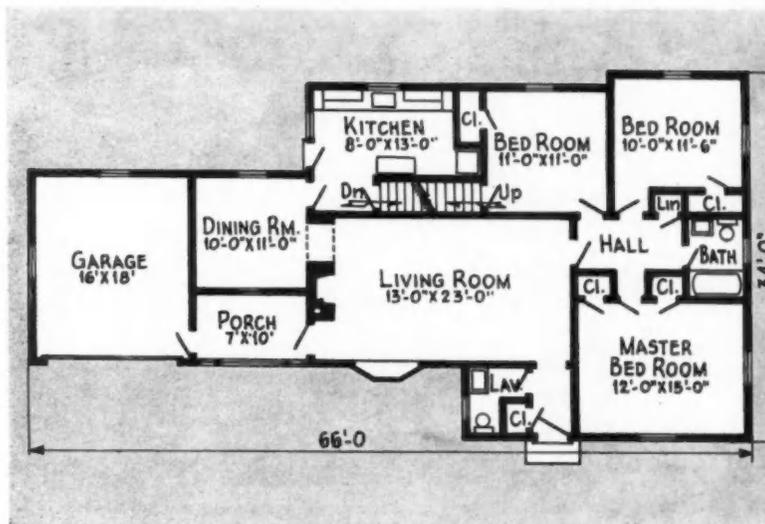
## SECURITY"

range the financing, prepare all plans and specifications and build that home complete in every detail, even to the window shades, screens, landscaping and shrubbery at a pre-determined cost which you are aware of before you commit yourself in any manner."

In addition to building houses on order in their own well laid out residential developments Nelbren offers to construct homes for clients on their own plots or will assist them in selecting desirable home sites elsewhere. It places at the disposal of the prospective buyer a complete real estate and building organization with 26 years' experience behind it. The Nelbren-built plan includes a complete designing service with free consultation to determine the needs and desires of the prospective home buyer. They handle all the details including real estate transactions, building and financing.

Included in the specifications of the Nelbren homes are the following:

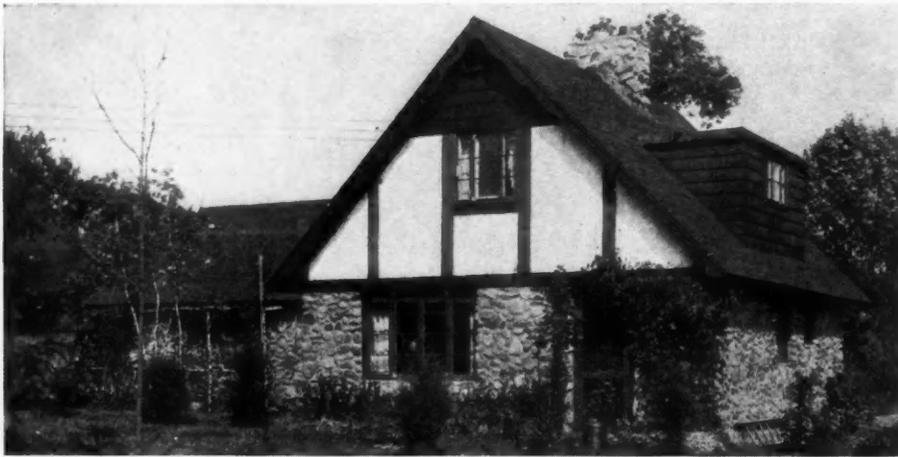
- Johns-Manville rock wool insulation
- 3-coat plaster on rock lath
- Factory weatherstripped windows
- Full cement cellars
- Waterproofed foundations (with tile drains)
- Factory-finished cabinets
- Carrier air conditioning (hot water or steam heat optional)
- Plumbing and heating for future rooms
- Brass plumbing—copper leaders
- Briggs or Standard fixtures
- Overhead type garage doors
- Solid brass hardware.



FLOOR PLAN features comfort and convenience. Typical Nelbren-built kitchen below reduces housework.

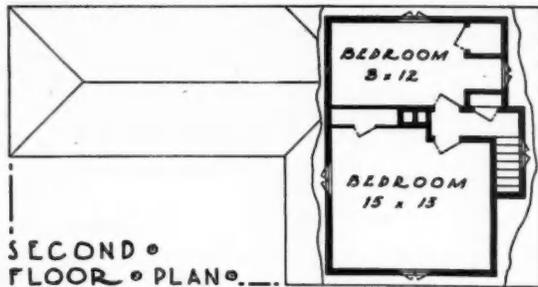
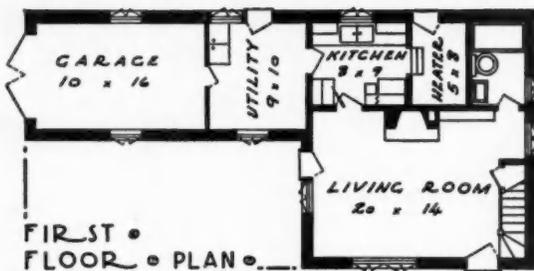


# SECURITY on "an Acre of Good Earth"



Big market seen in "House and an Acre" projects for people of low income who raise part of own food.

By William W. Newcomb



BORSODI project home near Suffern, N.Y.

IN THESE Fateful Forties both the contractors and the building materials industry have conclusively shown that homes can be built at a much lower price than obtained in the Troublesome Thirties.

But few have figured out a way to bring land cost down within reach of low-income people. The answer is: acre-or-more plots in the country within commuting distance of jobs. Here lies real security for buyers.

This is what Ralph Borsodi, one-time economist for Macy's department store, believed. Borsodi was not interested in real estate developments, home construction, or building materials. Borsodi had only one interest: show America a better life without government handouts. I think the story is worth telling.

Ralph Borsodi asks John Roe and all his fellow-Roes: Why don't you join together, and buy land that you can develop communally. Lay out the project as any realtor would; put in your own roads, water systems, sewerage plants or septic tanks, and with your comfortable margin of land surrounding each of your houses, develop gardens and orchards; exchange your surpluses when you have them. Most important, use the country's wide network of electric power for your homes and outbuildings. Have miniature gentlemen's estates with your workmen's wages.

## "THE LAND SHALL MAKE YOU FREE"

(Extracts printed by permission from an article in Cosmopolitan Magazine by Louis Bromfield.)

**THINK** the happiest man I have ever known was a Frenchman named Victor Picquet. . . . In the midst of doubt and disaster he had provided security for himself and his family. It wasn't the dubious security of stocks and bonds (even nations can fall and go bankrupt); it wasn't even the security of money hidden in the mattress. IT WAS THE ONLY FUNDAMENTAL AND ULTIMATE SECURITY THAT MAN CAN PROVIDE FOR HIMSELF AND HIS FAMILY: HE HAD A ROOF TO COVER THEIR HEADS AND A PIECE OF LAND WHICH COULD PROVIDE THEM WITH FOOD. When he was out of work, even when he was mobilized and at the front, his heart was content because his family had security.

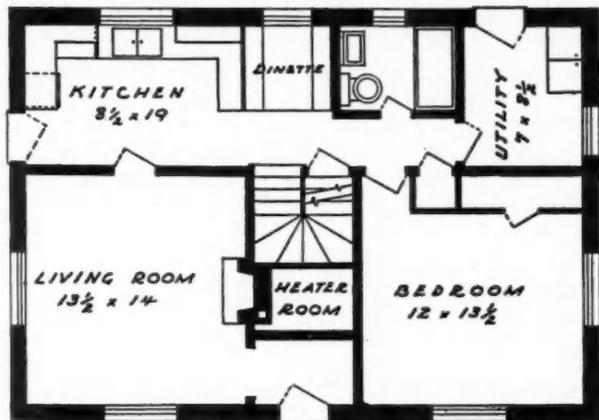
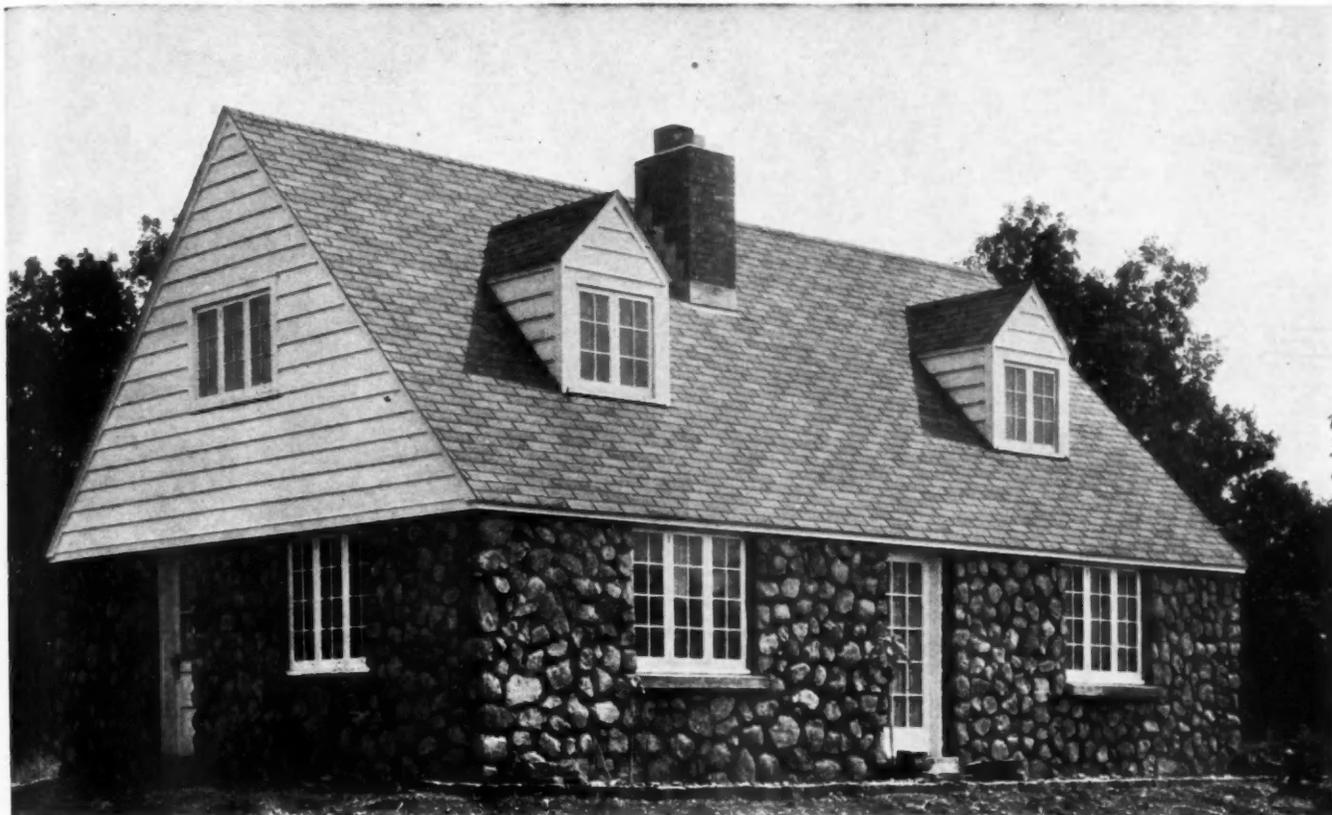
"I had seen friends lose every penny they had

saved and invested. I saw rising taxes taking away more and more of every man's income: the bigger it was, the more the taxes took. Making money, even saving and investing it, seemed to mean nothing.

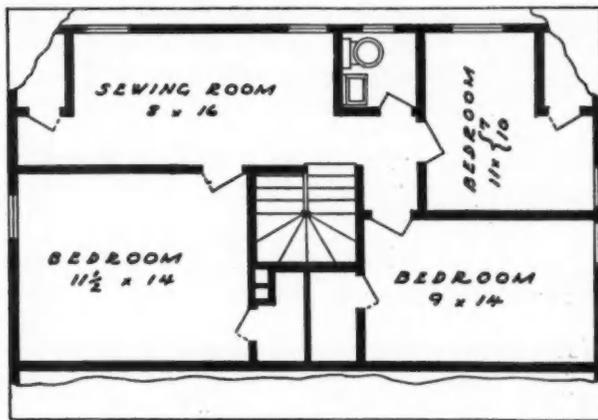
"In the years ahead of us security, thrift, common sense and consideration of the future are the only things that can make life agreeable or even, perhaps, possible for the individual as well as the nation. It seems to me that the security of Picquet . . . is something to be worked for.

"The earth is eternal and the fullness thereof. The folly is man's. A MAN WITH HIS CELLAR FILLED WITH FOOD AND A SOUND ROOF OVER HIS FAMILY'S HEAD CAN BE A KING, EVEN ON AN ACRE OF GOOD EARTH."

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F I R S T • F L O O R



S E C O N D • F L O O R

UTILITY ROOM, large kitchen and natural fieldstone construction feature this "House on an Acre of Ground" near Suffern, N. Y.

Borsodi's wife had an interesting experience 15 years ago that crystallized this idea of "rurban living." Mrs. Borsodi decided to can some tomatoes. But the economist in her husband came to the front, and said: "You can buy tomatoes cheaper at the store. A big concern is able to can tomatoes more economically than you can put them up at home. Here, you know, you have to figure in the value of your own labor, and not only the cost of the tomatoes, but also the wear on the utensils, the fuel, and so on."

Mrs. Borsodi decided to can the tomatoes. Mr. Borsodi decided to check. The results—labor included—showed that Mrs. Borsodi had saved between 20 and 30 per cent!

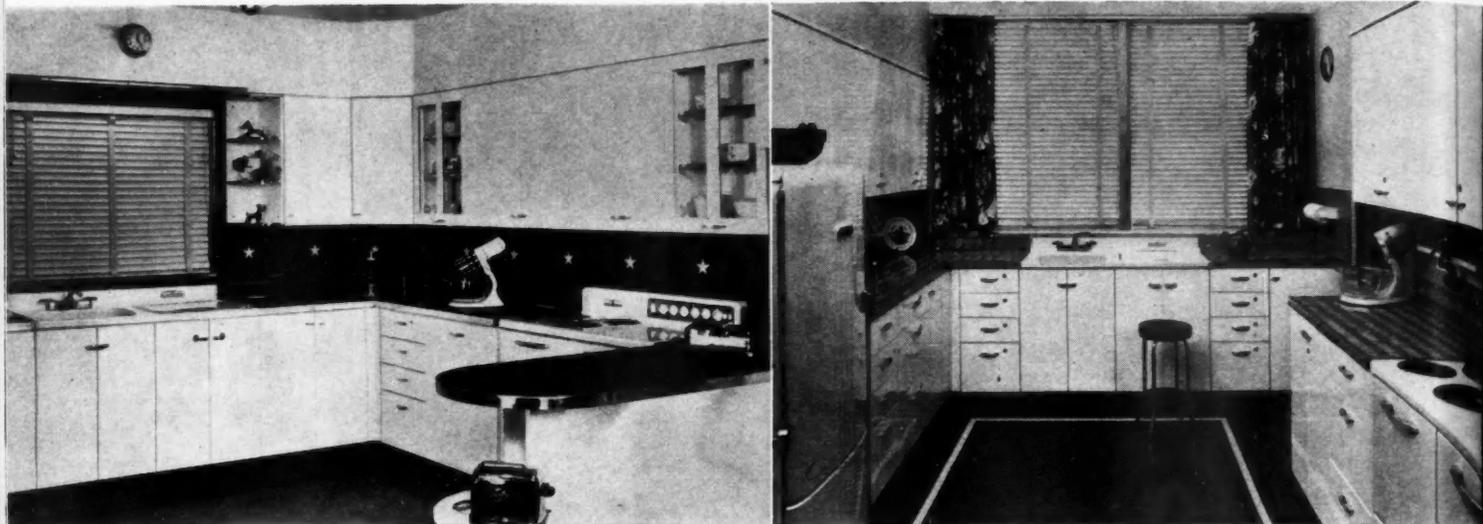
That experience started a new school of economics, or better yet a "School of Living." Borsodi, with true statistical zeal, discovered that between a housewife working in a factory, store, or office and engaging in food, clothing and incidental production at home *with modern*

*electric home appliances*, she always came out better in home production, if her former city job income came to no more than \$1,000 a year.

So Borsodi figured it this way: The average family head earning less than \$2,500 a year frequently permits his wife an outside occupation to augment his income. The two put off having children and a house—both of which they keenly desire. The sense of well-being that permeated our forefathers did not hold with many an urbanite. A personally owned home, a flock of children, duties around the house—why, the tenants of the big cities did not know what they were missing in life.

Out of Borsodi's researches he established the School of Living, located at Suffern, N. Y., thirty miles from New York City. At this School one can take courses for a week end, or for an entire season. Here one learns the significance of real home planning. Most of those

(Continued to page 124)



## Quality Products SAVE More Than They Cost—Pro

**Home buyers need to be shown the fact that low first cost is not as important as low maintenance and operating cost.**

*By Joseph B. Mason*

**W**HAT this country needs is not more low-cost houses but more houses that **COST LESS TO OWN**. In all the hue and cry about building a house for \$2,500 or some other absurd figure, the public loses sight of the fact that it is not the **FIRST** cost that is important but the ownership or **OPERATING** cost.

The 20 or 25-year amortized mortgage popularized by FHA has changed a lot of things. One of these is that people can talk about home costs in terms of **MONTHLY PAYMENTS** rather than first cost.

Most people figure on a certain monthly budget which allows a fixed amount for their rent or total home ownership cost. They may live in a house that is cheap as far as the rent is concerned, but it may be sky high as to operating cost due to an inefficient heating plant.

One of those who has gone thoroughly into the subject of low first cost versus high upkeep is Clifford W. Stuart, manager of the General Electric Home Bureau. Through the far-flung research, engineering and service branches of that organization, he has been able to get together extensive data to show that high operating costs have made more people disgusted with home ownership than any other factor. He believes that in figuring home ownership costs, builder and owner should carefully calculate total monthly outlay to live in and pay for a house—not the amortization payment only.

When this is done it becomes readily apparent that a home buyer is penny wise and pound foolish to neglect quality to save a few dollars' first cost.

The heating plant offers a particularly good illustration. A high quality, well engineered and properly installed system might cost \$200 more to install than a substandard job assembled locally with units of no name or reputation. But, as Stuart points out, if appraisals

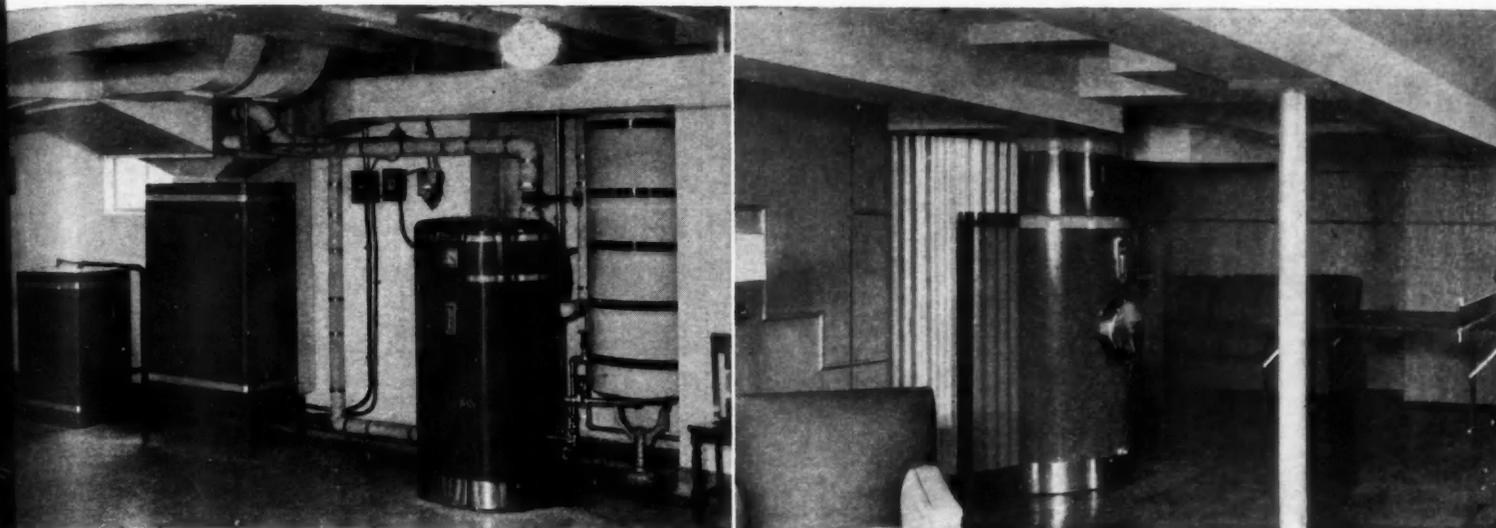
are accurate, the home owner does not **PAY** \$200 more; he merely increases his monthly FHA payments by \$1.20 for the life of the mortgage. In return for this \$1.20 increase in his monthly payment he could easily get a fuel saving of from \$2 to \$10 a month, depending on circumstances, and the quality job also assures him lower upkeep and maintenance costs and a longer life.

The same reasoning is true of many other types of products that go into a home, but it's particularly important in relation to **OPERATING** equipment where the fuel or power used amounts to a considerable item. Take, for example, the case of a water heater. There is a wide range of price in such equipment. But as anyone knows who has owned an inefficient unit, the cost of fuel is extremely important. A home owner who installs a water heater costing \$100 more than some substandard type would increase his monthly amortization payments only 60 cents. But he may save from \$1 to \$5 a month in the cost of fuel. Certainly the extra investment for the quality product was worthwhile.

It is obvious that the above advice must be tempered with reason, for the amount a home owner has to spend is usually limited. The smart builder will try to keep the prospective buyer's over-all estimate of the kind of house he wants in a low enough bracket to permit doing a **quality** job throughout in that class of structure.

### A SIMPLE WAY TO FIGURE MONTHLY FHA PAYMENTS

**ONE HUNDRED DOLLARS** added to the cost of any house under \$6,000 will, if appraisals are accurate, increase the monthly FHA payments only 60 cents. This is arrived at by computing the monthly payment to principal and interest on a 25-year loan at 4½ per cent interest, which is \$5.56 per \$1,000. To this should be added the FHA mortgage insurance premium of 40 cents or less per month per \$1,000. The total monthly payment is thus \$5.96 per month for each \$1,000 borrowed or, roughly, 60 cents per \$100.



## Provide SECURITY Against High Upkeep

### WHY CHISELLING, PRICE CUTTING AND SUBSTANDARD PRODUCTS DON'T PAY

A few cents more per month covers extra first cost of QUALITY products, and this is MORE than offset by lower UPKEEP and OPERATING costs.

**QUALITY HEATING EQUIPMENT**—The difference between a cheap substandard plant and a high quality, scientifically engineered and fully automatic system might well be \$200. This extra first cost, however, amounts to only \$1.20 A MONTH. The fuel saving and lower upkeep costs could easily amount to.....\$2 TO \$10 PER MONTH.

**QUALITY HARDWARE THROUGHOUT**—For only a few dollars more, the buyer can have an overhead garage door, quality long-life hardware, 3 butts to a door and carefree, trouble-free locks, snaps and cabinet fittings. The increase in monthly FHA payments would be LESS THAN 40 CENTS. The saving in maintenance and upkeep costs over the life of the house would be.....\$5 TO \$20 ANNUALLY.

**A-1 PAINT JOB NEEDED**—By skimping on paint materials, first cost of a house might be reduced \$50. This would amount to 30 cents a month, but the UPKEEP COST resulting from the inferior materials would probably cost the owner over a period of years.....\$20 to \$50 ANNUALLY.

**SHINGLES AND SIDING**—Picking the best quality shingles or siding which will give years of service without high maintenance, costs only a few dollars more than cheap, short-lived products—probably less than 60 cents a month. The resulting economy in upkeep would save the owner.....\$10 to \$50 ANNUALLY.

**QUALITY KITCHEN RANGE**—The difference between the cheapest and one of the best would run about \$50. This amounts to only 30 cents a month. But the cheap, inefficient fuel-consuming stove would cost the home owner an extra.....\$1 TO \$3 PER MONTH.

**ECONOMICAL WATER HEATER**—This item of home equipment, if it's a substandard, inefficient product, can cost the home owner large sums for heating hot water. The difference in first cost of a cheap model and a good one would amount to less than 60 CENTS A MONTH. The fuel saving would amount to.....\$1 TO \$5 PER MONTH.

**100 PER CENT INSULATION PAYS**—The cost of a quality insulation job would run less than \$1.50 A MONTH. The fuel saving in winter (not to mention summer comfort) would save the owner.....\$3 to \$8 PER MONTH.

**WEATHERTIGHT DOORS AND WINDOWS**—The cost of weathertightness amounts to only a few cents per month. But the saving in fuel and doctor bills may run.....\$1 TO \$4 PER MONTH.

**BEST QUALITY LUMBER**—Using the best quality lumber, well seasoned, graded and trademarked, of specified low moisture content, rather than green substandard material, would increase the monthly mortgage payments LESS THAN \$2. But the resulting crack-free, trouble free house would be worth.....HUNDREDS OF DOLLARS MORE.

**ADEQUATE WIRING IMPORTANT**—Overloaded electric circuits actually cost money, since they reduce the efficiency of electric equipment. The extra cost of larger sized wire and ample electrical outlets would amount to less than 30 CENTS PER MONTH. The advantage to the home owner is worth.....\$1 TO \$3 PER MONTH.

**MODERN KITCHEN**—An efficiently laid out kitchen, completely equipped with modern cabinets, work areas and labor-saving equipment, such as a dishwasher, would cost the home owner less than \$1 a month more. But the convenience, comfort and drudgery saving to the housewife is worth.....THOUSANDS OF DOLLARS

**QUALITY PIPING**—The extra first cost of rust and corrosion resisting piping is less than 50 cents a month. The protection against leaks is worth.....HUNDREDS OF DOLLARS

**RELIABLE CONTRACTOR**—Don't forget that the man who runs the job and is responsible for its multitude of details is worth a fair price. The difference quoted by a reliable builder from a chiseller would amount to only a few dollars a month, but the QUALITY result is worth.....THOUSANDS OF DOLLARS.





### Protect Yourself Against RENT INCREASES!

Authorities agree that most are on the way up. Buy a new home at Saltonstall Manor and end your rent worries forever.

Where can you rent a new, one-family home with automatic heat for \$14.87 a month? That's the net monthly cost of a home at Saltonstall Manor with a down payment of only \$390.

**WHICH WOULD YOU CHOOSE TO BE NOW?**

<p><b>Renter</b></p> <p>1—Renter would pay at least \$15 a month for a new home like this.</p> <p>2—So, he would pay \$10,500 rent in twenty-five years.</p> <p>3—Then, renter has tall stack of worthless rent receipts.</p> <p>4—Renter will have to pay \$15 a month now.</p>	<p><b>Owner</b></p> <p>1—Owner would pay only \$26.87 of which \$12 is a saving reducing mortgage each month.</p> <p>2—But, owner would pay only \$3,841—that's \$1,459 less.</p> <p>3—And, owner has a home absolutely free and clear of any encumbrance.</p> <p>4—Owner lives in his own home for about \$7.50 a month from now on.</p>
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**WHICH WOULD YOU CHOOSE TO BE when you want to retire?**

The price is subject to increase without notice due to the increasing cost in building costs. Save money—over years this week!

## Saltonstall MANOR

IN EAST HAVEN



*Charming Small Homes*  
... with Apartment House Convenience

OLSON and JACOBS  
*Builders*

### The Wm. T. Beazley Co.

REALTORS  
In Charge of Sales

242 ORANGE STREET New Haven Field Office 4-8517  
City Office 7-2141

### WHAT DOES IT COST?

PRICES Start at \$3,990 DOWN PAYMENT \$390

A TYPICAL FINANCE PLAN

# \$26.87

TOTAL MONTHLY PAYMENT

Pays

Interest, Amortization of Mortgage, etc.	\$20.02
Taxes (Estimated)	5.00
Fire Insurance	.40
F. H. A. Insurance	1.45
TOTAL MONTHLY PAYMENT	\$26.87
AVERAGE MONTHLY SAVING (Reduction of Mortgage)	\$19.37
NET MONTHLY EXPENSE	\$7.50

COMPARE

... With the Rent You Would Pay FOR A NEW HOME LIKE THIS!

"PROTECT YOURSELF against rent increases," Olson and Jacocks of E. Haven, Conn., tell prospective buyers in this lively 3-page folder.

## How to Avoid Paying \$10,500 Rent

**Builders Point Out High Cost of "Tall Stack of Rent Receipts." 30 Homes Are Sold Before Completion to Industrial Workers**

**I**N INDUSTRIAL New England, where the national defense program is already having an effect on business, building of low-cost homes is on the increase. One of the most striking illustrations is Saltonstall Manor in East Haven, Conn., where builders Martin Olson and Abel Jacocks are selling 28' x 28' Colonial cottages faster than they can build them. They have built and sold 30

houses in a few months to industrial workers in that area. A potent argument used by Olson and Jacocks in selling these homes is "protect yourself against rent increases." "Where can you rent a new one-family home with automatic heat for \$14.87 a month?" they ask. That's the net monthly cost of a home in Saltonstall Manor, they point out, with a down payment of only \$390. "Which would you choose to be when you want to retire," the builders ask the prospective buyer, "a renter or an owner?" They figure out that in 25 years as a renter (at \$35 a month) he would pay \$10,500, and all he would have would be a "tall stack of worthless rent receipts." In a Saltonstall Manor home costing only \$26.87 a



ROW OF SALTONSTALL MANOR homes in East Haven, Conn., under construction. Sales ran ahead of building crew.

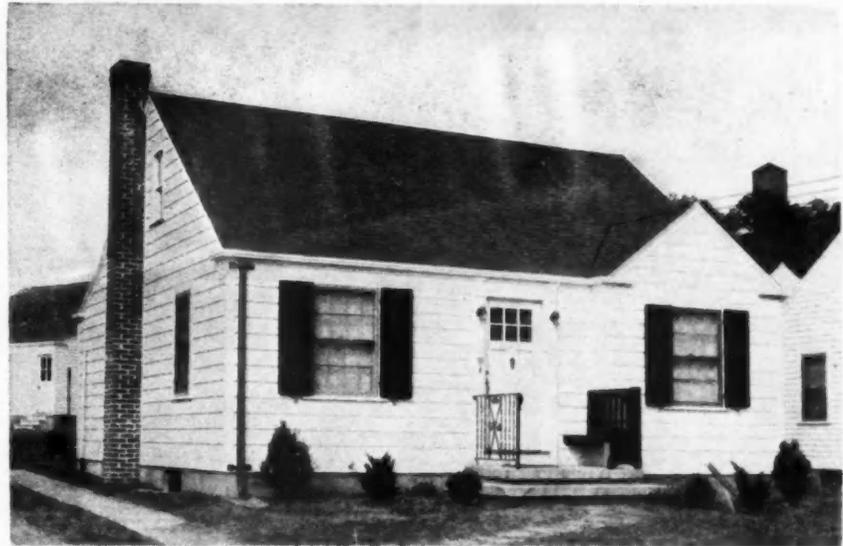
month he would pay \$2,439 less in 25 years and would own the home absolutely free and clear. From then on he can live in his own home at no cost except the taxes of approximately \$5.50 a month.

Thus Olson and Jacocks and their sales agents, Wm. T. Beazley Co. of New Haven, appeal to the basic desire for security of every individual.

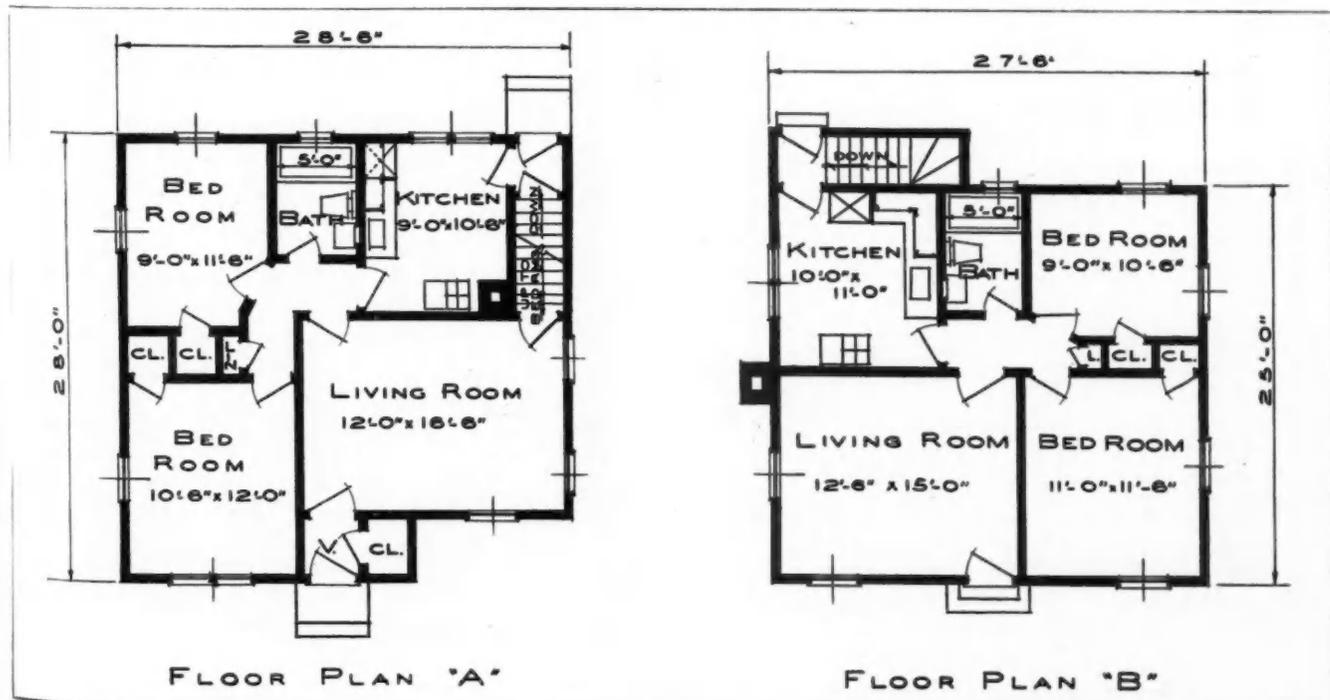
The houses follow two typical floor plans, "A" and "B" illustrated below, although minor variations are made to suit clients. Plan "A," only 28' x 28' 6" in size, provides a 12' x 16' 6" living room, 2 bedrooms and bath, a 9' x 10' 6" kitchen, and a stairway to the second floor. There is space there for the owner to add an extra bedroom or two later on.

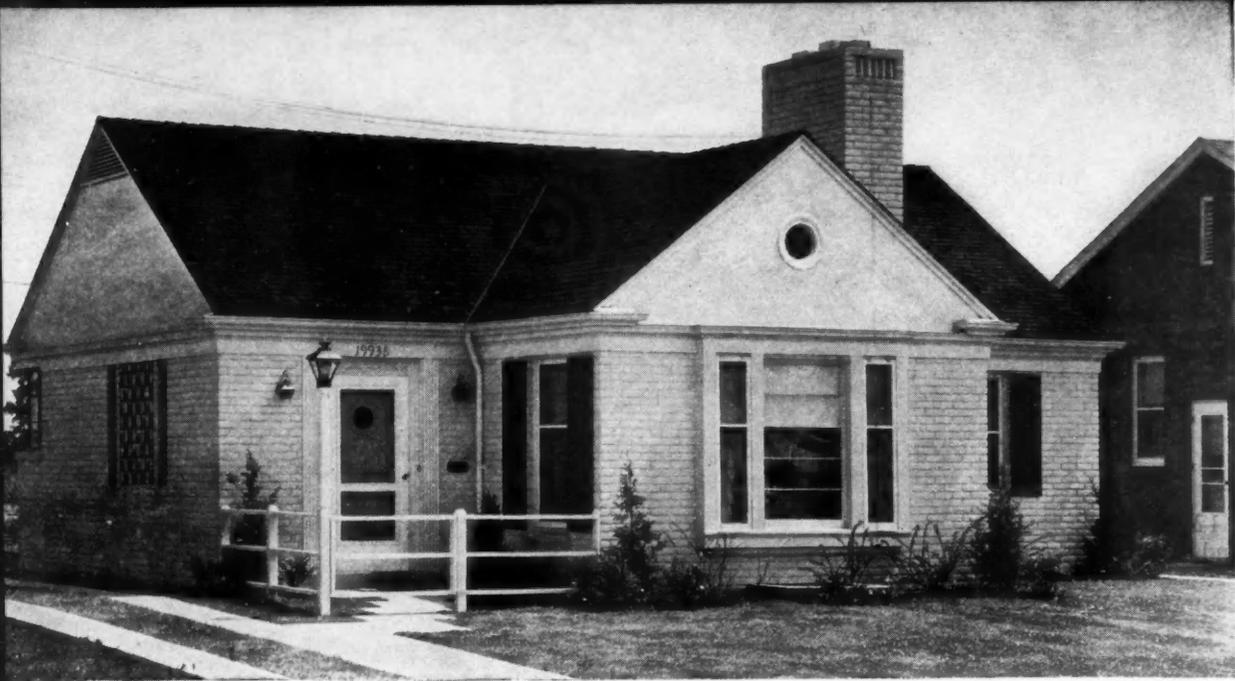
Plan "B" is slightly smaller but has a 10' x 11' kitchen which provides ample space for a dining table.

Houses are insulated with mineral wool, have an oil-burning hot water heating system, full basements, copper water tubing, shower bath and set-in tub, steel kitchen cabinets, inlaid linoleum.



TWO of the fast-selling Saltonstall Manor homes, at right, designed with minor variations around floor plan "B" below. Floor plan "A," which is used in row of houses shown on opposite page, has stairs to second floor where there is space for additional bedrooms to be added later.





LEFT: Harry J. Durbin, designer and builder, presented this outstanding small home in the Detroit Builders Assn. "Models on Parade" 1940 exhibit.

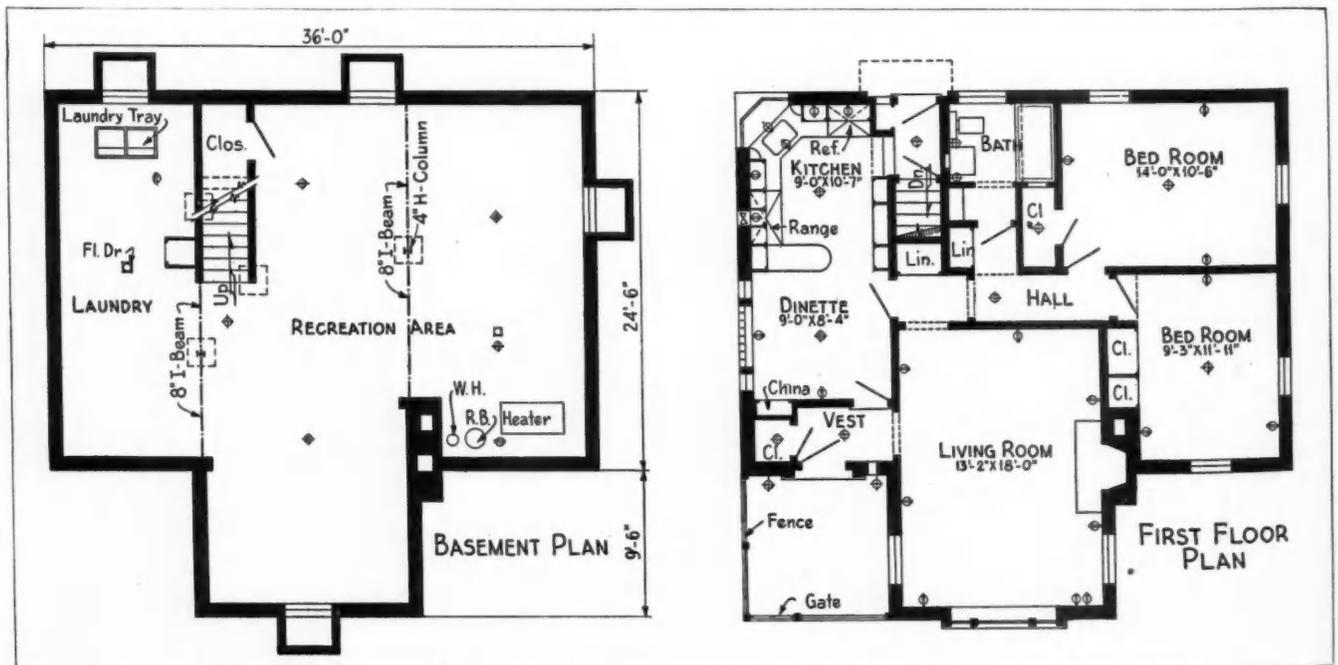
## Detroit Approves Better Value Models

**T**HE attractive and secure-looking home shown above was one of the 32 models displayed in the 1940 demonstration project sponsored by the Builders Association of Metropolitan Detroit, and known as "Models on Parade." It proved to be one of the most popular with the crowds, running as high as 5,000 a day, inspecting the exhibit; as a further mark of distinction, the builder, Harry J. Durbin, received an award for its planning and construction from the Currier Lumber Company.

This year the annual Association exhibit was designed to demonstrate the high value and good security that sound construction would return to the buying public for its investment. This typical design offers comfort, convenience and livability within a compact and smartly styled exterior. The practical 4-room plan for 5-room

living features many extras such as snack bar separating kitchen and dinette, efficiently planned kitchen cupboard space, planning desk, closets and tiled counter tops, powder nook in bath, and wardrobes. The full basement provides plenty of clear floor area for laundry, heater and recreation and storage facilities.

Construction and equipment include 10-inch poured concrete foundation; common brick veneer painted exterior; Fir-Tex insulating sheathing and 4-inch rock wool over ceiling; two-coat plaster on Rocklath, all corners and angles metal reinforced; heavy asphalt shingles over 15 lb. felt; Bruce factory-finished Streamline flooring; white pine enameled interior trim; drawers, cupboard and interior doors birch; ceramic tile floors in vestibule, coat-room closet and bath, tile wainscot in bath; Bard gas-fired winter conditioning system; Savutime water heater control.



# "Trade-In" Plan Offers Better Security

## William T. Richardson, Los Angeles Builder and Developer, Takes Old Houses in Exchange for New and Broadens Opportunity for Increased Value

By S. A. Lewis

**A**BOUT 10 years ago William T. Richardson, veteran Los Angeles contract and operative builder, adopted a trade-in system that enabled home buyers to exchange old houses for new. So successful has this exchange plan proved that it is responsible for at least 50 per cent of Richardson's building sales and has become the backbone of his sales promotion policy. How well it works too, is seen in a record of over 1,000 houses, more than half of which were sold on this basis. Many of these were put up by Richardson on contract work. Additional evidence of the workability of the exchange plan is the fact that this method of selling is being extended to Richardson's newest subdivision—Colonial Village—a 70-acre tract in beautiful San Fernando Valley.

Richardson's first venture in home building was with low-cost homes for industrial workers close to the Goodyear Tire and Rubber plant in Los Angeles. After putting up several hundred houses in this area he developed and built up other sections of Los Angeles and in his first subdivision disposed of 70 houses in less than five months. In earlier efforts the house and lot

were sold as one unit. At one time the average price range was from \$5,000 to \$6,000. In the last few years the price range has been extended to \$10,000 and the average is from \$6,000 to \$7,000. A short time ago, West Pico Heights, a sizable tract near the mammoth Douglas aircraft plant, was opened. This is now fairly well completed insofar as building goes. Within recent months 70-acre Colonial Village was levelled off and cleared for home sites. Already 10 houses are under construction.

In this builder's experience, the exchange method of financing is of little value in marketing homes above \$20,000. He says, "The price range in which we are interested is \$5,500 to \$10,000," and further, "In the marketing of new homes by the exchange method it is necessary always to trade down. In other words, accept only from 20 to 40 per cent of the price of the new home in exchange. We take in any old house in a good rental district provided it is clear of encumbrances or nearly so, as the initial payment.

"Before the old house can be sold to advantage, however, it must be reconditioned. Expensive alteration is inadvisable because it will reflect in too high a sale price. "Reconditioning items that do pay by reason of effect-



WILLIAM T. RICHARDSON

**RIGHT: Typical Richardson advertising; arrowhead points to copy feature in small ad reading, "or will accept your old house in exchange." At far right, sample pages from this builder's own direct mail booklet sent monthly to a select list; the modern functional design built on speculation and shown here attracted many visitors; it was so well liked that two buyers ordered it duplicated. Below, office building at Richardson's West Pico Heights project.**



**Premiere Showing TODAY**  
**WEST PICO HEIGHTS**  
 Located Between 24th and 27th Streets on Pico Boulevard Where Santa Monica and Los Angeles Meet.  
 Beautiful new five, six and seven room homes containing all modern up-to-the-minute features including full tile kitchen, two baths, sanitary walls, furnace heat, colored leather upholstered breakfast room, glass brick, revolving door.  
 Built-in Electric Ranges are installed.  
 All this on a lot 53 x 147' can be yours for \$7,500.00. F.H.A. Terms.

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**Colonial Village**  
 SAN FERNANDO VALLEY'S De Luxe Subdivision  
 The best of lots in individual home  
 The price of lots in individual home  
 The price of lots in individual home  
 The price of lots in individual home

**Functional Designing**  
 MAKES MODERN HOMES MORE LIVABLE ALL YEAR ROUND.  
 Compact, complete conveniences for every function of living.  
 Generous space without waste for utmost economy.



THIS Richardson-built demonstration home was featured as Personality House because of its many individual details, including an electric kitchen. Of California Colonial style, the exterior is rustic redwood jointed siding and stucco with red cedar shingle roof.

ing a quicker sale at a better consideration are: Cleaning and pruning the yard and lawn; landscaping; installing proper ventilation under the floor if necessary; repairing the roof; painting exterior and interior and installing linoleum and shades where necessary, as well as replacing defective lighting fixtures and locks.

"Where such repairs are made a quicker sale results at a price more than enough to take care of the repair expense. Sometimes it is advisable to install additional kitchen cupboards and linen cabinets and to clean and refinish floors.

"In the sale of an old house our rule has been to require from 15 to 25 per cent down payment, the balance payable at not less than 1 per cent per month."

It may be noted that this builder has worked out a method of disposing of "the paper" so that the investment is realized and he is not burdened with too heavy a carrying load. Where the exchanged home is in a different locality than the development, it is turned over to a neighborhood broker for selling. If near the tract, it is handled by the builder's own sales organization.

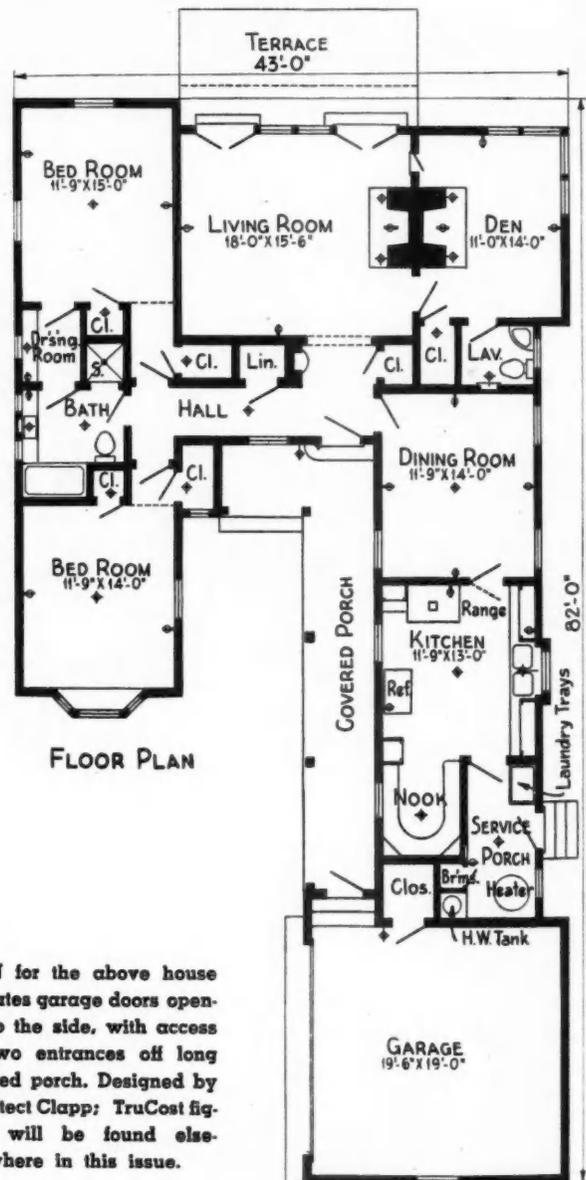
Richardson's exchange plan is prefaced on that which prevails in the automobile industry. "Our most successful merchandising firms use the exchange method of selling," citing the automobile industry as an example. "How many new cars would you or I purchase," he asked *American Builder's* editorial representative, "if it were not possible to turn the old car in as credit on the purchase price of a new one?"

#### One Price Regardless of Purchase Plan

According to Builder Richardson, there is only one price tag on a house whether it is sold on the trade-in system or straight-purchase plan. "Our prices are based on the amount necessary to result in a reasonable profit. Quantity production is ever the goal," is his way of putting it, and he should have added quantity-purchasing as well, for wherever possible Richardson buys material in quantity lots, and thus passes on lower construction costs to the home buyer.

Advertisements like one of the specimens illustrated are typical of Richardson's presentation of the exchange plan of purchase and the free appraisal service offered.

Demonstration homes, completely furnished and equipped with household appliances, also, are a definite part of Richardson's operative plan. They chalk up a 20 per cent return in actual sales. The schedule calls for two to three such dwellings a year, so that there is always



PLAN for the above house indicates garage doors opening to the side, with access for two entrances off long covered porch. Designed by Architect Clapp; TruCost figures will be found elsewhere in this issue.

one open for inspection at the tract. Model homes remain on exhibition for at least 90 days and are planned and furnished in co-operation with two leading downtown department stores. Richardson has sponsored about 15

of these co-operative type home demonstration projects.

A nationally popular model home, outfitted in its entirety by the May Company-Wilshire branch, and adapted to California living, is the latest home on display.

Personality House, furnished as a model home by the Broadway Department Store, Los Angeles, and illustrated on these pages, had a popular run at the West Pico Heights tract; it sold within a week of its opening. The latter home cost approximately \$7,900 and featured built-in electrical appliances, such as an electrical wall oven and electric range. Sanitas over plaster ceilings with paint over-all was a bedroom detail in this house.

In developing his first big subdivision Richardson opened the area to builders as well as home site buyers and himself put up houses on either a contract, operative or speculative basis. To builders and potential home owners a complete file of home designs and floor plans, in addition to specifications, is available without charge. Richardson also handles sales and financing on homes constructed on his developments by outside builders.

And that brings us to the architectural planning service which this builder offers to other builders and home

seekers alike. Besides the services of a staff designer who also acts as construction supervisor, Richardson retains the services of an outside certified architect should extra plans be necessary. This means that clients, in addition to free access to plans and specifications on file, may also have plans drawn to order without extra charge. Anyone purchasing a home site receives a plan of his choice without charge, according to an announcement in one of Richardson's ads.

Another selling feature is that a client having a sketch or plan in mind that he wishes transferred on paper may have a plan drawn and house built according to his original draft. The Richardson organization encourages prospective home owners to plan their homes as much as possible, on the assumption that by doing so greater buyer satisfaction will be the result.

In addition to a free architectural planning and designing bureau, the services of a decorative consultant also are available, in the demonstration homes, and in the builder's own office. The latter, however, mostly concerns herself with such details as the proper color scheme for walls, woodwork, etc., suitable selection of tile and paper, for it is Richardson's belief that these are important selling points.

Unless so specified in contract work, no two houses are built alike. Where the same floor plan may be followed, as in speculative building, the exterior, however, will be changed.

Construction Practices: Plenty of ventilation under the house is stressed as well as keeping it high off the ground, as a termite prevention; No. 1 lumber is used in all Richardson-built houses and 2 x 10 floor joists mostly, with solid dwarf wall foundations through the middle and 1/2" hardwood floors throughout. All houses are equipped with Schlage locks and floor furnaces vented through the roof.

The policy of making ready-built houses as eye-appealing as possible is followed whether in reconditioning old houses for quick sale, or in new ones. Lawn and lawn sprinkler system are put in first and a gardener placed in charge of the grounds to see that landscaping is always fresh and trim-looking.

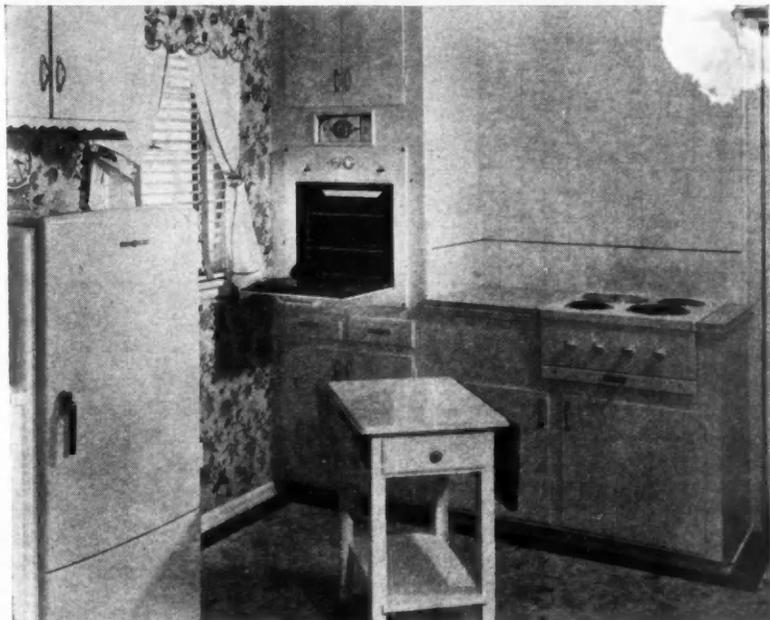
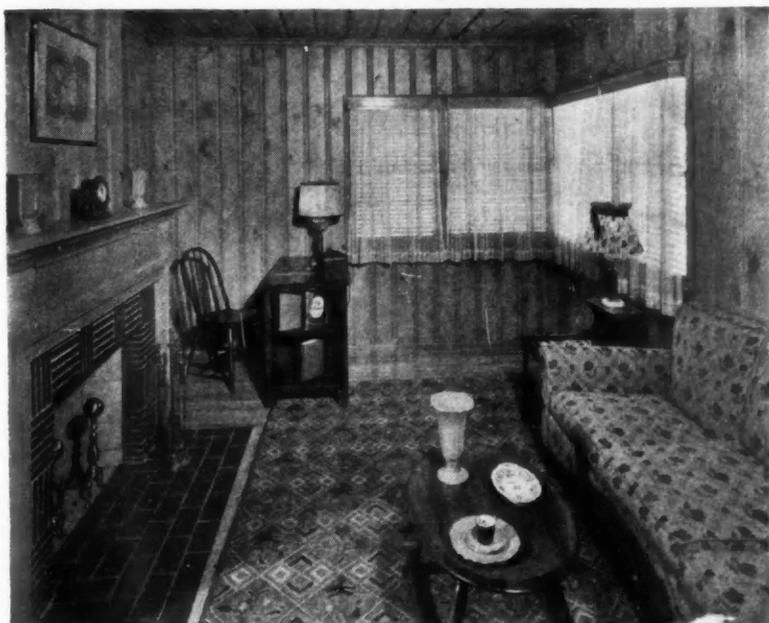
Quantity buying of material with the view of effecting lower construction costs as mentioned is another consideration. When construction began in Colonial Village, though only 10 houses were scheduled, lumber sufficient for at least 14 jobs was purchased and hauled to the site. At Colonial Village too, Richardson is experimenting with the use of cost-reducing materials, such as Johns-Manville wallboard in bathrooms and rubber tile in kitchens.

The designing staff has also found a way to utilize stock members in novel effects and so cut set-up costs; for instance, in the knotty pine den at the left, standard run material is interchanged with detail members used elsewhere.

#### Builder Subcontracts Most Favorably

As happens with practically all reputable builders who do not have their own-maintained construction crews, Richardson finds it advantageous to employ subcontractors who are familiar with his construction methods. Many have worked with him for 10 or more years. By scheduling construction to a minimum of 15 or 20 at a time (sometimes the figure runs as high as 50 houses under construction at a time),

(Continued to page 122)



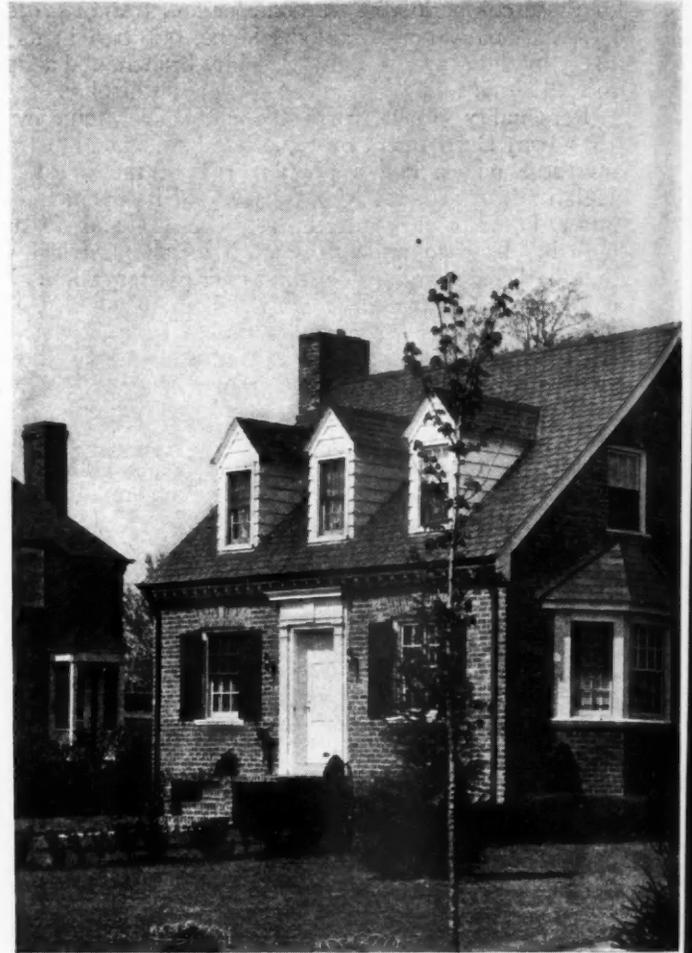
DEN of Personality House is made attractive with the novel use of knotty pine for both walls and ceiling. Electric kitchen equipment is built in.

# SECURITY

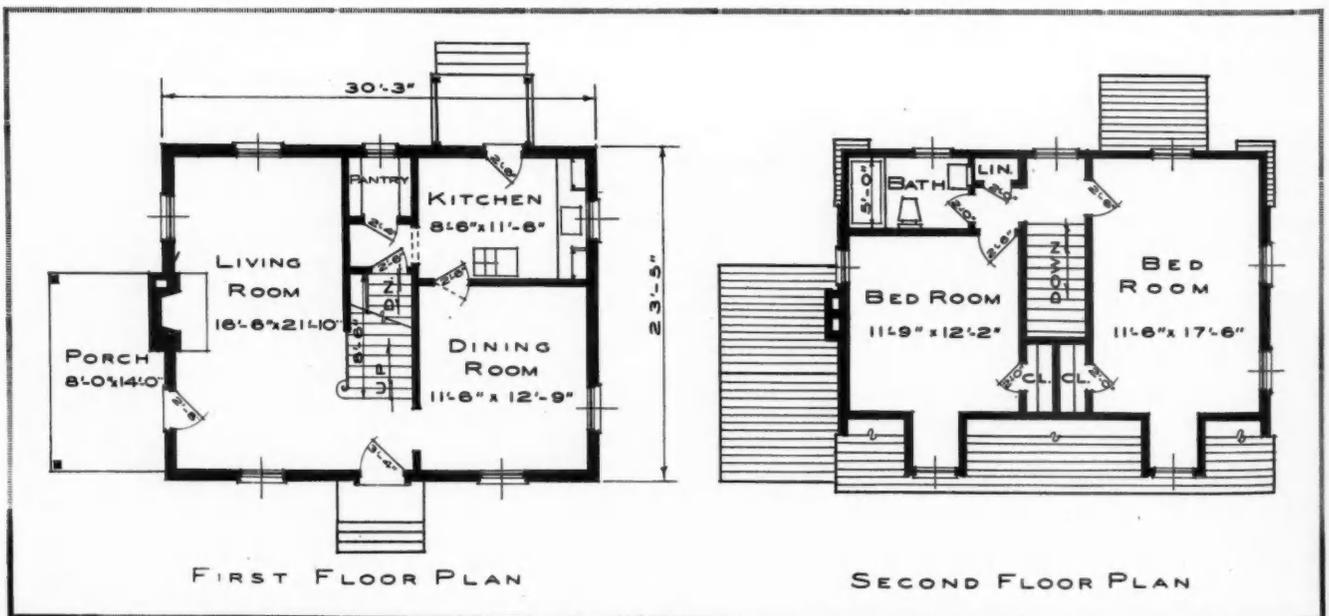
## expressed in brick

**John S. Christian of Richmond, Va., Creates Buyer Confidence with Substantial, 30'x24' Brick Homes of Good Design. Large Sales Show Acceptance**

**H**OME buyers in Virginia like to have their houses express an air of security and permanence, and this is exactly what Builder John S. Christian is giving them in his several successful developments. The houses illustrated at right are part of a complete street in which the excellent floor plan below was followed with minor variations of plan and exterior. Christian uses a 23' 5" x 30' 3" floor plan drawn by Architect Elmo Pearmon, the outstanding feature of which is a 16' 6" x 21' 10" living room. Walls are of brick with U. S. G. Rocklath and plaster. Ceilings are insulated with 4 inches of mineral wool, and the roof is finished with Buckingham slate. White oak flooring is used. Heating system is 2-pipe hot water with an oil burner and a summer-winter hot water hookup. Included in Christian's kitchen equipment are Westinghouse Electric ranges and Crosley refrigerators. The attractively styled side porches, dentils, Colonial entrances and brick steps contribute much to the architectural appeal of these "security" brick homes.



**FIVE-ROOM** Christian-built houses have unusually large living room—16' 6" x 21' 10". Covered porch is a popular feature. Cubage of house is approximately 22,000.





**UNUSUAL** Colonial charm is achieved in the houses at left and below, built by John S. Christian. He has built and sold several streets in this style, giving minor variations in exterior with porch dormers and bay windows.

**TEXTURE** of the old brick, combined with the slate roof and authentic Colonial style, gives the houses a substantial, settled look that appeals to seekers of long-term home security.

*Photos by H. Bagby*



# Security Homes Appeal to Chicago Buyers

**Attractive Designs in Colorful Brick Find Ready Market in Fred J. Walsh's Lincolnwood Estates; Over 100 Sold**

ONE of the fastest growing moderate priced home projects in the vicinity of Chicago is Fred J. Walsh's Lincolnwood Estates development. Starting about a year ago, in a Northwest suburb, the site chosen to be developed had all appearances of a wide, open prairie. Today, over one hundred houses are completed here or are under construction, making a miracle-like change of the area.

Other than having a model home for inspection, there has been no speculative building, all houses having been first sold and then custom-built. Lots have been laid out for 60-foot fronts so that the small homes could be planned for an attractive, rambling type design and the larger houses given a broad front with attached garages.

The result has been streets of picturesque homes with plenty of variety in the styling, but harmonized through the use of brick of several types and many colors and patterns. Dunbrik, cement building units in brick size, have been used on some of these jobs, and because of their wide range of color, have added to the pleasing effect of the group as a whole; examples of the use of this material are illustrated on these pages.

In the Walsh sales office at the site, sketches and floor plans mounted on large cards and bearing the legend, "Sold to Mr. and Mrs. (Owner's Name)," line the walls, and exhibit the first group of several dozen designs to be built. From these, most of the subsequent sales have been made, the plans being changed in some slight details according to the purchaser's wishes. The original houses for the most part were of the basementless utility room type; now, however, some of these same designs have been built with the conventional basement, as was the house shown below on this page, with plan indicat-

ing alternate first floor and utility room. Hot water heating systems of special design for use in the basementless houses were worked out to function perfectly and overcome what might otherwise have been a major objection to this type home (one of the first homes built in Lincolnwood as shown in the September, 1939, issue of *American Builder* explains this system).

Other materials and equipment used in the construction of these Lincolnwood homes include USG 3-in-1 asphalt shingles, Weatherboard insulating sheathing, kiln-dried pre-shrunk framing lumber, metallated Rocklath under 3-coat plaster, rock wool fill at eaves, Standard Sanitary plumbing fixtures, and unit kitchens of metal cabinets and bases.

Now that the project is well under way, with enough homes completed to indicate the trend in public taste, and the demand for well planned, well built security homes, even more rapid growth than that already experienced is anticipated for Lincolnwood. The substantial character of this new community of moderate priced homes appeals to buyers.

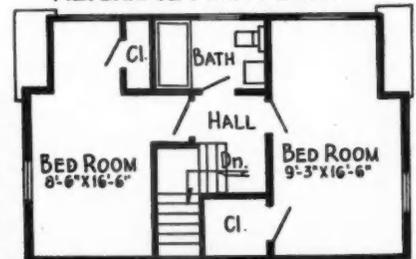


ALTERNATE first floor plan shows arrangement for five-room design pictured below if utility-recreation room is desired instead of basement.



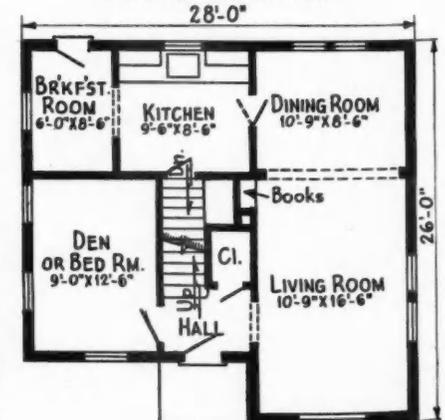
ALTERNATE FIRST FLOOR

FIRST and second floor plans of this house as built show five rooms on first floor with breakfast room and den replacing the utility room.



SECOND FLOOR PLAN

ATTRACTIVE exterior of this compact little home has walls of colorful Dunbrik, rustic white siding in gable ends, and bright harmonizing asphalt roof.



FIRST FLOOR PLAN



THIS is one of the larger homes in Walsh's Lincolnwood Estates development, containing 6 rooms, 1½ baths, attached garage, and utility room.

THE floor plan of the above house shows how baseless design has been worked out to give good circulation and convenient stairway location.



WHILE the exterior styling of the house below gives it an entirely different appearance from the one above, the floor plan is quite similar; the three bedrooms are larger, however, one replacing deck over wing.



# New Panel-Size Plywood Siding Demonstrated on

**F**ROM the West Coast comes another demonstration of a new trend in home building. It is the use of wide Resnprest plywood siding, and its employment in residential construction is admirably demonstrated by Carl E. Asbahr, Portland, Ore., builder, in a recently complete attractive 1½-story, five-room home.

The front view shown below indicates the clean-cut modern effect which was desired and achieved. The styling required an exterior treatment which would harmonize with the simple roof lines, modern corner windows, recessed front entrance and basement garage door.

For this, Mr. Asbahr required a wide siding that would stay smooth and flat—that would not cup or buckle under any circumstances. Resnprest was found ideal for the purpose because of its crossply construction. Added advantages of the material were its ability to lay up fast, its superior insulating qualities, and its draft-proof, moisture-proof features.

On this home, the 23-inch width is "V'd" on two sides with the ends flush for a tight joint. "V" scoring through the center of the panel gives 12-inch siding effect when a 2-inch batten is nailed between each panel.

In discussing its construction Builder Asbahr says: "The new Resnprest wide siding, made by M & M Wood Working Company, Portland, Ore., stays flat, is easy to work and lays up without waste as the panels are ½ inch wider and longer than specified to take care of the shiplapped edges. I was so satisfied with Resnprest on this job that I have since used it on three others."

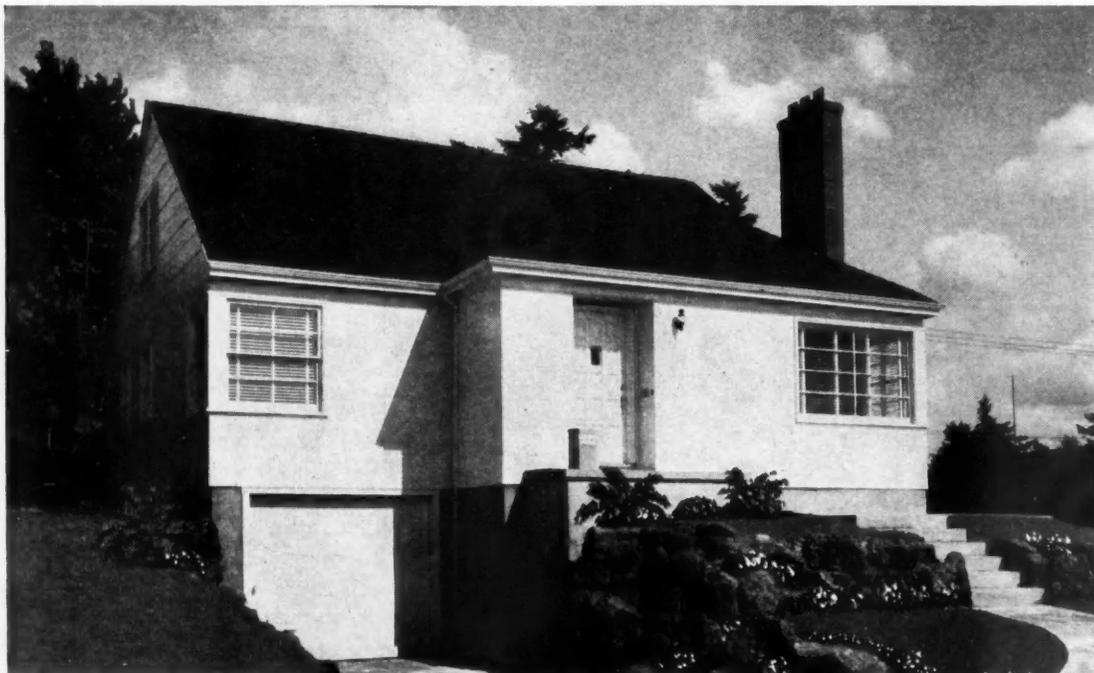
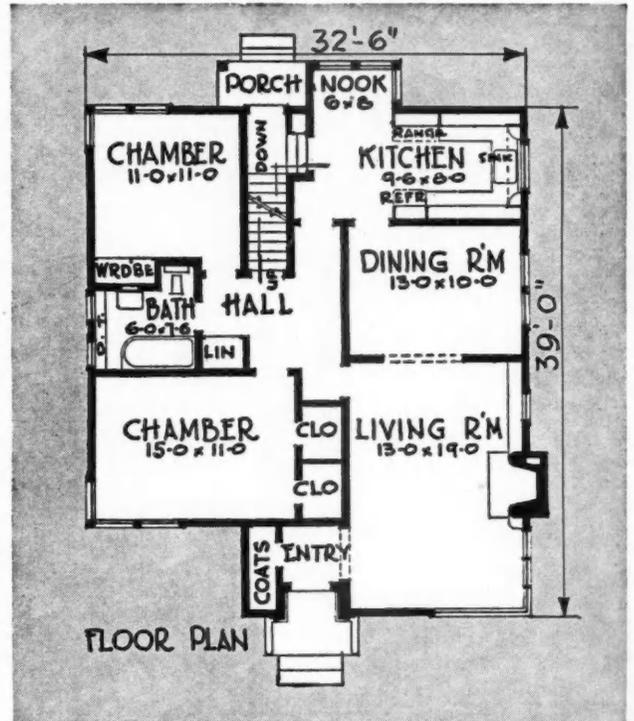
The home has a full basement, hardwood floors throughout, and the interior of the house is papered. The five-room layout offers many plan advantages within its moderate size. Corner windows and fireplace in the living room give a nice decorative effect and leave wall space for furniture arrangement. Rear hall connects kitchen with other rooms in the house and stairway to attic, allowing access without going through the dining room; efficient U-shaped plan in the kitchen and adequate breakfast nook space have been cleverly worked out so that doors are grouped. There are plenty

of closets and two cars can be stored in the basement.

For sub-floors and sidewalls 5/8-inch plywood sheathing was used. According to the builder, the sound insulating properties of the floor sheathing make it impossible to hear noises from the basement in the main room. Similarly, first floor noises are not heard in the upstairs rooms.

Kitchen built-ins are made of M & M flush cupboard stock with pine faces. The dining room has corner cupboards of Philippine mahogany to match the trim which is of the same material.

A basement party room is equipped with a fireplace,



THIS five-room Portland, Ore., home built by C. E. Asbahr is designed to set up on the site and allow a basement garage. The closeup rear view opposite shows application of 23" x 96" plywood siding panels. TruCost figures for the floor plan above are given elsewhere in the issue.

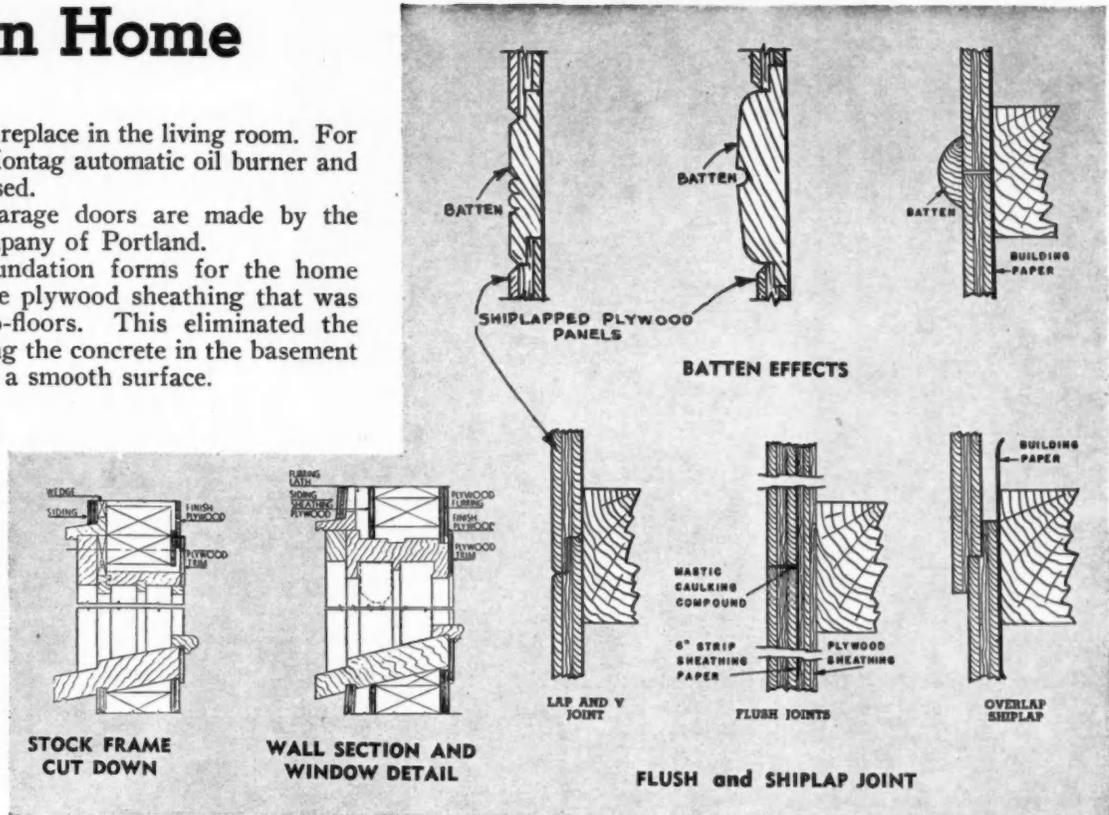
# ed on Oregon Home

and there is also a fireplace in the living room. For general heating a Montag automatic oil burner and air conditioner is used.

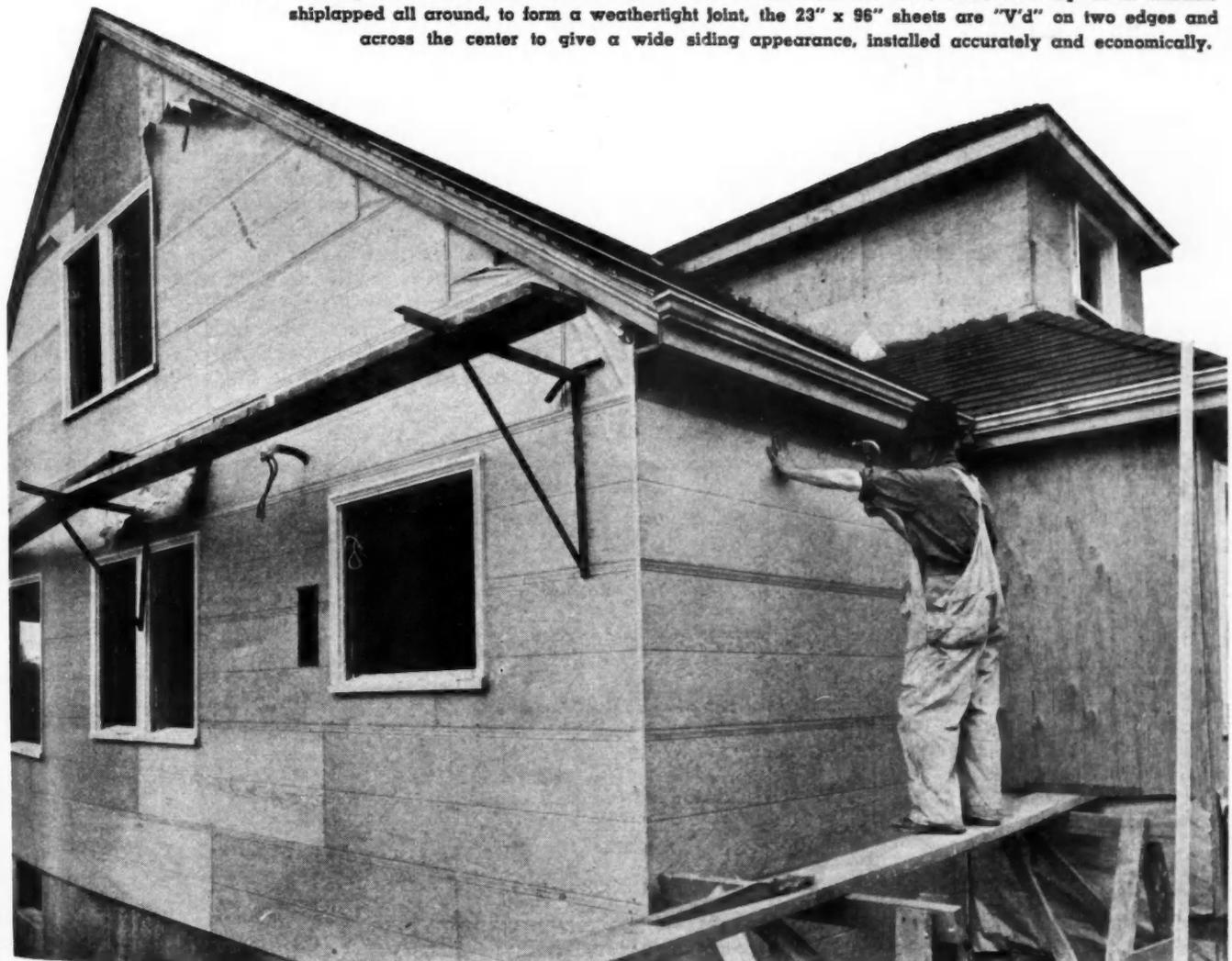
Upward-acting garage doors are made by the Iron Doorman Company of Portland.

The concrete foundation forms for the home were made with the plywood sheathing that was later used for sub-floors. This eliminated the necessity of finishing the concrete in the basement as the plywood left a smooth surface.

**RIGHT: Construction details on method of installing plywood around windows, and six suggested joint treatments for the new plywood siding panels; the upper left batten style was used on the house shown here. Flush end joints of the panels are covered with 3 coats of lead and oil paint.**



**BELOW: The plywood siding panels are being installed on the Portland, Ore., home built by C. E. Asban; shiplapped all around, to form a weathertight joint, the 23" x 96" sheets are "V'd" on two edges and across the center to give a wide siding appearance, installed accurately and economically.**



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POPULAR Garling homes, with lumber piled at the one vacant lot in the block. Asbestos siding creates feeling of permanency in minds of home buyers, many of whom work in nearby Ford Motor Co. plant.



# ASBESTOS

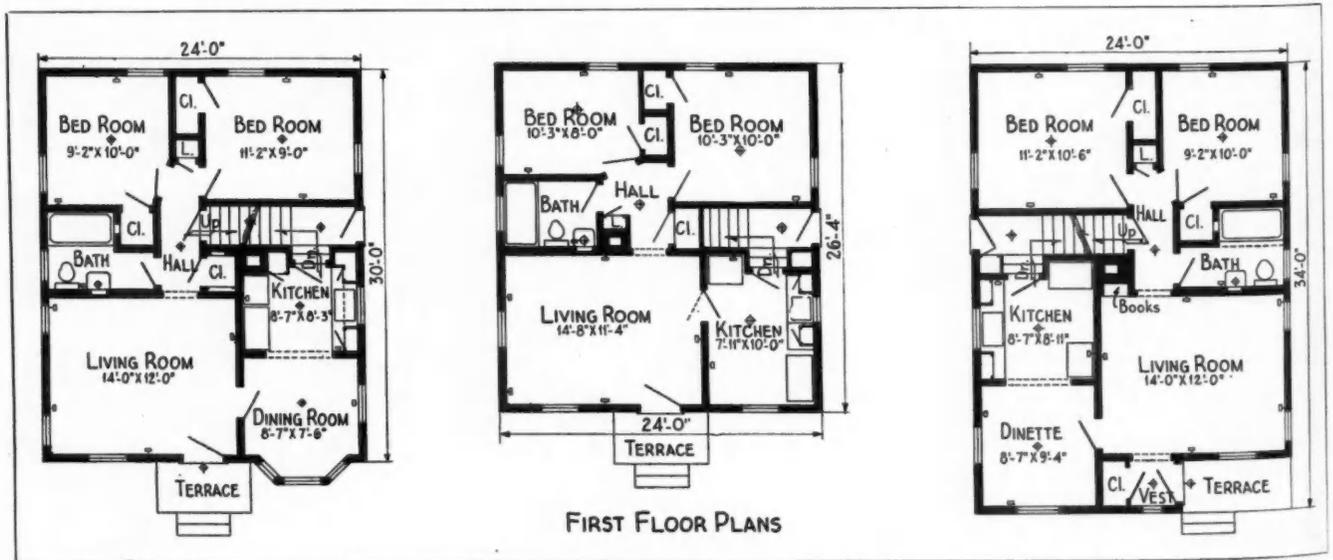
By J. Harold Hawkins

**E**XCEPT for the fact that Ford Motor Co. pays about 60 per cent of the city's taxes, Dearborn, Mich., is not different from a thousand other average-sized communities. In Dearborn, Fred Garling, head of the Garling Construction Company, has scheduled 500 houses for 1940. Several hundred are already completed and sold. The rest of the schedule is rolling right along.

Through my conversations with Mr. L. B. Krogh of the Garling Company, who showed me around Dearborn and took me over the building sections, I wasn't long in finding out the reasons for their home-selling successes. First of all, they advertise consistently—not big splurges of ads, but small, honest, straightforward ads. They regularly use both Detroit and Dearborn newspapers for their conservative announcements of Garling homes for

sale. Their slogan, "Full Value Homes," is used always. They never say, "better" or "greater," or any word which might indicate to the public that their homes need to be compared with any other homes.

As in most localities, the rent situation in Dearborn is tough, which strengthens the demand for new homes. A recent newspaper ad read, "Garling Solves Your Rent Problem." All Garling homes are available through FHA insured mortgages, with 10 percent down payment. So, any family that can gather together the few hundred dollars necessary for the down payment and show income to cover the monthly payments can readily take advantage of owning a "full value" home. Monthly payments include taxes, fire insurance, interest and payment on principal. This monthly payment totals, on an average, twenty percent less than a duplicate house



THREE TYPICAL Garling floor plans, ranging from 24' x 26' 4" to 24' x 34' in size.

# SIDING Featured in "Full Value" Homes

**Dearborn builder gives Ford workers "rent protection" and long-life security in well-built small homes**

would rent for under present conditions. This means "rent protection" and long-life security in home owning.

The Sunday editions of newspapers are always used. Houses completed and ready for inspection, and their addresses, are listed. A salesman is stationed at each house, and stays there until the house is sold. In many cases, besides each house selling readily as is, the houses exhibited are used as samples which can be duplicated for buyers at other locations. There is always a wide choice of vacant lots for buyers. This idea of duplicating any house almost always suggests minor alterations in the plan. Such plan changes are made but they have occurred so often that the company usually has blueprints available which already incorporate the desired alterations. These are shown to the client as well as the house or houses that have been built from the particular plan, as altered.

Approximately four out of five of the hundred and fifty odd Garling homes I saw were sided with asbestos sidings. The firm has found this siding material definitely attractive to home seekers and considers its use of asbestos siding one of the most effective selling features. In capitalizing on this natural appeal Garling salesmen use the fire-safe, permanent qualities, plus the special alloy nails and low up-keep values of asbestos siding, as clinching sales points for the home buying public.

The popularity of asbestos siding grows with its use in the Dearborn area. The two most popular kinds are white and gray. The application of asbestos siding is fast, and can be done by regular carpenters without any special tricks to learn. Because of the nature of the material, which is a highly pressed combination of asbestos and cement, a special cutter is used to trim the sidings for fitting around openings and at corners. The asbestos siding cutter is also equipped with punches for making holes in cut sidings when needed.

Asbestos sidings are factory-punched, and they are nailed at the top edge and also near the bottom edge. The bottom nail head remains exposed, but staining is avoided by the use of a special alloy nail which the manufacturer of the asbestos siding furnishes. The upper nail is a pin point galvanized nail of a length indicated by the manufacturer of the siding. Corners are lapped, first one way then the other, or a metal corner bead or corner boards can be used. Window and door frames are calked before asbestos sidings are applied. It is a wise precaution to prime all woodwork and flashings and other places where water might drip before applying asbestos siding. The Garling Construction Company, by so doing, offers its homes in sparkling white contrast to many others one might notice in driving around the city.

The three floor plans illustrated were selected as the most popular of some twenty-odd basic plans which are available to buyers. These three small houses range in selling price, for duplication, from \$3175 to \$4200. This includes a full basement and warm air heating. The houses are all twenty-four feet across the front and vary

**THE GARLING swinging sign is a familiar sight in Dearborn. A glance down any of the streets where the company is operating quickly tells whether there is a Full Value home for sale or being built in that block.**



**ADVERTISING signs are an important part of the successful selling job the Garling company carries on.**



**FRED GARLING**, head of Garling Construction Co., has been building for 20 years. Last year he was secretary of the Detroit Builders' Association, an outstanding co-operative unit.

in depth from twenty-six feet to thirty-four feet.

The Garling sign is as familiar to homeseekers in Dearborn as the street sign on the corner. The sign swings free on its stained post. A glance down both sides of a street from any corner will tell a homeseeker whether or not there is a Garling home for sale or being built in that block. The sign is placed on all sites for sale and remains there until a house is erected and sold. The swinging signs are all alike but for the street address of the site. The circular insignia is typical of all ads and practically all signs.

No opportunity is missed to keep the name of the company, and the "full value" slogan before the public. At vacant corners, and other locations where passing motorists can readily see, large arrow-type signs point toward completed houses that are open and for sale. The sales office of the company is located on a busy thoroughfare. It is housed in a sample Garling home that is covered with gleaming white asbestos siding. Electric illumination around the eaves lights up a large sign on the side of the house. Ample parking space is provided, and there is someone always ready to talk to visitors.

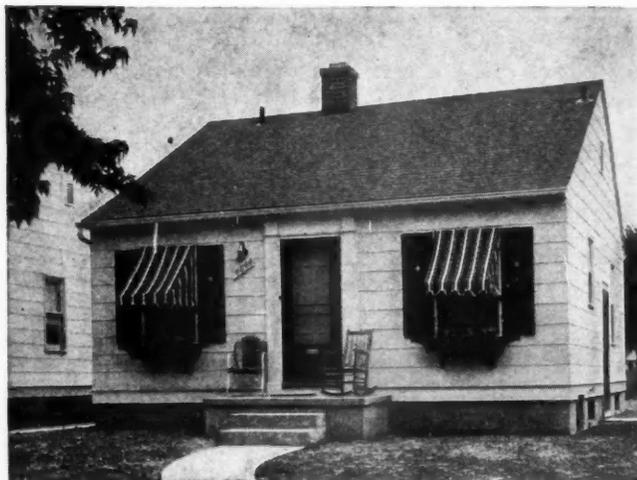
Considerable interest which led to many sales of homes was created during the summer by a co-operatively sponsored Ideal Home. A Dearborn newspaper ran a series of six full pages of a combination of editorial copy and advertising about the Ideal Home. Sub-contractors and suppliers of materials for Garling homes, as well as the Garling Construction Company itself, put ads on the weekly page in the paper. The page was made interesting to the public because its editorial features included public happenings, visits of important people, and human interest items as well as stories about the house.

Garling houses are well constructed. Materials used in them are standard, recognized products which appeal to home buyers, as well as to the builder and his workmen. The predominant use of asbestos sidings is an example of this. Many of the buyers of Garling homes seek out these attractive small homes because they are asbestos covered, which fact seems to set a standard of quality for the whole house.

Footings and foundations are ready-mixed concrete. Basement walls are waterproofed with a special foundation coating. The interior of the cellar is coated with cold water paint.



**IT IS HARD** to visualize a more attractive small home for the average family: 4 rooms and bath.



**SMALL HOME** just completed and sold. It is built on the smaller floor plan illustrated: 24' x 26' 4".



**24' x 30' HOUSE** with combination of white asbestos siding and wood gable is particularly popular.

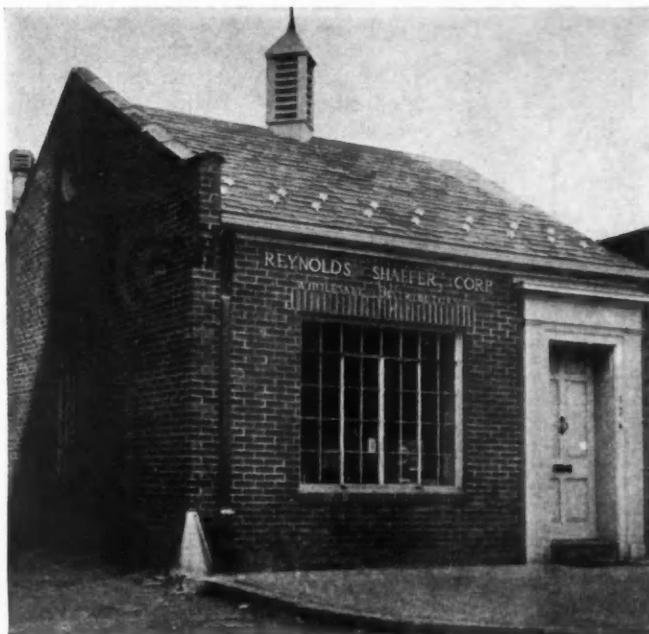
## Building Materials Store Displays Products in Use

**W**HEN a firm in the building materials business undertakes to provide itself with a sales office and display room, one would naturally expect that the products handled would be put to some use, as has been so frequently done in such structures. However, in the instance described and illustrated on this page, the Reynolds Shaffer Corporation, wholesale distributors of building materials in Pittsburgh, has done an outstanding job along these lines. The firm has a new building which combines general attractiveness throughout, utility, and maximum product display. It was designed by Architect Harry Viehmann and built by W. P. Sweeney, both of Pittsburgh.

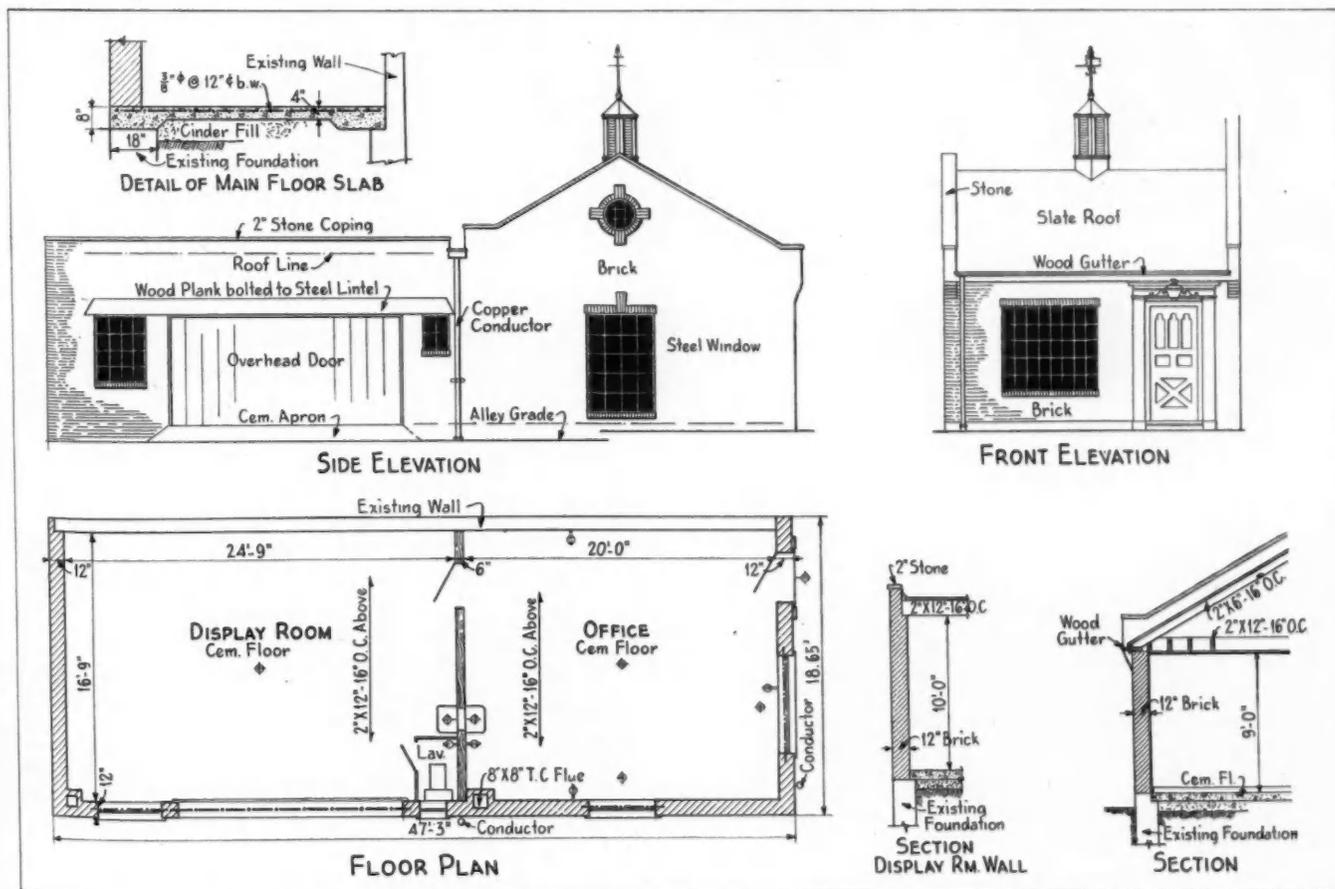
This sales office is located in the heart of the downtown section, convenient to parking and handy for lumber and building supply dealers, hardware dealers, architects, contractors, and department store buyers. The principal lines handled cover air conditioning, prefabricated ducts, fireplace equipment, incinerators, steel sash, metal trim, metal lath, insulation, prefabricated houses, and reinforcing fabric. As shown in the floor plan, the display room is at the rear, and has a large Strand upward-acting door installed along the driveway side allowing easy set-up and removal of large units. Ceilings are insulated with Reynolds aluminum foil.

Other items of manufacturers whom they represent and which have been used in the building include Alden white metal and brass trim, and brass thresholds, and Johnson Metal Products base, door bucks, trim and shelves. This latter line has produced large sales in connection with slum clearance jobs.

From the front, a neatly styled elevation with its modified Georgian Colonial design, attractive entrance, large casement window, and weathervaned spire present an appearance which would easily be adaptable to many types of small business enterprise.



RIGHT: Front of Reynolds Shaffer Corp. building materials sales office, Pittsburgh, Pa. Below: Floor plan, elevations and details of this well constructed, adaptable small shop building.



# Modernizing Main Street

## A new field for Dealer-Builder Cooperation and increased sales looms on the horizon

By F. T. (Tip) Brown of Kansas City

**N**OT MUCH argument is required to convince most dealers that "Playing the Game" with other business interests of the old home town adds up over the years into substantial dividends of friendship, goodwill, and sales. More and more dealers and builders are recognizing the necessity of securing orders for the firm and assigning some good subordinate to the job of filling them. The most needed man in any organization is the one who brings in the business. Getting new business is frequently a result of a little head work, involving constructive ideas, coupled with a definite plan.

We have been greatly impressed by the marked trend today of rehabilitation of business buildings. Heaven knows, the country is filled with old-time shells that offer no end of sales resistance in getting customers to walk inside the store to look at modern merchandise. It's a difficult matter these days to deceive the eye. It is the first agent to create a favorable buying sentiment in the mind of the owner.

The movement to "Lift the Face of Main Street" has been growing by leaps and bounds in the larger centers where merchants are quick to grasp at every trade attraction that will bring new customers. Many smaller

towns, too, have set up programs in their Chambers of Commerce to start rehabilitation of Main Street and wherever it has been tried it has succeeded most admirably.

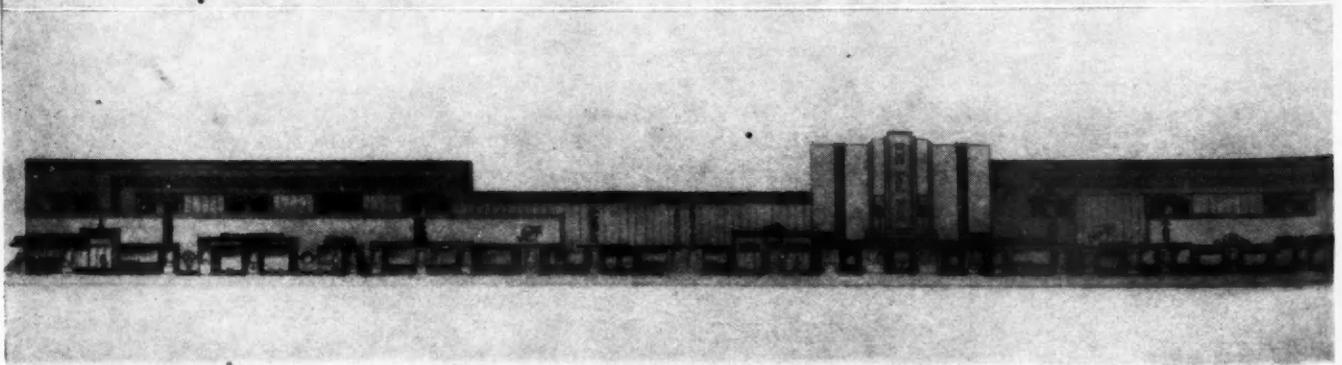
One of the most outstanding stories of downtown improvements comes from Oakland, Calif. Business started moving away from the principal retail district some ten years ago. A downtown committee was organized to rehabilitate the old district and after seven years of work and promotion, thirty-three modernized projects were completed, along with many improvements in the handling of traffic. The downtown district was permanently re-established in its traditional location and the movement not only saved property owners from huge losses but it also brought thousands of dollars of new business to the building materials interest of that city.

The experience of St. Louis in building a magnificent plaza from the Union Station to the downtown district not only resulted in getting rid of many acres of outmoded buildings but it brought a new and famous thoroughfare lined with magnificent public buildings which created enormous demands for materials during the construction period. The successful outcome of this de-



H.E. Wheelock, Architect

### Group Modernization Clay Center, Kansas



ARCHITECT Wheelock's scheme for giving a new face to an entire business street.

velopment is now being duplicated in the other end of the business district where thirty-seven blocks of old, antiquated buildings are being razed and a great park area will be created on the river front. The shift in business occasioned by this development, along with the demand for better business property, will unquestionably bring much new construction business to that part of St. Louis and keep the building industry busy for some time to come.

Kansas City, Mo., has a Downtown Committee organization in the Chamber of Commerce in which four hundred of the civic leaders of the city are engaged in a death struggle with "Old Man Obsolescence." He is already beginning to wobble at the knees. New traffic ways are being laid out, streets are being widened, landscaping is springing up along main thoroughfares, and four or five major modernization projects of well known business properties are under way at this time. Eighty-three downtown buildings have been washed or painted since the committee began functioning early this year. Twenty-eight old structures that have outlived their usefulness have been ear-marked for demolition. The Downtown Committee is snowed under with problems involving the improvement and progress of the district. Each of them is given the most careful and thorough consideration. Kansas City with a rich trade territory is projecting a downtown district with eye appeal and comforts and convenience in transportation. Increased trade will follow naturally.

Many other instances could be cited showing how the great commercial centers of the country are responding to this new movement to hold and encourage trade and maintain the good will of the people who come to spend time and money in their midst. The opportunities and benefits are no less outstanding in thousands of smaller cities and towns throughout the country. The autom-



ARCHITECT Irwin Dunbar, Kirville, Mo., made the above sketch of Elson Street remodeling: the first unit is completed, as photographed, and business has already increased from 7% to 11% net.

bile has changed life for everyone and particularly our buying habits. The big problem today with all business men is to retain and encourage business that has been with them thru the years, but has become transient by reason of the ease of travel.

Granted this movement is doing the job, most dealers and builders want to know how it can be done in their particular town. It might be wise to fall back upon the old adage that "charity begins at home." Step out on the street and take a good look at your own place of business and see how it stacks up with 1940 standards. Building material merchants over the country generally have been very active in improving their places of business and have seen the wisdom of taking on leadership in such matters.

Pictured in this article is an improvement at Clay Center, Kans., that shows the possibilities of making over an old lumber yard. Located on the south side of the public square, looks play a prominent part in keeping volume where it should be. Mr. C. B. Fullington, the President and Manager of this yard, sends us the following comment on this change:

"The Community in which we gain a livelihood has a right to expect us to maintain a place of business that contributes to the beauty of our town. Over a term of years, the neat, well kept establishment secures the most thriving trade. Since we dolled up, we notice particularly a great increase of business from newcomers to our town."

Since this improvement was made, a leading architect

(Continued to page 122)



C. B. FULLINGTON renamed and rebuilt his lumber yard.



FIELD ERECTION of welded steel structural panels in Georgia industrial project.

## Light Load Bearing Structures Feature Speed Welding

Various Types of Buildings in This Georgia  
Project Are Entirely Assembled by This Method

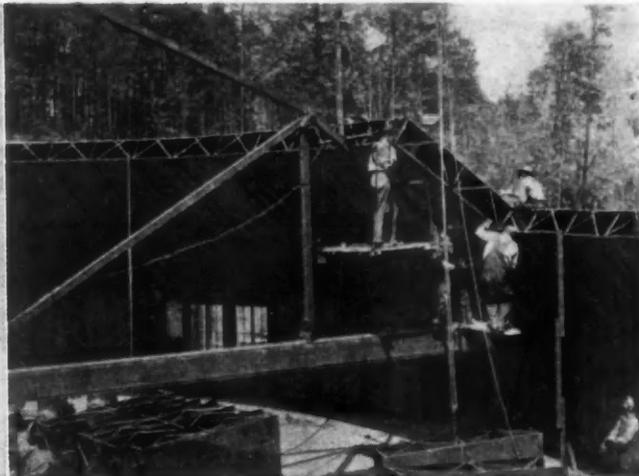
**T**HE new \$3,000,000 industrial project of R. G. Le Tourneau, Inc., at Toccoa, Ga., embodies many features which are unique in the fields of structural architecture and building construction.

For instance, all of the new buildings including the main factory, office building, warehouse, airplane hangar and hotel have self-supporting walls and roofs; all buildings utilize a box panel construction developed and fabricated by Le Tourneau. All of the 5,500 tons of steel required in the project were joined together by arc welding, not a rivet or bolt being used in the entire project.

Unusual in a structural engineering sense, the Le Tourneau buildings also present a unique appearance, as shown in accompanying illustrations of the hotel, the hotel dome, the close-up details of the walls and the exterior of the house.

The basic element of the Le Tourneau structure which permitted the unique construction employed in all the buildings is a steel panel fabricated by arc welding.

This arc welded steel panel is 46 in. wide by 92 in. long fabricated of 12-gauge open-hearth structural steel sheets. These sheets are stamped under 600 tons pressure into a



**AERIAL VIEW** of the hotel in Le Tourneau project, Toccoa, Ga.

**ERECTING ROOF** of the dome, using steel box panel construction.

sunken panel design, the edges being turned down 1 in. all around during the stamping operation. Two of these sheets, with the turned edges toward each other, are welded together with interior spacers set at intervals of not more than 24 in. to form a box-like unit. Maximum strength and rigidity are provided by pressed steel braces welded into a lattice web pattern all around the edges. Under test, one of these units withstands a weight of 100 lbs. per sq. ft. without any deformation. Approximately 8 minutes is required to set up, weld and remove from the jig one panel.

In field erection, the two turned edges of each panel provide a surface for welding it to an adjoining panel to form walls, partitions, floors or ceilings. Into each section mineral wool is forced by air to a density of 10 lbs. per cu. ft.

These panel sections are 6 in. thick for house construction and 18 in. thick in factory and other structures.

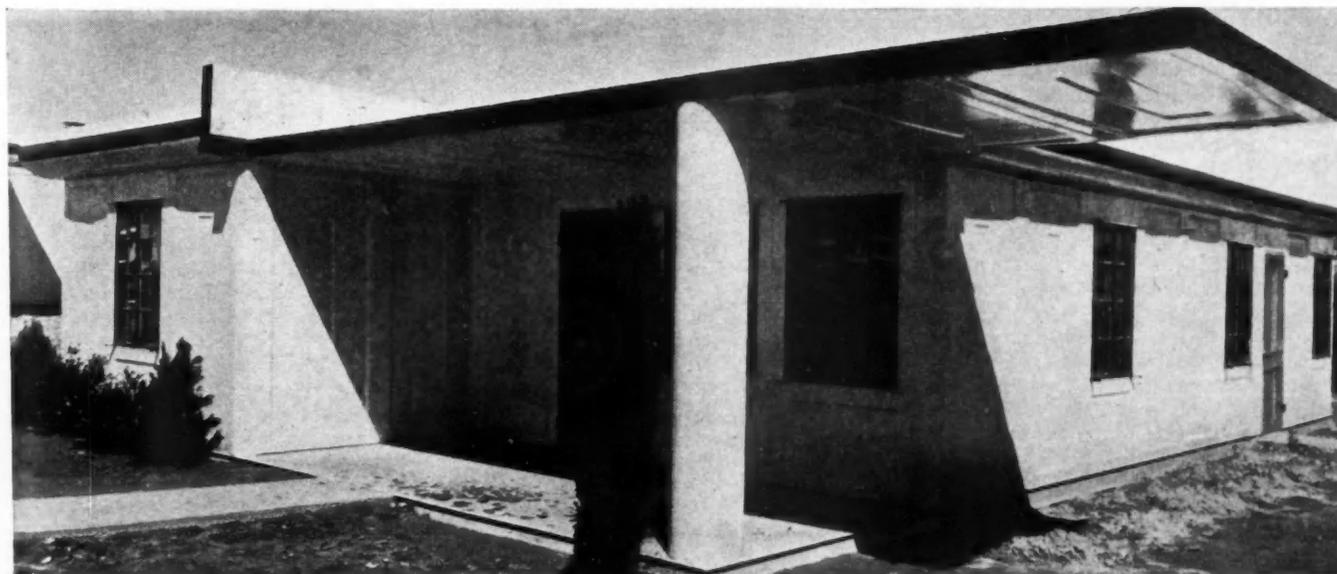
In construction of houses and smaller structures these panels are erected individually. However, in the factory building there was sufficient area of concrete floor to allow assembly of panel sections 23 ft. square and complete welding of each section in flat position before erection. These sections were then hoisted in place and welded.

The entire project, involving 5,500 tons of steel, consists of the following structures: a manufacturing building 370 ft. by 370 ft. by 23 ft. high; office building 160 ft. long by 11½ ft. high; a warehouse 92 ft. by 92 ft.; a hotel consisting of a center dome structure 100 ft. in diameter and 7 wings extending from the dome in fan-shape, each 32 ft. wide by 125 ft. long; an airplane hangar 92 ft. by 92 ft.; 2 dormitories containing 9 rooms each averaging 11 ft. 6 in. by 15 ft. 4 in.; 40 employees' residences.

When completed the project will include, in addition to the above: a cattle barn 115 ft. long by 46 ft. wide; a milk cow barn accommodating 50 cattle; a pasteurizing building; a canning building; several silos; employees' recreation hall; a 200 ft. tabernacle; a 250 watt radio station; cafeteria; stores; additional houses (60 planned); and other miscellaneous structures.

The 60 arc welders installed in the factory are of the SAC type manufactured by The Lincoln Electric Company, Cleveland, Ohio.

At this writing approximately 75 tons of Shielded Arc type of electrodes supplied by the same company have been used. Two electrodes were employed, "Fleetweld 5" in ⅛ in., 5/32 in. and 3/16 in. sizes and "Fleetweld 7" in 5/32 in. and 3/16 in. sizes.



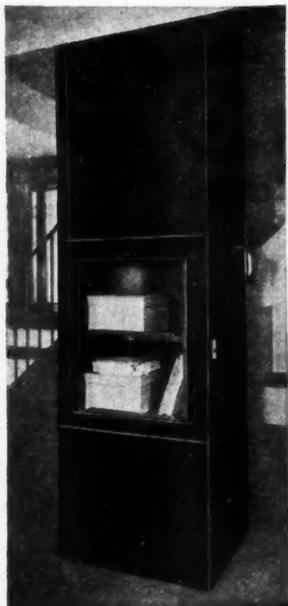
**FABRICATED STEEL** employees' dwelling having living room, dining room, laundry, 2 bedrooms and bath.

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## EQUIPMENT ITEMS FOR MODERN BUILDINGS

**AB191** Electric dumb waiters in the past have been so complicated in design, with so many parts to assemble on the job, that even the most experienced mechanics and electricians have had difficulty in arriving at a satisfactory installation. The "Roto-Waiter" developed by the Sedgwick Machine Works, 154A W. 15th St., New York City, overcomes these objections, because of its basically different design with many less



Sedgwick  
Electric  
"Roto-  
Waiter"

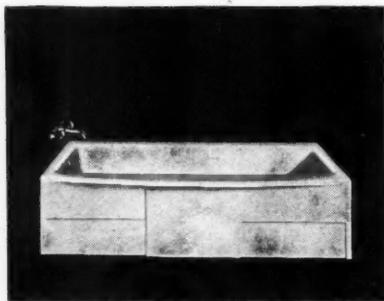
parts; also, because it is completely assembled at the factory and given a working test so that installation can be made quickly and correctly for trouble-free operation. There are many special features which contribute to better, faster and safer service. Noteworthy, is the overload switch which automatically cuts off power if car is loaded beyond capacity, or if load projects beyond car and engages side of shaft. Nor can the car jolt against upper and lower limits, with consequent damage to the load. This is particularly important where breakable articles are being carried. The "Roto-Waiter" serves two or more floors, with an arrangement of push button control which provides dependable operation under all working conditions. It is available in standard door height and "undercounter" styles. This new equipment not only costs less to install and less to operate and maintain, but it is also priced lower than the old type electric dumb waiters.

**AB192** This new thermostat by the Minneapolis-Honeywell Regulator Co., Minneapolis, is designed to control the "hi-low" or "hi-low-off" flame sequence for certain types of gas and oil burners. There are two circuits; one controls the high, the other the low fire valve—and both are actuated by the same bi-metal element and magnet. This prevents the device from getting out of step and assures proper operating sequence—so difficult to obtain when two bi-metal elements and independent magnets are used. This thermostat has a standard operating range of 54 to 86 degrees F. The same pleasing design is followed as in other standard M-H quality thermostats. Small in size (height 5", width 2", depth 1 7/8") it is a wall fixture of quality and distinction.



New M-H  
Two Stage  
Thermostat

**AB193** A bathtub made of a new clay product known as "Duraclay" is announced by the Crane Co., Chicago. Most bathtubs are made of enameled cast iron, so the announcement of a moderately priced bathtub of genuine ceramic material is real news. The Duraclay bathtub has all the easy cleaning properties of vitreous china because the



Crane "Duraclay" Bath; Delmar design

hard, acid resisting surface is actually composed of glass over vitreous china completely fused to the Duraclay base under intense heat. Because of the strength of Duraclay, the weight of this bathtub is no greater than that of a cast iron tub of the same size. The bathtub now being introduced is known as the "Delmar," and has the panel design on the front and a low wide flat rim.

**AB194** Thermostatic Mixing Valves—a new 16-page data sheet in two colors presents "Thermo-Mix" which guarantees "no scald—no chill." It is a line of positively controlled thermostatic mixing valves for showers, baths and wherever accurate water temperature control is required.—Thermo-Mix, Inc., 129 Grand Ave., Brooklyn, N.Y.

**AB195** "Savutime, The Easy Economical Way to Have Hot Water When You Want It" is an attractive little folder from the Savutime Devices, Inc., Rochester, N.Y., explaining the advantages of remote control—from kitchen or bathroom—of the basement hot water heater. "Savutime" is preferred by many to full automatic control because of its economy.

**AB196** "Shutbrak Enclosed Switches"—a new bulletin No. 59 from the Frank Adam Electric Co., St. Louis, Mo., gives complete information on both interlocking and non-interlocking type enclosed switches and switchboards of the Shutbrak type.

**AB197** Lightning protection—and its importance for homes and farm buildings, and a very complete line of lightning rods, cables and accessories are presented in a big loose leaf portfolio from the Independent Protection Co., Inc., Goshen, Ind.

**AB198** "KoolShade" sun conditioning—a new illustrated booklet tells all about the Ingersoll Sun Screen, an entirely new type of insect screen that acts as an outside Venetian blind to keep the heat outside, yet without interfering with the breeze or the view.—Ingersoll Steel & Disc Div., Borg-Warner Corp., Chicago, Ill.

**AB199** Taco Heaters—a new 16-page data sheet features "Abundant Domestic Hot Water" through the various types of Taco heaters which are designed to be connected to the house heating boiler to provide year round hot water service.—Taco Heaters, Inc., 342 Madison Ave., New York City.

**AB200** Findlay Stokers—a new 16-page catalog advises builders to "Keep Pace With Progress—Modernize Your Home, Store, Apartment Building With Streamlined Heat." This is accomplished by installing the Findlay stoker offered in several sizes.—The Bluffton Mfg. Co., Findlay, O.

Readers Service Department Continued to Page 72

**FOR QUICK, CONVENIENT SERVICE, USE COUPON, PAGE 76**

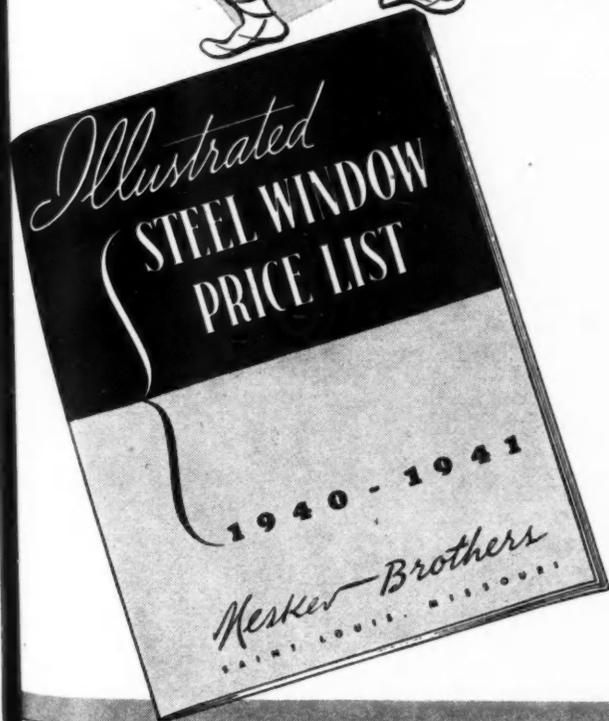
• Meske  
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• Cost n

*It's Easy*  
**if you  
 know how...**



Here's a book that tells you  
 everything you need to  
 know about estimating  
**STEEL SASH**

*and it's Free!*



A 32-page book that really tells all. Nothing has been taken for granted in it. Everything's set down in black and white . . . and having it in your brief case is like having a whole staff of estimators in your pocket. We've called it an "ILLUSTRATED STEEL WINDOW PRICE LIST" . . . but that was just modesty on our part. It's the complete and unadulterated factual story on everything you'll want to know about Steel Sash. It's filled with drawings, photographs and architectural details which will help you on all your jobs. It states simply and specifically all the sizes, types and prices on Steel Sash, doors and screens . . . the data is arranged conveniently for quick reference . . . and it opens a new vista for you if you're out to make **MORE PROFIT**. Write for it today.

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- Mesker Steel Windows are "unit" windows in every respect.
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- Complete range of sizes, shapes and designs, all precision built on production basis, giving you the widest choice to suit your own individual needs.
- Cost no more than ordinary windows, yet they last much longer.



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Gentlemen: Please mail me a free copy  
 of the 32-page illustrated steel window price list

NAME \_\_\_\_\_  
 ADDRESS \_\_\_\_\_  
 CITY \_\_\_\_\_

Please indicate whether you are:  Contractor  Dealer  Agent

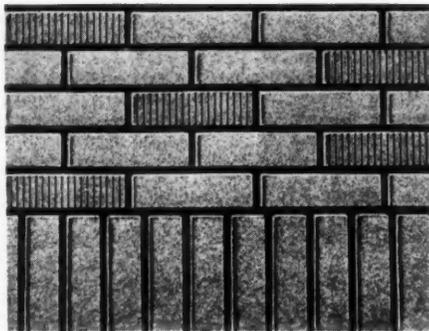
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### WHAT'S NEW IN BUILDING MATERIALS

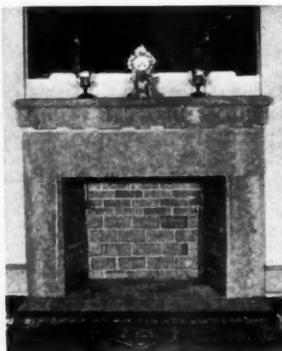
**AB201** For modernizing old buildings The Ruberoid Co., New York City, announces new features in its low cost asphalt siding, "Brik-Strip." Put up in roll form, this is not only less expensive, but can be applied rapidly over large areas at reduced cost. The general appearance is that of wire-



Improved Ruberoid "Brik-Strip" siding.

cut or tapestry brick, in a wide range of color combinations, with appropriately contrasting mortar lines and with soldier courses for use over doors and windows as in ordinary brick construction.

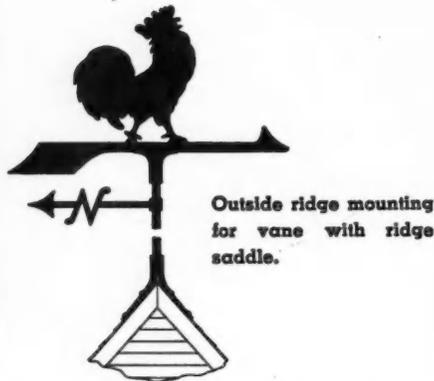
**AB202** Pre-fab moves into the tone fireplace field with the announcement of the Quarre-Pak fireplace recently placed on the market by the Burlington Quarries Corp., Burlington, Wis. The Quarre-Pak is a complete packaged unit of pre-cut and numbered stone, ready to set with complete setting drawings and instructions. In addition to



Natural stone  
Fireplace in a  
package unit.

the all stone models there is a variety of designs combining stone with wood mantels. The Sunset Stone used is a hard limestone of various stratified colors ranging from reds to pink then into buff and also shades of blues and green in soft pastel tones.

**AB203** Silhouette weather vanes are ornamental and distinctive; they carry a sales punch far and away greater than their cost. The Independent Protection Co., Inc., Goshen, Ind., offers some 22 clever designs—of which No. 822 Rooster is a sample. This company also makes up special designs to



order from architect's drawings, sketches or photographs. Vanes and mountings are of rust-proof material.

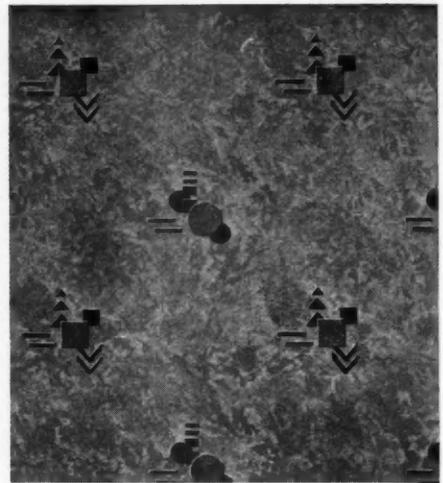
**AB204** The Flexrock Co., Philadelphia, has developed a new active ingredient which, used in "Flex-tite," brings its activity down to a measure of seconds instead of minutes as in



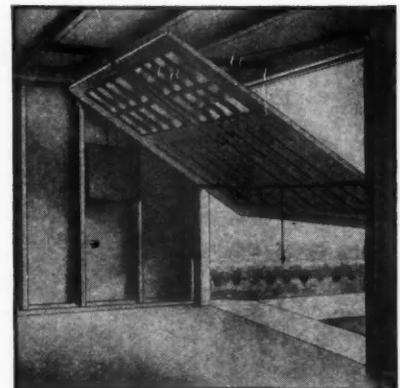
Stopping a leak under  
pressure with "Flex-tite."

the case of other leak stopping materials. It is used with ordinary portland cement; and forced against water pressure and held for only a few seconds, it hardens to stop the leak. These may be in dams, retaining walls, dikes, concrete basins holding water at irrigation plants, reservoirs, concrete tanks and other such places. This new material is valuable also for

waterproofing and damp-proofing generally in cellars or basements, in pits, tanks, and in construction work generally.



**AB205** Six colorful embossed linoleum patterns included in the new fall line of the Armstrong Cork Co., Lancaster, Pa., are of special interest to builders because of their eye- and sales-appeal. In addition to answering today's demand for the detached figure type of design that so effectively simulates custom-floors, these designs embody practical beauty—a feature homemakers quickly recognize and appreciate in the kitchen, bath and other rooms. One group of patterns, as illustrated, has an interesting, completely new type background. Overlapped circles, oblongs and the popular chevron motif all in warm, vibrant colors are used here on sandstone, Bermuda blue and a light polychrome field that reflects unusual play of light and shading. Up-to-the minute in style, and especially helpful from the standpoint of concealing footprints, these distinctive floors give to rooms an illusion of spaciousness.



**AB206** The new Coburn Trolley Track Co. (Holyoke, Mass.) No. 500 swing-over hardware set which has been greatly improved recently is illustrated. With this hardware any carpenter can easily transform a pair of troublesome swinging garage doors into a smooth-operating one-piece upward acting door. The door is counterbalanced perfectly by the correct amount of sand in the weight box, so the slightest pull of the handle will start the door gently upward. A similar slight pull on the rope will bring the door down.

Readers Service Department Continued to Page 74

**FOR QUICK, CONVENIENT SERVICE, USE COUPON, PAGE 76**

THIS IS A STORY ABOUT A SALESMAN.



A REAL ENERGETIC SALESMAN HE WAS. HIS

JOB WAS TO SELL HOUSES



AND EACH DAY HE WENT TO THE SAMPLE HOUSE TO TURN

HIS HIGH-PRESSURE TACTICS ON THE VISITORS WHO CAME TO SEE THE SAMPLE HOUSE.

BUT NOBODY CAME!



POOR SALESMAN!



HE HAD ALL THE FACTS ABOUT THE

INSULATION



THE HEATING SYSTEM



THE PLUMBING



THE LOW

DOWN PAYMENT AND EASY MONTHLY INSTALMENTS. BUT NOBODY EVER CAME TO HEAR HIM TELL

HIS STORY.



SO HE SLEPT.

Z Z Z Z Z



ONE DAY HE DREAMED THAT A BIG WIND-

STORM CAME ALONG AND



BLEW THE ROOF OFF THE SAMPLE HOUSE.



HE

WOKE WITH A START



AND LOOKED AT THE ROOF. THEN HE REALIZED WHY NOBODY

CAME TO SEE THE SAMPLE HOUSE.



THE ROOF WASN'T PRETTY . . . LIKE THE

SHUTTERS AND WINDOWS AND THE DOORS. NOW THIS SALESMAN HAD SEEN AND READ ABOUT

"COLOR-STYLED" BARBER GENASCO ROOFINGS



SO HE PERSUADED THE OWNERS OF THE

SAMPLE HOUSE TO PUT A BARBER ROOF OVER THE ORIGINAL ROOF.



ALMOST BEFORE

THE ROOF WAS COMPLETED, CARS BEGAN TO STOP



AND PEOPLE BEGAN TO COME INTO

THE SAMPLE HOUSE



AND THE SALESMAN MET THEM OUT FRONT TO START HIS SALES

TALK.



AND, DO YOU KNOW, HE STARTED RIGHT OFF TALKING ABOUT THE BARBER



ROOF . . . HOW IT'S THE ONLY ROOF MADE WITH TRINIDAD NATIVE LAKE ASPHALT

. . . HOW LITTLE IT COSTS AND HOW QUICKLY IT CAN BE PUT ON . . . HOW MANY YEARS IT

WILL LAST . . . AND HOW IT IS "COLOR-STYLED" BY AN EXPERT. NOW, WE WOULDN'T SAY THE

BARBER ROOF ALONE SOLD ALL THOSE HOUSES



BUT WE DO KNOW THAT A BARBER

ROOF HELPS TO SELL HOUSES. AND ISN'T THAT WHAT YOU'RE INTERESTED IN? THERE'S A

BARBER DEALER OR ROOFER NEAR YOU WHO WILL BE GLAD TO SHOW YOU SAMPLES AND QUOTE

YOU PRICES. OR WRITE TO BARBER ASPHALT CORPORATION, BARBER, N. J.

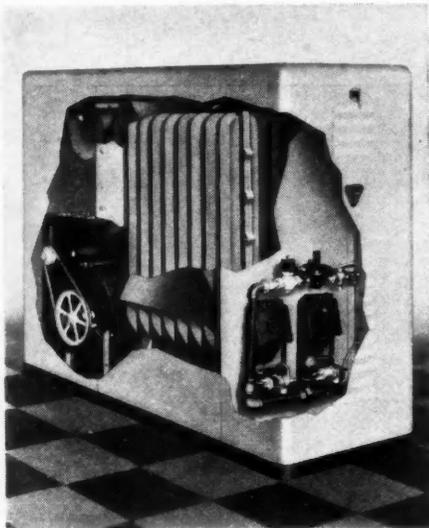


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### HEATING & AIR CONDITIONING PROGRESS

**AB207** The Rybolt Heater Co., Ashland, O., is out with a new model cast iron gas-fired winter air conditioner. A new type combustion chamber and flue economizer, both gray iron castings, minimize the effect of condensation of moisture in the flue gas. The



New series CG "Rybolt" cast iron gas-fired winter air conditioner.

chamber directs the generated heat upward through a series of baffled passages, where it is wiped against the inner surfaces, providing quick radiation of heat. Projecting into the return air chamber, the flue economizer serves as a preheater, thus promoting fuel economy. The furnace casing is finished in smooth gray Hammerloid enamel with black base. Equipped complete with burner, top mounted motor blower, automatic control and automatic humidifier. Five sizes are offered.

**AB208** The successful completion of several years of experimentation by Koppers Co., Pittsburgh, in the perfection of a wholly automatic domestic coke stoker which can be sold within a moderate price range, has just been announced. The Bryant Heater Co., Cleveland, O., has been selected to manufacture the stoker and to conduct the merchandising campaign which will introduce it. The new stoker has been evolved from many types of experimental machines which Koppers Co. has built

during the past several years. It is wholly automatic and will deliver coke direct from the bin to the furnace or boiler without requiring any attention by the householder. No blower is required since coke does not need a forced draft. A dustless ash removal system will remove ashes automatically from the ash pit to a covered ash can at the side of the furnace.

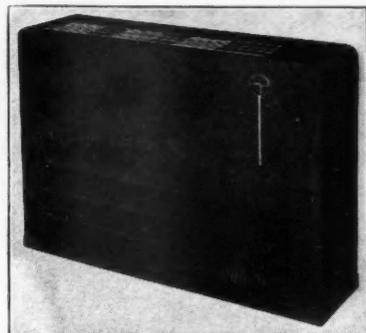
**AB209** Gar Wood Industries, Inc., Detroit, has announced a complete new line of vertical and horizontal types of gas-fired automatic home heating and air conditioning models. For the line, the engineers perfected a method by which three standardized basic heating sections (5-, 7-, and 10-fluted) are used singly and in multiple to produce the seven different sizes and heating capaci-



Gar Wood gas heater 60V; Inset shows inside 5-section fluted unit.

ties. For example: Model 60V, the smallest of the line, has a 5-fluted heating section (60,000 input), while Model 120H&V uses two sections to total 10-flutes (120,000 input). Both vertical and horizontal types are included. The horizontal types—being less than 4 feet in height—are ideal for basements with unusually low ceilings. The vertical types, while also designed for basements, occupy small space and consequently are suitable for installation in heater-utility rooms located on the first floor where space is definitely limited. The Gar Wood model 60V, smallest and lowest priced in the new line is pictured. Inset shows one of the three standardized basic fluted heating sections.

**AB210** The Herman Nelson Corp., Moline, Ill., offers a new heater for stores, offices, churches, corridors, markets, etc. Due to its large heating capacity a large area can be heated with one unit. Available for use with steam or hot water. Air is drawn through the recirculating grille into the unit through the heating element and filter, and is then discharged into the room through the discharge grille. The brass heating element is designed with loops to absorb the difference in expansion and



Herman Nelson De Luxe hi-Jet heater.

contraction between individual tubes. Cabinet of modern design is constructed of heavy furniture steel with rounded corners and ends without any projecting parts. Finished in brown, baked enamel with trim of polished stainless steel.

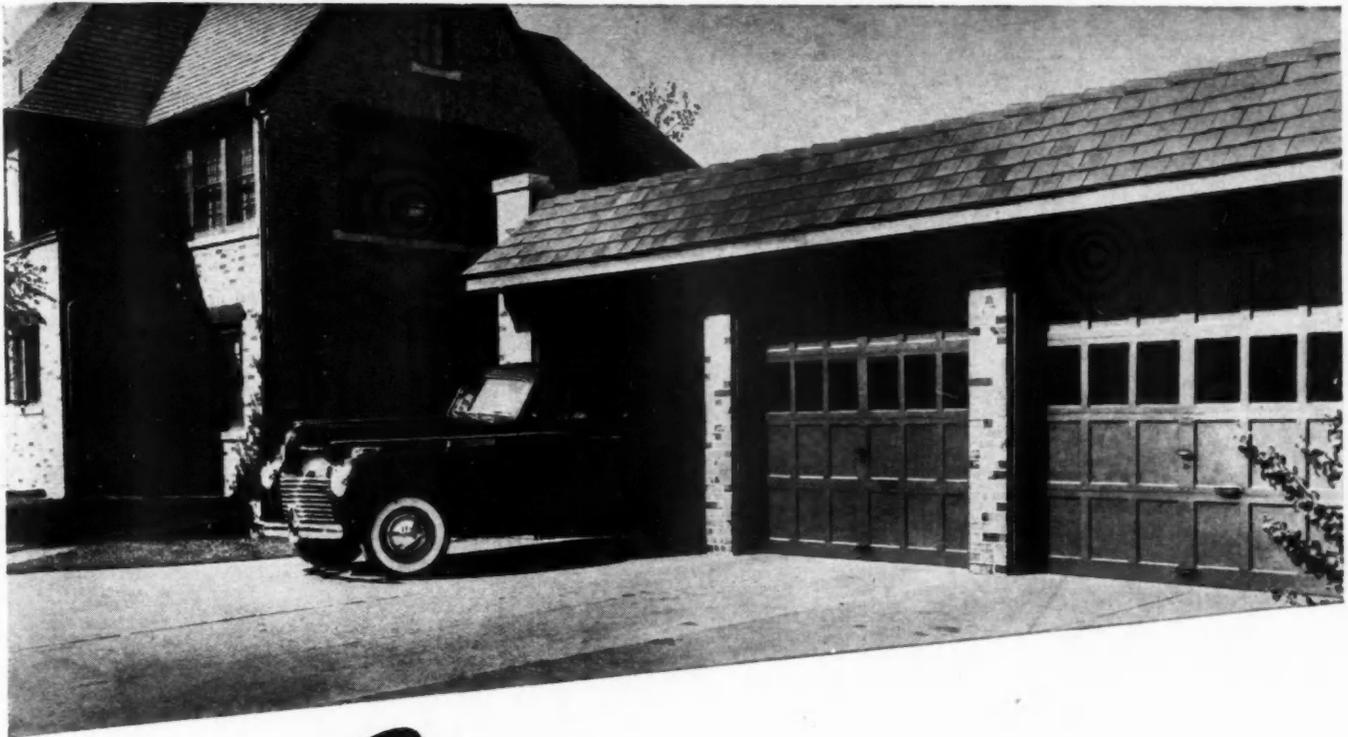


The Anchor stoker-fired cabinet heater.

**AB211** The Anchor Stove and Range Co., New Albany, Inc., offers a convenience for the small home, a stoker-fired cabinet heater. This cabinet heater operates exactly like an automatic coal stoker equipped furnace. Once every day or two you simply fill the hopper with coal. Once a day you remove one small clinker. The rest of the time you enjoy plenty of clean, even heat—the amount of which is thermostatically controlled. The hopper holds 165 pounds of coal. Weighing about 1/3 of a ton, and 54 inches high, the entire unit will heat six average rooms.

Readers Service Department Continued to Page 76

**FOR QUICK, CONVENIENT SERVICE, USE COUPON, PAGE 76**



# Choose Your Garage Doors as You Would Your Car!

Smooth, Quiet Performance—Economy of Upkeep  
and Years of Service are Important in BOTH

In a Car you want all the latest practical improvements. You wouldn't be satisfied with one designed a few years ago. You know that today's cars give *more* for the money. The same thing is true of Garage Doors. In appearance there hasn't been a great deal of change—but in every day operation the new Ro-Way Overhead Type Doors give you so much more. That's because —

## Ro-Way

### OVERHEAD TYPE DOORS

Embody Five Improvements at no Extra Cost

Three of these new features have to do with the spring power that operates the door. Another insures permanent sheave wheel alignment, and the fifth keeps the metal parts of your Ro-Way Door exceptionally free from destructive rust. So choose your Garage Door as you would your Car. Ask the Ro-Way Distributor nearest you to tell you about "Crow's Foot" Outer Bearing Supports, "Ro-To Live" Springs, the "Zip-Lock" Twin Torsion Spring Adjustment, "Tailor Made" Springs and Parkerized and Painted Hardware.

### Ro-Way Service is Nationwide

Sales offices, with competent installation engineers, are located in principal cities. Write for name of one nearest you, or ask us for Free Ro-Way Door Folders, prices and complete information.

#### ROWE MANUFACTURING CO.

705 HOLTON STREET

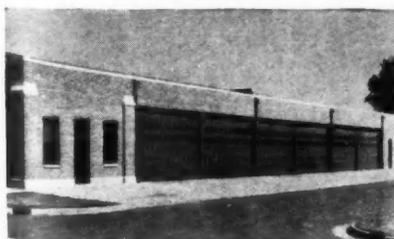
GALESBURG, ILL., U. S. A.



Modern Residence with attached Garage, equipped with Ro-Way "Two-Car" Overhead Type Door.



2 Ro-Way "High-Lift" Doors used in this attractive "Conoco" Filling Station.



Burlington Transportation Co. (Subsidiary of C. B. & Q. R.R.) uses 13 Heavy Duty Ro-Way Doors in this new building.

*There's a Ro-Way for every Door way!*

## SERVICE TO READERS

EACH ITEM in this department is numbered for convenience of readers. Please use the coupon on this page for requesting further product information or new catalogs. Mail coupon to American Builder Reader Service, 105 W. Adams St., Chicago; or write direct to these manufacturers mentioning your profession, occupation or connection with building industry.

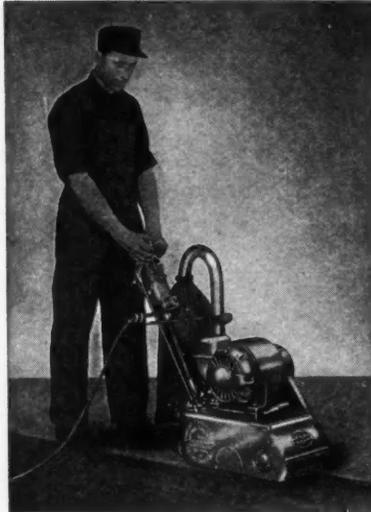
### NEW MODELS, POWER EQUIPMENT & TOOLS

**AB212** Boost the payload and up go the profits from truck mixers. The new drum sizes just announced by The Jaeger Machine Co., Columbus, Ohio, for its 1941 line of truck mixers, increase the payload to the maximum that the trucks themselves should carry—loading through the top in one quick drop. That's allowing for ample void space, too, which is so necessary for producing highest strength concrete. This more than adequate void space, combined

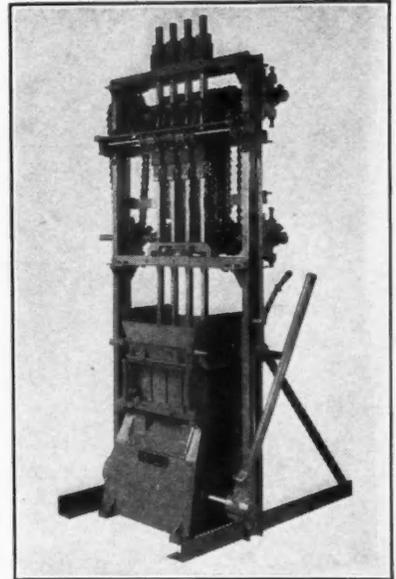


New 2 yd. unit, 1941 model Jaeger truck mixer.

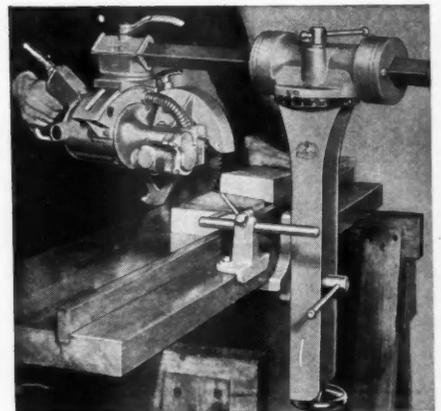
with Jaeger's patented end-to-end "Dual Mix" action, gives a faster and more thorough mix, a better quality, more salable concrete, and helps build up more profitable "ready-mix" business. These mixers have such advanced features as vacuum-controlled truck engine drive operated from the cab (separate engine drive if desired); shock-proof two-speed transmission; new Jaeger "Uni-valve"—one accessible water control panel for mix, tempering and flush valves, and patented Spho-meter water tank.



**AB213** Improved American Standard floor Sanders in 8 and 12 inch sizes are offered by The American Floor Surfacing Machine Co., Toledo, Ohio. One of the most important improvements on these machines is their higher speed and greater cutting capacity. The drum speed on the American Standard Eight has been increased to 1600 revolutions per minute while the drum speed on the American Standard Twelve is 2000 revolutions per minute. This is over a 50 per cent increase in drum speed and the production capacity of these machines proportionately has been increased. These remarkable speeds are only made possible through the use of specially designed motors of great capacity and power. They are made to "take it" day in and day out.



**AB214** The illustration above shows the Miles Lever-Operated Stripper Cement Block Machine used in connection with the Miles Automatic Power Tamper, as developed by The Miles Manufacturing Co., Jackson, Mich. This is a combination of units that supplies a large production of high quality concrete blocks or tile at the minimum expense. Miles Automatic Feeding Units are available for use with the above machines for the purpose of supplying a still larger production.



**AB215** The Power King Tool Corp., Warsaw, Ind., has developed an ingenious electric hand saw and Multisaw Arm. Those who have used it say that it puts sawing on a production basis—on the job or in the shop. It is portable, quickly and easily set up for rip, cross-cut, and mitre, either straight or bevel—ideal for accurate scoring of brick, stone and tile. The rigid construction of the Multisaw Arm means accurate work. The saw arm, supported rigidly by the heavy rib-braced column and mounting bracket, rides on eight ball bearings.

**AB216** "Tubcoat" developed by the Protective Covering Co., Bridgeport, Conn., is a tough protective covering for bathtubs during installation, made in sizes to fit every tub, right or left hand. It is easily attached, quickly removed and nothing to wash or scrape away afterwards. A new 2-color folder illustrates and describes this service.

### CLIP AND MAIL TO CHICAGO

Reader Service Department,  
American Builder,  
105 W. Adam St., Chicago, Ill.

(Oct. 1940)

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

Numbers .....

.....

Name .....

Street .....

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

OCCUPATION\* .....

\*Please note that occupation must be stated if full service is to be given.



# American Unity begins at Home

**NEVER** before in our history has the call for American unity been so insistent, or the need so great. But what is unity? Waving a flag may symbolize it, and building an airplane demonstrate it. But they do not define it. The true stuff of which unity is made lies deep in the heart of each American—in You.

The American Way is created and maintained by you, in your own family circle. It grows outward to national greatness from that miracle of unity—your own home.

In these times, to build security around your loved ones is to serve your country's highest command—for unity. That is why building new homes, and improving old ones, is so vital to national welfare today. In recognition of that truth six distinguished Americans have collaborated in writing this page.



The home is the pattern out of which a free society is made; there are no liberties which do not live in it. Europeans often criticize the American home because women have an equal voice in it, and because its children are not severely and suppressed. But they are criticizing a standard of home-democracy which is the foundation of the nation's democracy.

Not all American homes are free, nor all Americans are yet free to own their own homes. But that is the criterion of freedom, and there can be nothing more worth striving for than universal home ownership, and responsible freedom of individuals within the home.

**Raymond Gram Swing**  
RAYMOND GRAM SWING—NEWS ANALYST

Only a high order of national unity can make the years of this decade the **Up-surge Forties**.

But national unity is not a result which is pulled from the politicians'—prestol—is something definite to unite on—something the desirability of which all Americans can agree. Our ideals and traditions being what they are, I doubt if unity—the solid, progress-making kind of unity that the times require—can be more quickly or more significantly achieved than through a home-building, home-owning movement.



An America under its own roofs is likely to be an America under way.

**Dr. Stanley High**—CHURCHMAN AND AUTHOR

Faith in America and her institutions will not easily be shaken by subversive influences since every citizen is or can be the owner of a bit of his native land. The home owner guarantees his citizenship; he gives hostages to his neighbors against everything that would harm his country. He is of the union-American unity is of the American family life and offer the American home owner can tempt him to principles of democracy and withal—a man of peace.

**Edgar A. Guest**—AMERICAN POET

In these times two purposes rise above all others. One is to defend our Nation. The other is to preserve those basic institutions which make possible the American way of life.

Nowhere are these two purposes more deeply enshrined than in the American home. When a family owns its home, it owns not only the shelter for its hearth but holds in its own name some of the soil of America. The family which owns or is acquiring its home commands a stake in America, a living possession that it is ready to defend against enemies within or without. Home owners take pride in the knowledge that they are good citizens, that they are anchors of their nation's security, and that they are contributing to the nation's welfare.

**Raymond Clapper**  
RAYMOND CLAPPER—COLUMNIST



This would seem to be an era when fresh appraisals of all the things we hold dear. What thing has value in times like these? What thing comes first? What is worth fighting for—or, more important, worth living and working for? One's own home, certainly. And perhaps the American home needs a fresh

examination. A home is not paid for so dearly and with such sacrifice as in former years, but today it is a better built home, better equipped, and more livable than ever before. Do we value our homes less because they are more easily achieved? I think not. The American concept of home has taken on new meaning. Here is the center of American life, the inviolate family sanctuary of security, happiness, and freedom.

**Stewart McDonald**—FEDERAL HOUSING ADMINISTRATOR

The most powerful platform in America is the American home. The American family which owns its own home knows what it means to say: *This is my own, my native land.*

In this way a people who live by a common heritage join hands in preserving it for their children. In that same home children feel best the meaning of all we call America. Thus national unity is born and preserved—first, inside one's family, then reaching out neighbor to neighbor, and finally encompassing the entire community and nation. Give your children the deepest roots of all—a home they know is theirs—in a country of which they will forever feel a living part. This is the timeliest and most practical manifestation of true patriotism.

**Gabriel Heatter**—COMMENTATOR

## LOOK HOMEWARD FOR SECURITY

This page itself is an example of the unity which typifies America. The space is provided by a building materials manufacturer, the Certain-teed Products Corporation. Six outstanding Americans graciously contributed their time and great talent to write out the importance of home ownership to American citizens. The money ordinarily paid to such writers was presented by Certain-teed to the American Red Cross.

**CERTAIN-TEED PRODUCTS CORP.**  
100 EAST 42ND STREET, NEW YORK  
ASPHALT ROOFING, SHINGLES & SIDING • STRUCTURAL INSULATION  
WALL BOARDS • GYPSUM LATH AND PLASTER PRODUCTS

# Certain-teed Follows Through For You...

Remember "Look Homeward, America"? That, said builders and dealers from coast to coast, did more to sell houses and materials than anything the building industry had ever seen. Now Certain-teed has done it again with "American Unity Begins at Home." Unselfishly selling your houses and your products first, and Certain-teed products last, "American Unity" is a

worthy successor to "Look Homeward, America." Millions will read it in national magazines. Why not merchandise it locally to help you make this the biggest profit season since 1929! Write for free 24 x 36 inch window poster enlargement of ad in full colors.

**CERTAIN-TEED PRODUCTS CORPORATION,**  
100 East 42nd Street, New York, N. Y.

ASPHALT ROOFING, SHINGLES AND SIDING • STRUCTURAL INSULATION • WALL BOARDS • GYPSUM LATH AND PLASTER PRODUCTS

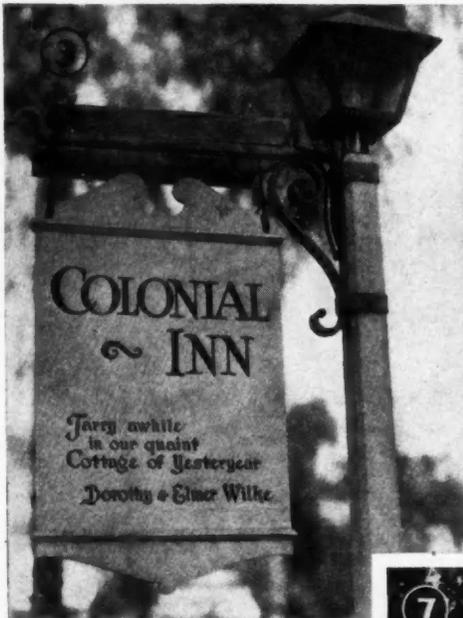
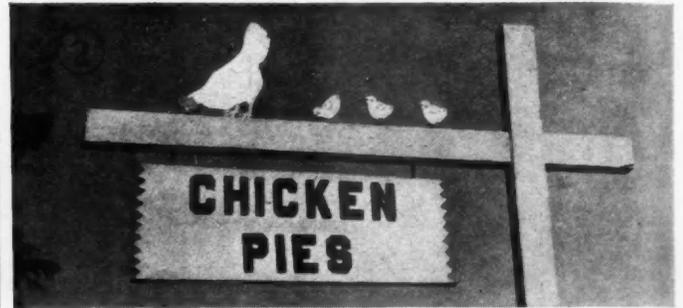
# SHOPCRAFTER'S Corner

## Things To Build for Profit or Pleasure

### Suggestions for Various Business Signs

**B**UILDERS and designers are frequently called upon to produce effective and novel signs for various types of business enterprises. The collection presented below will be found most useful as a reference for such work, since there is here a wide variety of materials, shapes, and lettering styles adaptable to eating places,

professional offices, lodging houses, real estate developments and specialty sales. Most of these are located in California, and are made of sheet iron, outdoor plywood, lumber, and wrought iron; they can be illuminated, if required, either as part of the fixture or indirectly with a small, concealed spotlight.—Hi Sibley.



(1) A sign worked out in  $\frac{3}{8}$ -inch rope; porcelain penguins display house numbers; (2) simple but excellent attention value; (3) distinctive Colonial illuminated panel; (4) wrought iron and attractive sheet iron silhouette; (5) outdoor plywood and simple mouldings; (6) applicable to many enterprises; (7) rustic throwback to the 90's; (8) clean-cut sheet metal panel on simple bracket.

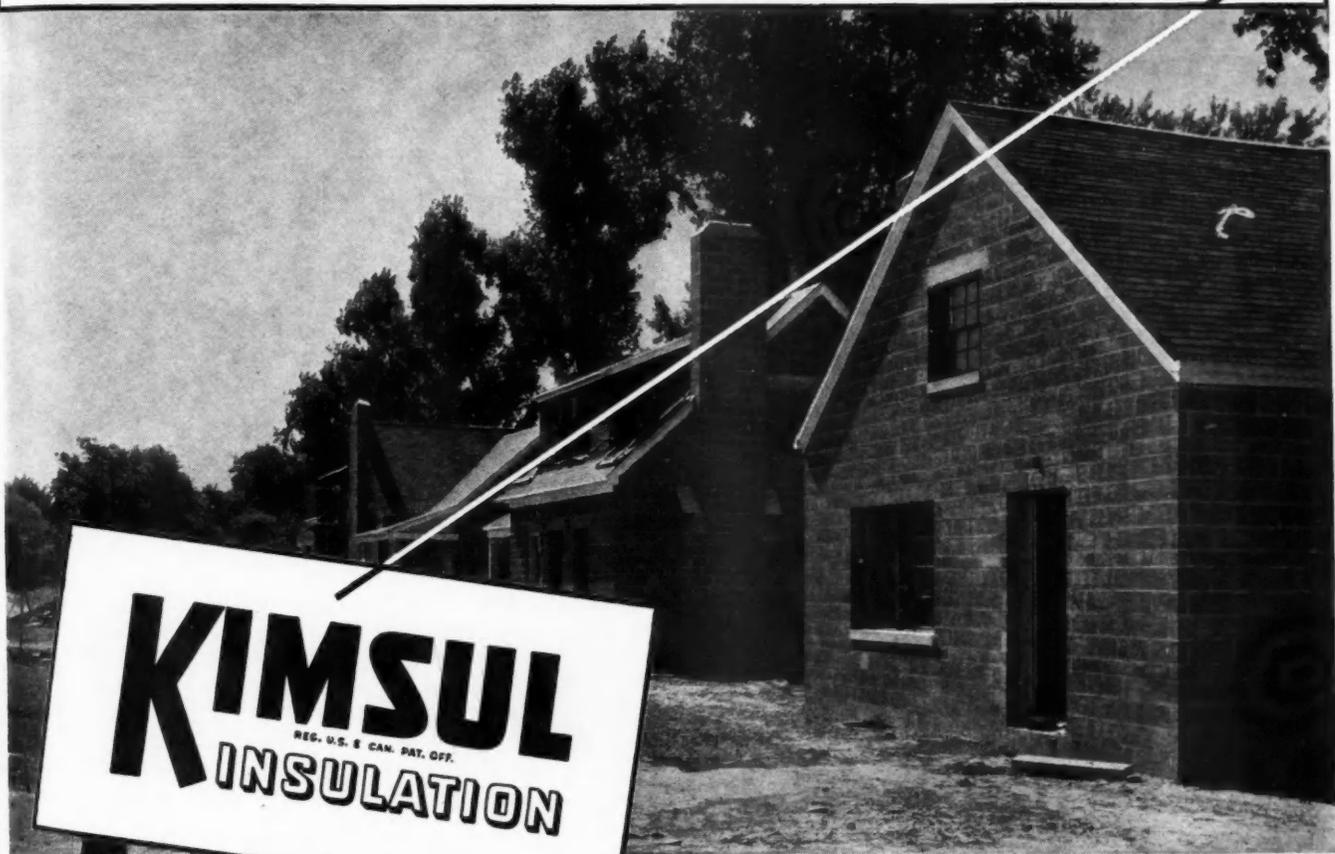
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SEE



1. Att  
with la

# Ackley, Bradley & Day, Pittsburgh Insulate "Charette Homes," Sewickley, Pa., with



BECAUSE it has the wanted features, KIMSUL\* Insulation is specified by an ever-growing list of architects, builders and contractors. One of the many recent developments using KIMSUL is "Charette Homes", a group of 20 homes for discriminating people in the Borough of Sewickley, Pa. This development is being built by the owners, Ackley, Bradley & Day, under strict architect supervision.

KIMSUL'S popularity is a result of its many ad-

vantages. KIMSUL is *clean*, light in weight and installs with remarkable speed and ease. Furthermore, it is highly resistant to fire and moisture. And because of the unique stitching feature which holds it in place, KIMSUL stays put—won't sag, sift or pack down inside walls. Before you decide on *any* insulation, find out how little it costs to insulate with KIMSUL! . . . Dealers are invited to investigate the profit opportunities in KIMSUL.

\*Reg. U. S. and Can. Pat. Off.

## SEE HOW QUICKLY AND EASILY KIMSUL INSTALLS



1. Attached to top plate with lath and nails . . .



2. Exactly fits standard widths of stud spacing...



3. KIMSUL is nailed at bottom—cut off—that's all!

### MAIL COUPON TODAY

KIMBERLY-CLARK CORPORATION (Building Insulation Division)  
 Established 1872  
 Neenah, Wisconsin ABB-10  
 Please send a representative.  
 Please send Free Book, "Greater Comfort—Winter and Summer"

Name .....

Address .....

City.....County.....State.....

## Model Offices Show New Style Trend

**T**HE new trend in office design, featuring efficient utilization of space is exemplified in five model offices which have recently been opened for public inspection in the Broad Street Station Building, Philadelphia. The rooms are all located on the 10th floor and on the north side of the building. The space in each has been divided by ingeniously arranged partitions into two sections. One is a small but sufficient anteroom, with desk for a receptionist-stenographer and chairs for visitors. Opening from this is the office proper. The arrangements are intended to solve the problem of providing utility, dignity, personal privacy, complete working equipment and an atmosphere entirely modern, but not extreme, within limited floor areas.

Desks, chairs, cabinets, book cases and other fittings, both fixed and movable, have been specially designed for the particular requirements of each office with dimensions carefully proportioned to its size and shape. All furniture is of walnut, bleached after construction to produce lightness of grain. A new type of rubber flooring is used, noiseless, resilient and contributing in pattern and shades to the general pleasing effect.

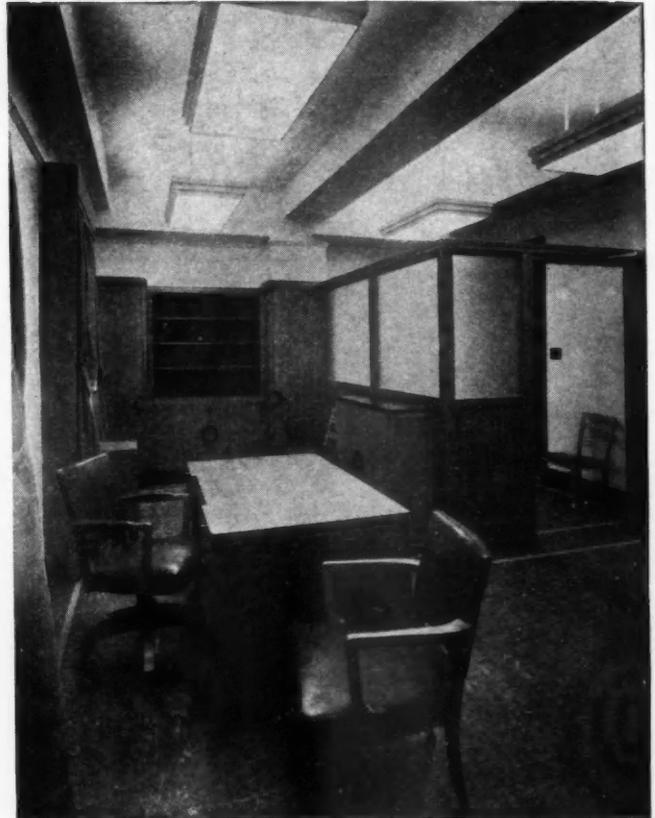
The scheme of the decorations and furnishings as a whole is designated "contemporary in the style of 1940-1950." While highly modern it avoids all grotesque, exaggerated or extreme features and has been planned to remain "contemporary" in theme and detail for ten years or longer.

Lighting is of the newly developed fluorescent type, soft and diffused; the fixtures themselves, all located in the ceiling, are hardly noticeable. The result is a white but warm illumination which seems to come equally from all directions without glare or concentration. This is accomplished in part by the character of the light itself, in part by having the fixtures attractively and symmetrically arranged over broad ceiling spaces and in part by the contributing effects of the tinting and textures of the reflecting surfaces of ceilings and walls, which have been worked out with a special view to good illumination.

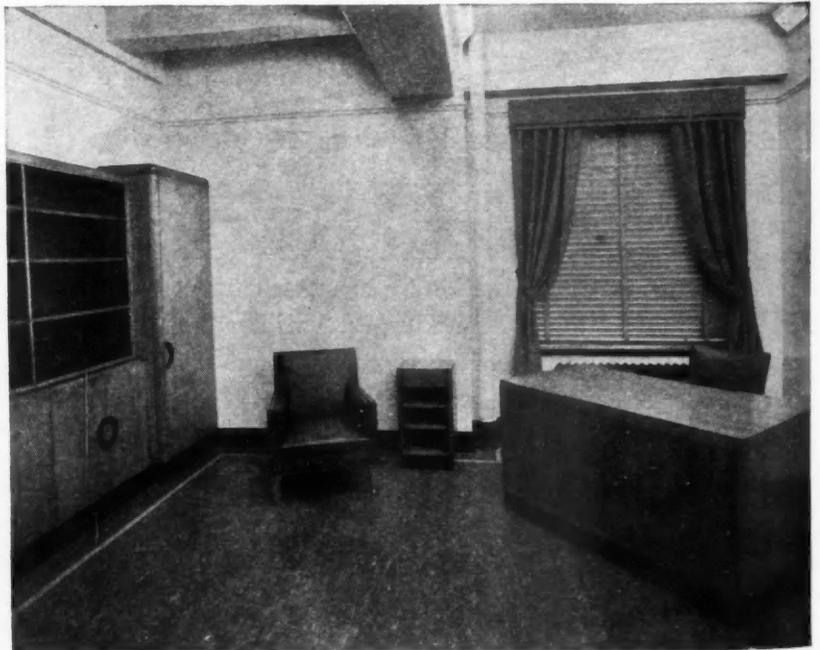
Two of the offices are inside rooms and have been equipped with illusion windows having Venetian blinds and draperies so arranged that concealed fluorescent tubes along the sides create the appearance of subdued sunlight streaming in behind the curtain. These two rooms are also completely air-conditioned with apparatus of recent type. The other three rooms have outside windows with Venetian blinds and draperies blending into the rest of the decorative color scheme.

The styling and interior arrangements of all the rooms have been produced by Kenneth M. McCann, of New York City, consulting decorator for the Hotel Pennsylvania and the Statler Hotels throughout the country.

The Broad Street Station Building is one of the newest office structures in Philadelphia, located at 16th Street and Pennsylvania Boulevard, directly over the Suburban Station of the Pennsylvania Railroad.



COMFORTABLY seated back of this desk, with soft fluorescent lighting from above, a business or professional man can feel that he is starting out to make himself an established figure in his city's commercial life. The view shows part of one of five offices fitted up and furnished in the Broad Street Station Building, Philadelphia, to serve as models for the use of similar space. The receptionist's anteroom and the skillfully arranged partitions give privacy and dignity.



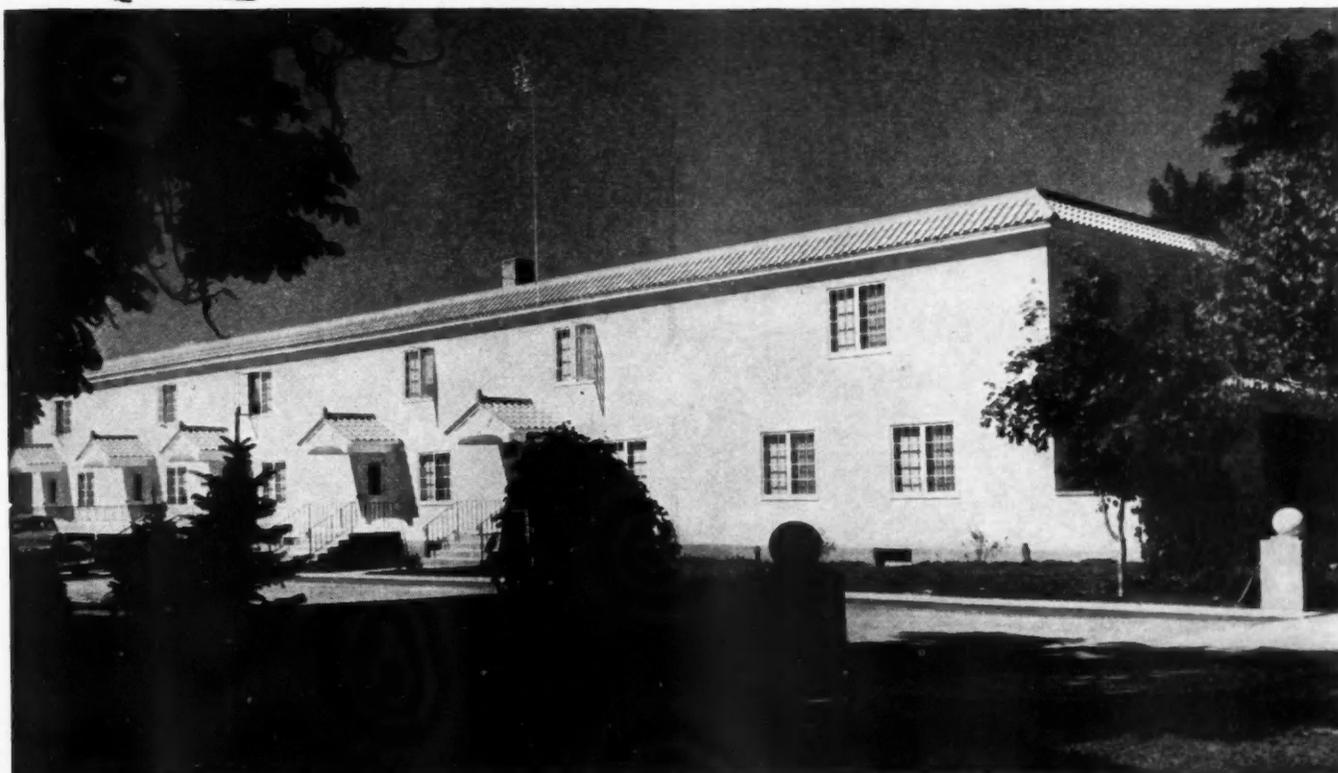
IN THIS attractive and livable office a business or professional man could make himself immediately at home. The photograph shows a portion of one of five model rooms in the Broad Street Station Building, Philadelphia, which have been furnished and fitted up especially to show what can be done with the skillful treatment of available areas. The styling and decorative scheme is modern but not exaggerated and planned to remain contemporary for ten years or more. A small, but complete, anteroom, separated by ingeniously arranged partitions, contains desk and chairs for a receptionist-stenographer and visitors.



When it's moving time in Missoula

... EYES TURN TO

*Stucco*



●Attractive apartment building in Missoula, Montana, faced with Atlas White portland cement stucco. Architect and builder—O. B. Parsons.

IT'S natural for people's eyes to be caught by this apartment building in Missoula, Montana. Prospective tenants stop short when they see its trim, clean lines... its fresh, modern beauty. For this apartment is faced with portland cement stucco—made with Atlas White cement!

It's not the first time Mr. Parsons, architect and builder, has taken advantage of this versatile material. Some time ago he

built houses of stucco... and they sold like hot cakes, even before they had been finished!

So, for quick renting and lasting beauty, he again used Atlas White portland cement stucco. Like countless other builders, he knows that a thin, sturdy wall of this material provides a permanent, weather-resistant and fire-safe exterior that virtually eliminates maintenance. Moreover, its cost is surprisingly moderate.

Whether you plan new buildings or modernize old ones, it will pay you to consider stucco made with Atlas White portland cement. Universal Atlas Cement Co. (United States Steel Subsidiary), Chrysler Building, N.Y.

OFFICES: New York, Chicago, Philadelphia, Boston, Albany, Pittsburgh, Cleveland, Minneapolis, Duluth, St. Louis, Kansas City, Des Moines, Birmingham, Waco.

FACTORY-MADE STUCCO IS PREFERABLE

AB-8-23

**ATLAS WHITE CEMENT**

A UNIVERSAL ATLAS PRODUCT



make model finished ment of erated com k and

## Interesting Use of Pine in Small Chapel

**N**ESTLED in the pine-clad hills of the Klickitat country of Washington State and only a short distance from the mighty Columbia River, stands a new Lutheran Chapel that would be a credit to any community. The people of Klickitat, Wash., now have an attractive little edifice that is unique in many respects. The simplicity of the design, the beauty of the interior woodwork and paneling and the practicability of the entire structure offer suggestions that may well be duplicated elsewhere.

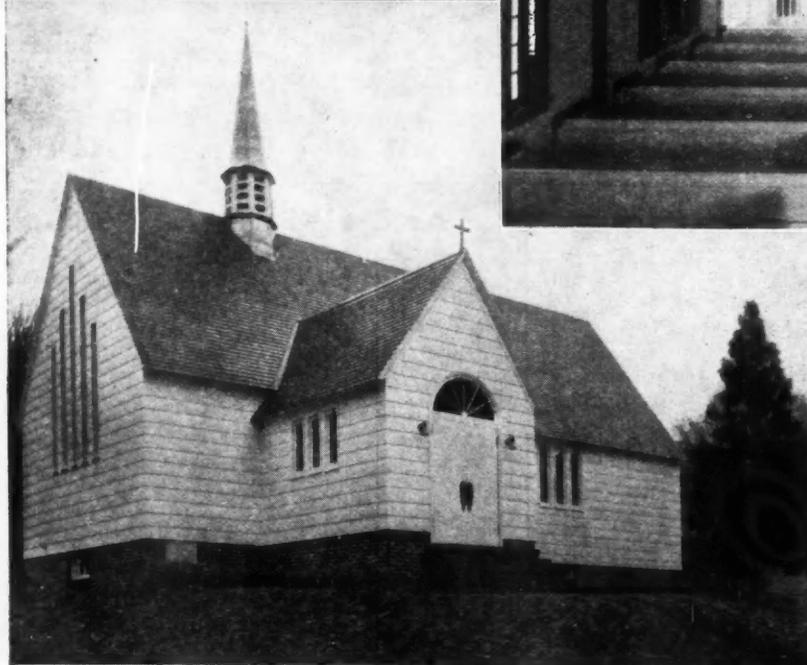
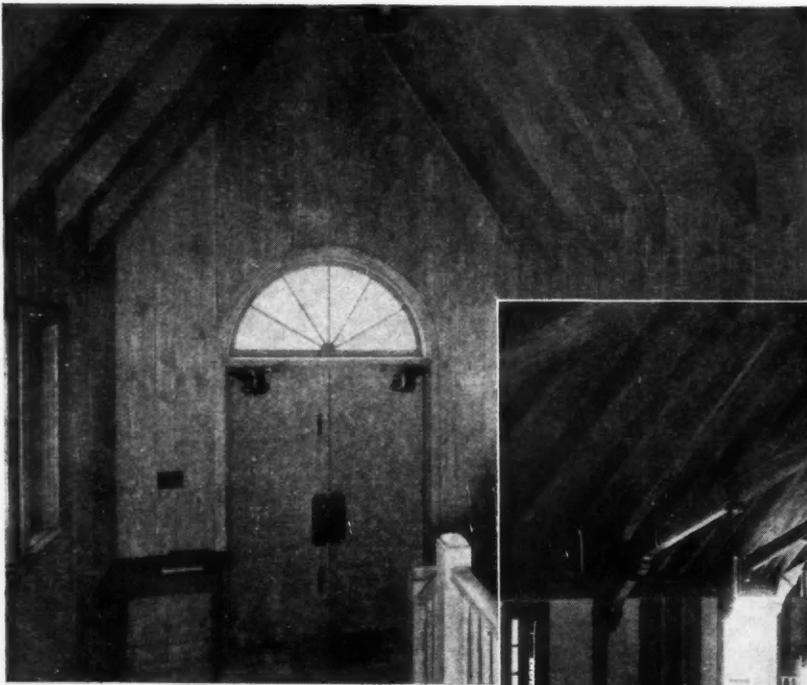
Klickitat is the location of one of the J. Neils Lumber Company sawmill operations. Officials of the company co-operated wholeheartedly in the construction of the chapel, so it was only natural that a generous use was made of their own forest products.

The new chapel has a seating capacity of 110 on the

basis of five persons to a pew. The total cost of the building, complete with furnace, fixtures and furniture, was approximately \$8500.

The exterior is covered with No. 4 Common Ponderosa pine sheathing and 6/4 x 10" No. 2 Common Dolly Varden Ponderosa pine siding painted the customary white. The trusses, rafters and purlins are kiln dried Douglas fir from the local mill. The interior sidewalls are lath and plaster, while the roof sheathing is 6/4 No. 2 Common Ponderosa pine. The end walls and the entrance-way are paneled vertically with a selected No. 2 Common Ponderosa pine and finished in a light stain. The enameled pews were made locally from D Select Ponderosa pine. They harmonize nicely with the white plastered walls and the pine woodwork, paneling and cathedral ceiling. All the doors and windows are of Ponderosa pine. Maple flooring was used in the nave and oak in the chapel.

The Lutheran Chapel was designed by Architect F. R. Webber of Cleveland, Ohio; the contractor was Peter Westlund & Sons of The Dalles, Ore.; and the interior finish was by John H. Kruse of Bend, Ore.

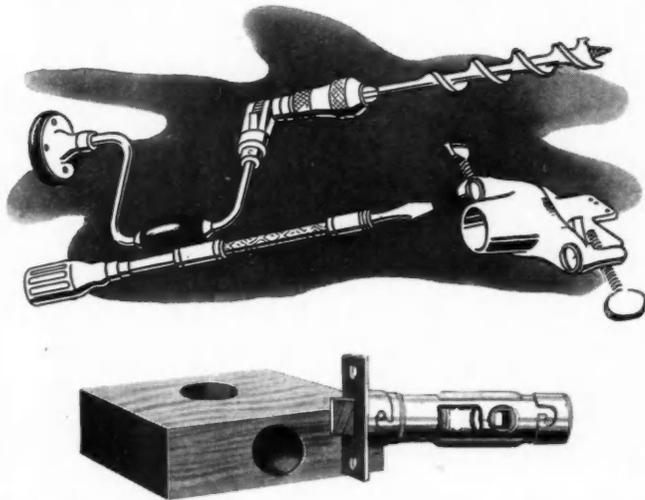


**ABOVE, LEFT:** The walls of entrance-way in Lutheran Chapel, Klickitat, Wash., are attractively finished in a light stain on the vertical pine paneling. Kiln-dried Douglas fir used for the trusses, rafters and purlins, as shown directly above, harmonize nicely with the white plaster and pews.

**THE exterior** of this neat little chapel is finished in white painted Ponderosa pine siding; roof is of red cedar shingles. Fenestration is unique.

## "Bore-A-Hole" Installation Cuts Hardware Cost

SOME twenty years ago a new type of door lock and latch was invented of tubular design, which substituted a compact tubular arrangement of the working parts for the large square case of the customary mortise lock. In addition to certain special improved features of operation, this new tubular door lock offered a substan-



Brace and bit, screw driver and bit guide are the only tools needed for installing a tubular door lock or latch.

tial saving in time and labor of installation. It substituted a simple brace and bit operation for the difficult and costly lock mortising.

In the twenty years that have intervened the tubular type door sets have increased in popularity and use, additional manufacturers have entered the field and sales by dealers have increased. Today the emphasis on lower building costs, especially labor costs on the job, to make possible low cost homes has brought into new prominence the "bore-a-hole" installation advantages of tubular locks.

Sixty minutes to mortise a door for the mortise lock set is considered a fair average. Contrast this with the eighteen minutes it takes a carpenter to install a tubular set. Also considering



"Beverly" design, one of the popular Tubular "Dexter" Door Locks, offered by the National Brass Co., Grand Rapids, Mich.; also (left) the improved bit guide, which clamps on door edge to assure accurate drilling for installing "Dexter" Tubular Locks.

the simplicity of the job as compared with the more difficult and highly skilled operation of mortising, it is probable that quite an advantage would be realized since any carpenter, without special skill, can install a tubular lock satisfactorily.

A brace and bit and a screw driver are the only tools necessary for this "bore-a-hole" installation. A 15/16 inch bit is used to bore a hole, in the edge of the door, 3 3/4 inches deep to take the tubular lock case. At right angles to this another hole is bored to take the knob spindle. A "bit guide" is furnished (with the "Dexter" tubular locks) which is clamped on the edge of the door and serves the double purpose of locating exactly the position of the hole for the spindle and also assures straight boring for the tubular mortise. This bit guide eliminates the possibility of inaccurate drilling; which is quite a help when you consider the care and skill which otherwise would have to be exercised in boring a 15/16 inch hole, 3 3/4 inches deep in the edge of a door 1 3/8 inches thick. It would not take much of an angle to run the drill to and through the face of the door.

However, this bit guide eliminates the possibility of inaccurate boring. It clamps on to the door in the position where the lock is wanted and no measuring or squaring is needed; it self-centers and adjusts to the thickness of the door and accurately guides the bit. The wing of the guide acts as a templet to center the spindle hole. Notice that there are three holes in the guide wing, marked respectively for 1 3/8 inch, 1 3/4 inch, and 2 1/4 inch thick doors.

Lower costs in hanging and fitting doors can be had, in line with today's drive for lower cost homes, without any sacrifice in quality by intelligent selecting of door hardware. It is safe to say that although the tubular locks and latches have been on the market since 1919 a great many carpenters and builders, to say nothing of home owners, architects and dealers, are still unfamiliar with them—and with the substantial saving in labor, time and cost in installing these sets by simple boring instead of by lock mortising.

\* \* \*

## Garage Door Set Now Comes Unassembled

TO increase the adaptability of their well known No. 900 Garage door set, the National Manufacturing Co., Sterling, Ill., has made available a similar set called the No. 901 which is identical with the No. 900 except for the fact that the hardware is not attached to door, the glazed section is not furnished with glass, and the brace bar on the top door rail and both inside and outside handles at the bottom of the center section are omitted.

The door is drilled for all bolts, and in order to insure correct attachment of hardware, location on door and each piece of hardware bear corresponding numbers. The door set comes packed, complete and ready for installation, in a door carton and box containing the miscellaneous hardware.



COMPLETE National No. 901 set packed ready for shipping.

# What Thickness Insulation?\*

## Heating Costs Analyzed for Test Home With and Without Ample Insulation

By W. T. MILLER\*\*

**A** PAPER delivered before a national technical society concerning the application of the law of diminishing returns to the value of insulation left the author with the impression that the most economical clothing for winter wear was a suit of underwear, and that he had wasted money by purchasing an overcoat. It is true that the author wears underwear, and he also wears an overcoat, but he does not wear two overcoats at the same time and wouldn't even if he owned two of them. However, he feels that his one overcoat was a good investment.

The economic effect of the law of diminishing returns upon insulation as an investment is relative, and is dependent on what is considered as a good investment.

\*Parts of a paper, "Futility of the Law of Diminishing Returns as Applied to Mineral Wool Insulation," presented at the Centennial meeting of the Mineral Wool Industry on May 16, 1940.

\*\*Associate Professor of Heating and Ventilating, Purdue University, Lafayette, Ind.

TABLE I  
CEILING LOSSES

Thickness of insulation, Inches: .....	0	1	2	3	4
U for ceiling: .....	0.69	0.21	0.12	0.087	0.068
Attic temperature, F: .....	38	18	12	9	7
Attic area—sq. ft. ....	955	957	959	961	955
Temperature difference, F: .....	37	57	63	66	68
Ceiling surface temperature, F: .....	59	68	70	72	73
Ceiling heat loss, Btu per hour: .....	24400	11450	7250	5520	4420
Annual cost of heat loss, Dollars: ...	57.00	26.70	16.90	12.85	10.30
Annual saving, Dollars: .....	0	30.30	40.10	44.15	46.70
Cost of insulation, Dollars: .....	0	31.20	43.20	55.20	67.20
20 Year total saving, Dollars: .....	0	606.00	802.00	883.00	934.00
20 Year investment value of insulation cost @ 4% compounded annually: .....	0	68.70	94.50	121.00	147.00
20 Year net saving, Dollars: .....	0	537.30	707.50	762.00	787.00

TABLE II  
SIDE WALL LOSSES

Thickness of insulation, Inches: .....	0	1	2	3	3½
U for wall: .....	0.26	0.14	0.095	0.072	0.068
Temperature difference, F: .....	70	70	70	70	70
Wall area—sq. ft. ....	835	837	759	832	835
Wall surface temperature, F: .....	59	64	66	67	67
Wall heat loss, Btu per hour: .....	15200	8200	5550	4200	3980
Cost of wall heat loss, Dollars per yr.: .....	35.40	19.15	12.93	9.80	9.26
Annual saving, Dollars: .....	0	16.25	23.68	25.60	26.14
Cost of insulation, Dollars: .....	0	47.90	56.30	....	68.80
20 Year total saving, Dollars: .....	0	325.00	473.60	....	522.80
20 Year investment value of insulation cost @ 4% compounded annually: .....	0	105.00	123.50	....	150.50
20 Year net saving, Dollars: .....	0	220.00	350.10	....	372.30

TABLE III  
TOTAL HEAT LOSSES

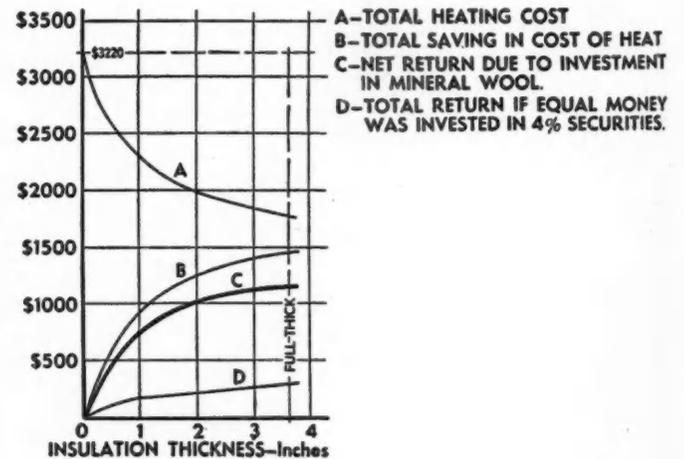
Thickness of insulation, Inches: .....	0	1	2	3	3½
Heat loss through glass, Btu/Hr: ...	15000	15000	15000	15000	15000
Ventilation loss, Btu/Hr: .....	14500	14500	14500	14500	14500
Side wall heat loss, Btu/Hr: .....	15200	8200	5050	4200	3980
Ceiling heat loss, Btu/Hr: .....	24400	11450	7250	5520	4420
Total heat loss, Btu/Hr: .....	69100	49150	42300	39220	37900
Annual cost of heat, Dollars: .....	161.00	114.45	98.50	91.25	88.16
Annual saving, Dollars: .....	0	46.55	62.50	69.75	72.84
Cost of insulation, Dollars: .....	0	79.10	99.50	....	136.00
20 Year total saving, Dollars: .....	0	931.00	1250.00	....	1456.80
20 Year investment value of insulation cost @ 4% compounded annually: .....	0	173.70	218.00	....	297.50
20 Year net saving, Dollars: .....	0	757.30	1007.60	....	1159.30

Heat losses and insulation of 4 thicknesses on Purdue University Testing House.

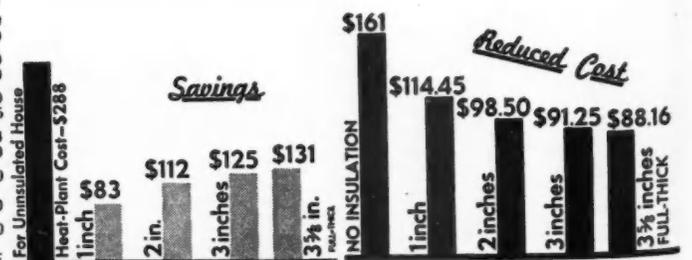
In order to illustrate the futility of the law of diminishing returns as applied to Mineral Wool insulation, the author has selected an existing house for the basis of calculations. This house is located on the Housing Research division of the campus of Purdue University and is used for test purposes. It is a one story house of orthodox frame construction containing five rooms, a bathroom and a utility room. The attic space may be either ventilated or unventilated. This house was selected because considerable is known about its performance, and because the relationship between a great many "assumed" conditions and the actual conditions is pretty well established. The house is close to 24' x 40', has 190 square feet of glass, 834 square feet of outside wall, 960 square feet of ceiling, and a volume of 7,680 cubic feet.

The calculations resulting in the figures presented are based on the overall coefficients of transmission, or U values, being as follows: outside wall, 0.26; ceiling, 0.69; glass, 1.13. A 70 degree temperature difference between indoor and outdoor temperature was assumed. The local average of 5,400 degree days per year was used. The cost of heat was based on the use of No. 1 fuel oil at the local price of 8 cents per gallon, and the method of estimating fuel consumption presented in the ASHVE Guide. An efficiency of 70 percent was assumed. The method has been found to apply very

(Continued to page 88)



Savings-Increase from Thicker Insulation—20 YEARS



Savings in Heating Plant First Cost when house is insulated. Annual Fuel Cost, House Uninsulated and Insulated (4 thicknesses).



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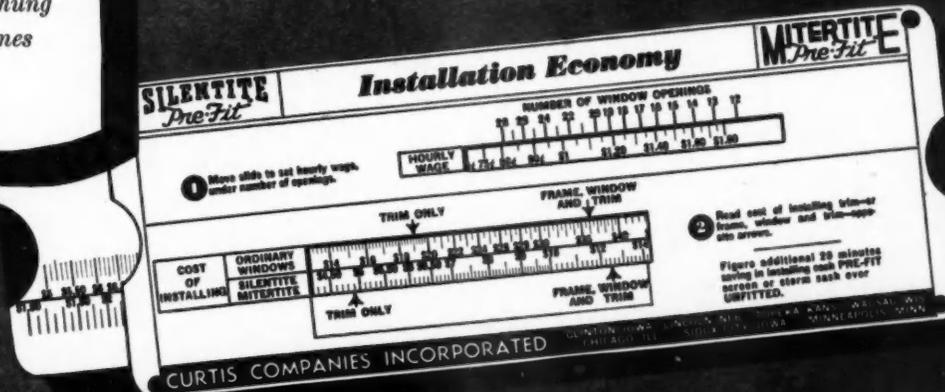
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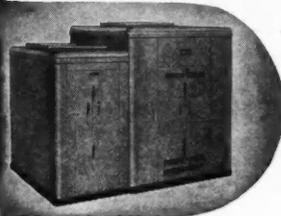
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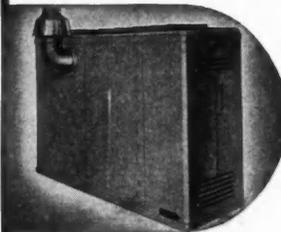
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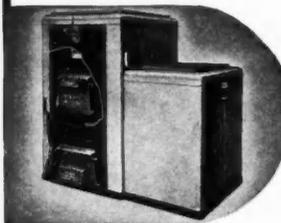
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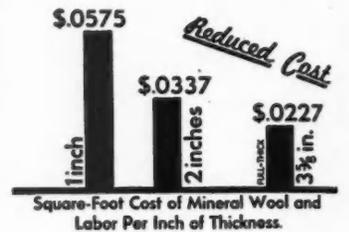
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## What Thickness Insulation?

(Continued from page 86)

closely to the performance of the house selected. On this basis, the cost of heat is \$2.33 per season per 1000 Btu per hour heat loss.

The calculation of the performance was based on an insulation conductivity of 0.30 Btu per inch per hour per square foot per degree difference. This figure is probably high, but is safe. The cost of insulation was determined from prices offered by Lafayette dealers. The cost of application was obtained from reliable contractors. Incidentally, roll type insulation was used for the side walls, and bat insulation was used for the ceiling. The cost of the roll type insulation was \$40.00 per thousand square feet of one inch, \$50.00 per thousand square feet for two inch, and \$65.00 per thousand square feet for full thick or 3 5/8". The cost of application was \$17.50 per thousand square feet for all thicknesses. The bat type of insulation was quoted at \$50.00 per thousand square feet for 4 inch, and the application cost was \$20.00 per thousand square feet. For the sake of comparison, the bat insulation was computed on a cost basis of \$12.50 per thousand square feet per inch of thickness.



The ceiling losses were based on the attic being unventilated, and proper consideration was given to the increased temperature difference due to the addition of insulation. It is known that it is poor practice not to ventilate insulated attics, however the probable attic temperature when unventilated can be very closely approximated in the house selected.

Results of computations are presented in Tables I, II, and III. Table I records the results for the ceiling losses alone, and includes for thickness of insulation from zero to and including four inches in increments of one inch, the coefficient of heat transmission, attic temperature, temperature difference, ceiling surface temperature based on 75 F. air temperature at the ceiling, heat loss through the ceiling, annual cost of heat lost, annual saving due to insulation, cost of insulation, and the investment value of the insulation over a twenty year period. Table II and Table III present similar figures for the side wall heat losses and the total heat losses respectively.



The law of diminishing returns goes into effect at

a thickness of insulation between two and two and one-half inches, as can be shown by noting the annual saving as a percentage of the cost of insulation. This percentage starts at zero, increases to a maximum of sixty-four and decreases to 54 percent at full thickness. However, a fifty-four percent return represents excellent investment, and reminds one that the action of the law must be considered from the standpoint of relativity. When set up on a twenty year basis, the full insulated house shows a net saving of \$1,159.30 which results from an investment of \$136.00. Surely that return illustrates the futility of the law of diminishing returns as applied to Mineral Wool insulation.

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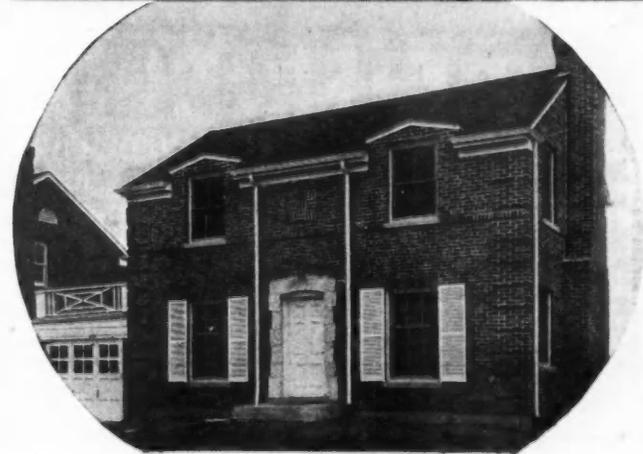
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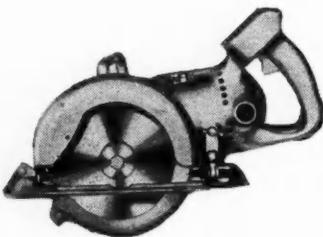
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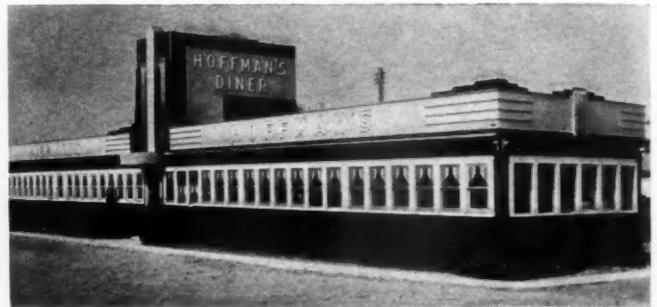
Street .....

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## Modernize Diner with Porcelain Enameled Panels

ONCE an old style roadside diner, Hoffman's Diner, located on the Saratoga-Albany Road, near Newtonville, N.Y., was recently enlarged and dressed in an attractive new coat of porcelain enamel and offers an excellent example of what can be accomplished by remodeling when modern design and materials are used. It is one of the largest restaurants of its kind in New York state, being 100 feet long by 16 feet wide.

The Flexlume Corporation of Buffalo designed, fabricated and erected the building and signs, and approximately 3,000 square feet of Armco enameling iron was used as a base for the glossy porcelain enamel.



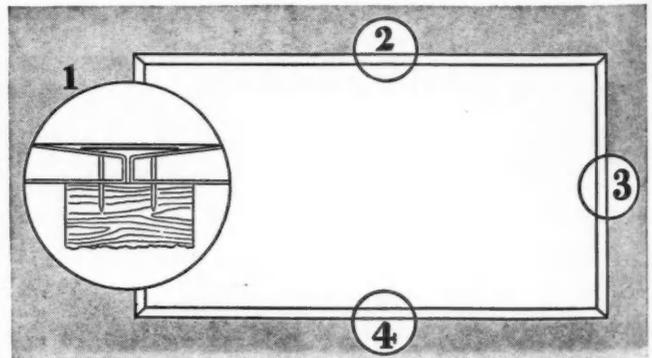
FROM the ground to the window tops, the enameled steel panels covering this roadside diner are a vivid Chinese red; those above the unbroken line of windows, which also contain the sign, are light blue, while the tower over the entrance is a combination of the two colors. A large lot provides ample parking space.

## Wallboard with Four Beveled Edges Developed

A NEW development in the manufacture of wallboard has been announced by the Certain-teed Products Corporation, New York City, with the production of a gypsum wallboard having all four edges beveled; this makes possible concealed side joints as well as concealed end joints. When two pieces of this "Bestwall" wallboard are placed together, the two bevells form a depression in which the reinforcing tape is applied; the tape is then covered with joint finisher, forming a smooth, strong joint.

This four-bevel wallboard eliminates much of the "feathering-out" that was necessary in finishing the ends of the applied boards, thereby saving time and labor. Also, by permitting horizontal application, it furnishes additional bracing to the structure and provides greater strength to joints at all openings and corners.

Bestwall is now being manufactured in this improved form only at the Acme, Texas, plant of Certain-teed, and distribution is limited to the area served by this plant. During the coming year, however, the company plans to extend production to its other plants, and distribution will be made nation-wide.



INSERT in above illustration shows how taped joints can be made on all four sides of new bevel edge wallboard.

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# News of the Month

Building Activities and Meetings

## Survey of Dwelling Units Provided During First Half of 1940 in Nonfarm Areas

MORE than 240,000 new dwelling units, having a permit valuation of approximately \$825,000,000, were provided in the nonfarm areas of the United States during the first half of 1940. These estimates prepared by the Bureau of Labor Statistics indicate that there is an increase of 8 per cent in the number of dwelling units provided, as compared with the first half of 1939. The nonfarm area of the United States is defined by the Bureau of the Census as including all incorporated areas and all unincorporated areas except farms.

Except for cities having a population of half a million or over, all city size-groups showed increases, comparing the first half of 1940 with the corresponding period of the preceding year. The rural nonfarm area, which is comprised of incorporated places having a population of less than 2,500 and unincorporated areas excluding farms, also provided more dwelling units during the first half of the current year than during the corresponding period of 1939.

Of the dwelling units provided during the first half of this year, 21,486, or 9 per cent, were in projects under the sponsorship of the United States Housing Authority. During the first half of 1939, USHA projects provided 19,537 dwelling units, approximately the same percentage as during the corresponding period of the current year.

Seventy-nine per cent of the dwelling units provided during the first half of the current year were in one-family dwellings, 6 per cent in two-family dwellings, and 15 per cent in apartment houses. During the first half of 1939, 74 per cent of the new dwelling units were provided in one-family dwellings, 5 per cent in two-family dwellings, and 21 per cent in apartment houses.

A comparison of the number of dwelling units provided dur-

ing the first half of each of the years 1939 and 1940 is shown in the following table by population group:

Estimated Number of Dwelling Units Provided by New Housekeeping Construction in Nonfarm Areas of the United States During the First Six Months of 1940 and 1939, by Population Group, by Type of Dwelling

Population Group	All types		First six months of—					
	1940	1939	1-family dwellings	2-family dwellings <sup>1</sup>	Multifamily dwellings <sup>2</sup>			
	1940	1939	1940	1939	1940	1939		
500,000 and over.....	47,217	52,772	24,240	23,925	2,929	1,832	20,046	27,015
100,000 and under 500,000.....	39,107	35,138	27,821	23,981	3,616	2,682	7,670	8,475
50,000 and under 100,000.....	14,161	12,405	11,311	9,749	1,431	927	1,419	1,729
25,000 and under 50,000.....	16,833	14,318	13,060	11,105	1,516	850	1,657	2,363
10,000 and under 25,000.....	26,295	22,625	23,612	19,369	1,175	1,156	1,508	2,100
5,000 and under 10,000.....	18,335	15,344	15,747	13,045	724	655	1,864	1,644
2,500 & under 5,000.....	13,563	12,440	12,433	11,325	491	548	639	567
<b>TOTAL URBAN.....</b>	<b>175,511</b>	<b>165,042</b>	<b>128,824</b>	<b>112,499</b>	<b>11,882</b>	<b>8,650</b>	<b>34,805</b>	<b>43,893</b>
Rural Nonfarm.....	65,804	58,469	61,867	53,984	1,964	1,917	1,973	2,568
<b>TOTAL NONFARM.....</b>	<b>241,315</b>	<b>223,511</b>	<b>190,691</b>	<b>166,483</b>	<b>13,846</b>	<b>10,567</b>	<b>36,778</b>	<b>46,461</b>
Percentage change.....	+8.0		+14.5		+31.0		-20.8	

<sup>1</sup>Includes 1- and 2-family dwellings with stores.  
<sup>2</sup>Includes multifamily dwellings with stores.

A comparison of the family-dwelling units provided, by source of funds, is shown in the following table by population group, for the first half of 1940 and of 1939:

Estimated Number of Dwelling Units Provided by New Housekeeping Construction in Nonfarm Areas of the United States During the First Half of 1940 and 1939, by Population Group, by Source of Funds

Population Group	Total	Sources of Funds				
		Private		USHA		
		1940	1939	1940	1939	
500,000 and over.....	47,217	52,772	42,363	47,685	4,854	5,087
100,000 and under 500,000.....	39,107	35,138	27,433	23,611	11,674	11,527
50,000 and under 100,000.....	14,161	12,405	12,433	10,852	1,728	1,553
25,000 and under 50,000.....	16,833	14,318	15,297	13,306	1,536	1,912
10,000 and under 25,000.....	26,295	22,625	25,309	22,267	986	358
5,000 and under 10,000.....	18,335	15,344	18,131	15,344	204	0
2,500 and under 5,000.....	13,563	12,440	13,563	12,440	0	0
<b>TOTAL URBAN.....</b>	<b>175,511</b>	<b>165,042</b>	<b>154,529</b>	<b>145,505</b>	<b>20,982</b>	<b>19,537</b>
Rural Nonfarm.....	65,804	58,469	65,300	58,469	504	0
<b>TOTAL NONFARM.....</b>	<b>241,315</b>	<b>223,511</b>	<b>219,829</b>	<b>203,974</b>	<b>21,486</b>	<b>19,537</b>
Percentage change.....	+8.0		+7.8		+10.0	

<sup>1</sup>Includes 240-unit project financed with New York City Municipal funds.

Building permits in cities having a population of over 100,000



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continue to show projects under the jurisdiction of the USHA as a much larger percentage of all public housing than the corresponding percentage for private housing. During the first half of 1939, 35 per cent of all dwelling units provided by private funds were in cities having a population of 100,000 or over, while 85 per cent of the USHA dwelling units were in this population group. In the first half of 1940 only 32 per cent of the dwelling units financed from private funds were in cities having more than 100,000 population, while USHA projects in these cities accounted for 77 per cent of the total number provided for by USHA.

The estimated number of new family-dwelling units provided in the nonfarm area of the United States during the first half of 1939 and 1940 is given below, by geographic division:

**Estimated Number of Dwelling Units Provided by New Housekeeping Construction in Nonfarm Areas of the United States During the First Six Months of 1940 and 1939, by Geographic Division, by Type of Dwelling**

Geographic division	All types		First Six months of—			
	1940	1939	1-family dwellings	2-family dwellings <sup>1</sup>	Multifamily dwellings <sup>2</sup>	Percentage change
New England	9,160	6,455	7,599	5,463	473	618
Middle Atlantic	40,011	48,035	20,870	21,142	1,651	1,314
East North Central	39,170	32,623	35,768	28,667	2,028	1,007
West North Central	15,771	15,203	14,475	12,994	514	481
South Atlantic	42,516	34,669	32,815	27,330	3,555	1,984
East South Central	12,854	12,669	10,352	9,534	1,291	1,411
West South Central	24,703	24,201	20,342	20,288	1,636	1,603
Mountain	9,816	7,666	8,545	6,516	420	386
Pacific	47,314	41,990	39,925	34,549	2,278	5,111
<b>TOTAL U.S.</b>	<b>241,315</b>	<b>223,511</b>	<b>190,691</b>	<b>166,483</b>	<b>13,846</b>	<b>10,567</b>
Percentage change	+8.0		+14.5		+31.0	-20.8

All geographic divisions except the Middle Atlantic showed increases in the number of dwelling units provided, comparing the first half of the current year with the corresponding period of 1939. The decrease in the Middle Atlantic States was caused by the large decline in the number of dwelling units provided in apartment houses. The most important gains in the number of dwelling units provided occurred in the South Atlantic States, the East North Central States, and the Pacific States.

In the following table is given the number of family-dwelling units provided in nonfarm areas of the United States by source

of funds, for the first six months of 1939 and 1940.

**Estimated Number of Dwelling Units Provided by New Housekeeping Construction in Nonfarm Areas of the United States During the First Six Months of 1940 and 1939, by Geographic Division, by Source of Funds**

Geographic division	Total		Source of Funds			
	1940	1939	Private	USHA	1940	1939
New England	9,160	6,455	7,993	6,455	1,167	0
Middle Atlantic	40,011	48,035	35,555	41,768	4,456	16,267
East North Central	39,170	32,623	36,260	29,437	2,910	3,186
West North Central	15,771	15,203	15,499	14,681	272	522
South Atlantic	42,516	34,669	37,576	31,673	4,940	2,996
East South Central	12,854	12,669	10,188	8,636	2,666	4,033
West South Central	24,703	24,201	20,907	21,786	3,796	2,415
Mountain	9,816	7,666	9,941	7,666	775	0
Pacific	47,314	41,990	46,810	41,872	504	118
<b>TOTAL NONFARM</b>	<b>241,315</b>	<b>223,511</b>	<b>219,829</b>	<b>203,974</b>	<b>21,486</b>	<b>19,537</b>
Percentage change	+8.0		+7.8		+10.0	

The number of dwelling units provided through private financing was higher in the Pacific States than in any other geographic division. The South Atlantic provided the second highest number of dwelling units, followed in order by the East North Central and Middle Atlantic States. Dwelling units provided through USHA financing in the first half of 1940 were highest in the South Atlantic States. The Middle Atlantic States ranked second and the West South Central States, third.

The estimated permit valuation of new housekeeping construction in nonfarm areas of the United States during the first six months of 1939 and 1940 is given in the following table, by geographic division:

**Estimated Permit Valuation of New Housekeeping Dwellings in Nonfarm Areas of the United States During the First Six Months of 1940, by Geographic Division and by Type of Dwelling**

Geographic division	All types	1-family dwellings	2-family dwellings <sup>1</sup>	Multifamily dwellings <sup>2</sup>
<b>TOTAL UNITED STATES</b>	<b>\$824,476,000</b>	<b>\$668,992,000</b>	<b>\$46,796,000</b>	<b>\$108,688,000</b>
New England	38,276,000	33,747,000	1,421,000	3,108,000
Middle Atlantic	161,223,000	96,836,000	4,983,000	59,404,000
East North Central	165,826,000	154,620,000	6,843,000	4,363,000
West North Central	50,366,000	47,236,000	1,233,000	1,835,000
South Atlantic	131,574,000	109,010,000	7,542,000	15,022,000
East South Central	28,667,000	22,991,000	2,335,000	3,341,000
West South Central	65,031,000	53,559,000	3,106,000	8,364,000
Mountain	25,541,000	22,685,000	907,000	1,949,000
Pacific	157,972,000	128,306,000	18,354,000	11,312,000

<sup>1</sup> Includes 1- and 2-family dwellings with stores.  
<sup>2</sup> Includes multifamily dwellings with stores.  
 (Continued to page 94)

# IS!

**A MODERN OIL FURNACE WITH BUILT-IN BURNER. COSTS NO MORE THAN COAL-BURNING EQUIPMENT**

**Three combinations available in one furnace—**

**1. MANUALLY OPERATED.**

**2. COMPLETELY AUTOMATIC,** same furnace with thermostat and controls.

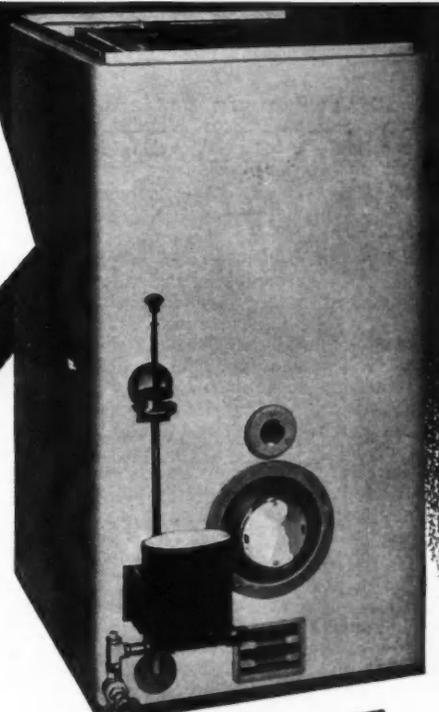
**3. AUTOMATIC AIR-CONDITIONING,** same furnace with thermostat, controls, blower, filter and humidifier.

DON'T WAIT! Orders being taken now. Shipments will be made in order of receipt. Write TODAY to

PERFECTION STOVE COMPANY, 7268-A Platt Ave., Cleveland, Ohio

# SUPERFEX

CLEVELAND, OHIO



Made by

## PERFECTION

... the world's largest manufacturer of oil-burning equipment for the home!



ATTICA THEATRE, Attica, New York, presenting decorative, yet practical walls, cornices, and ceiling in two factory-applied colorings of Armstrong's Temlok De Luxe. Architect: George H. Ketcham, Syracuse, New York. Temlok Wholesaler: Whitmer Jackson Company (Buffalo). Dealer: Batavia Lumber & Coal Company.

**NEW STRUCTURAL UNITS ARE QUICKLY ERECTED TO FURRING OR FRAMING**

Give your customers 50% more insulation at no increase in installed cost with new Temlok De Luxe Structural Units—made in 3/4" thick panels and planks with dimensions in multiples of 16". Their extra strength permits installation direct to framing members (when true and even) or to furring strips 16" o. c., with Tem-Clips. The slight additional cost of these units is more than offset by savings in material and labor.

**T**HEATRE owners, restaurant proprietors, and commercial operators of all kinds know the importance of decorative, customer-attracting interiors. But when they select an interior finish they want their money's worth in practical features as well.

Here's what they get with Armstrong's Temlok De Luxe at one low cost. First, *decoration*: Temlok is available in five factory-applied colors, and in panels, planks, and boards which may be combined in many striking designs. Second, *thicker and more efficient insulation*: This versatile wall and ceiling material keeps rooms warmer in winter—cooler in summer—thus cutting fuel and air conditioning costs. Third, *excellent light reflection*: This Temlok feature assures maximum illumination at minimum cost. Fourth, *noise-quieting*: The sound-absorbing qualities of Temlok De Luxe are especially important in theatres and public buildings. Fifth, *quick and inexpensive installation*: There need be no waiting for plaster to dry, for Temlok can be installed to furring strips with convenient Tem-Clips. (New buildings are ready for occupancy weeks sooner!) Temlok De Luxe is efficiently erected against plaster, gypsum, and similar bases, however, with special Temlok Adhesive.

You'll find Temlok De Luxe adaptable to all types of interiors—commercial or residential—new construction or remodeling. Its decorative and practical features are sure to please your clients. Get full details in "Sweet's" (Section on "Insulation") or write to the Armstrong Cork Company, Building Materials Division, 979 Concord Street, Lancaster, Pennsylvania.



**ARMSTRONG'S TEMLOK INSULATION**

De Luxe Interior Finishes • Lath • Sheathing • Hardboards • Monowall

**NEWS—**

(Continued from page 93)

Total permit valuations for dwellings of all types amounted to \$824,476,000 during the first half of 1940. Of this approximately \$669,000,000, or 81 per cent, was for 1-family dwellings; nearly \$47,000,000, or 6 per cent, for 2-family dwellings; and approximately \$109,000,000, or 13 per cent, for apartment houses. The highest expenditures occurred in the East North Central States, which accounted for total permit valuations of nearly \$166,000,000. Other divisions accounting for an expenditure of more than \$100,000,000 were the Middle Atlantic, with \$161,000,000; the Pacific, with approximately \$158,000,000; and the South Atlantic, with more than \$131,500,000.

Permit valuations are shown, by source of funds, in the following table for each geographic division:

**Estimated Permit Valuation of New Housekeeping Dwellings in Nonfarm Areas of the United States During the First Six Months of 1940, by Geographic Division, and by Source of Funds**

Geographic division	Estimated Permit Valuation		U S H A 1
	Total	Private	
<b>TOTAL UNITED STATES</b> .....	<b>\$824,476,000</b>	<b>\$739,885,000</b>	<b>\$64,591,000</b>
New England.....	38,276,000	34,326,000	3,950,000
Middle Atlantic.....	161,223,000	148,147,000	13,076,000/2
East North Central.....	165,828,000	156,057,000	9,769,000
West North Central.....	50,366,000	49,474,000	892,000
South Atlantic.....	131,574,000	117,784,000	13,790,000
East South Central.....	28,627,000	21,070,000	7,597,000
West South Central.....	65,031,000	53,121,000	11,910,000
Mountain.....	25,541,000	23,171,000	2,370,000
Pacific.....	157,972,000	156,735,000	1,237,000

1/ Contract values.  
2/ Includes cost of project financed by New York City (240 units).

**August Residential Volume Largest Since July 1929; All Building Reaches Ten-Year High**

**T**HE total for all types of construction activity reached a ten-year high mark in August with a volume of \$414,941,000 in 37 states east of the Rocky Mountains, according to F. W. Dodge figures. Of this amount, residential building accounted for \$152,988,000, also establishing a new high point in volume, the largest since July 1929, and 20 per cent higher than that of August last year.

Stimulated by the defense program, the total figures reflect the growing impetus of rearmament, both divisions of the industry, public and private, sharing in the gains.

Statistics for the four classes of construction in 37 eastern states are as follows:

37 Eastern States	August, 1940	August, 1939	July, 1940
Residential.....	\$152,988,000	\$127,163,000	\$140,430,000
Non-Residential.....	119,189,000	69,882,000	138,954,000
Public Works.....	119,358,000	95,170,000	85,681,000
Utilities.....	23,406,000	20,113,000	33,608,000
<b>Total.....</b>	<b>\$414,941,000</b>	<b>\$312,328,000</b>	<b>\$398,673,000</b>

**Morrill Analyzes Effect of Conscription on Home Building**

**W**ILL the registering of 16,500,000 men for military service in October check or halt the year's pronounced upswing of interest in home building throughout the country?

This is the question which hundreds of thousands of contractors, dealers, architects and skilled building trades workers are anxiously asking themselves.

The answer, in the opinion of E. W. Morrill, general sales manager of the Insulate Company, is an emphatic "No!"

"Analysis of hundreds of sales reports sent in by salesmen and dealers from all parts of the United States since the recent passage of the selective service act indicate that conscription will stimulate rather than retard home building," said Morrill; and he continued, "Adoption of conscription as a national defense measure has led many potential home builders, long indifferent to the European War, to believe that our participation in the war is not so improbable, after all. And knowing that our entry in the war would result in rising prices, higher wages for skilled labor, increased rent, and a probable widespread scarcity of various building materials



E. W. MORRILL

for private use, many who have delayed building are hurrying to escape possible extra costs by building at once.

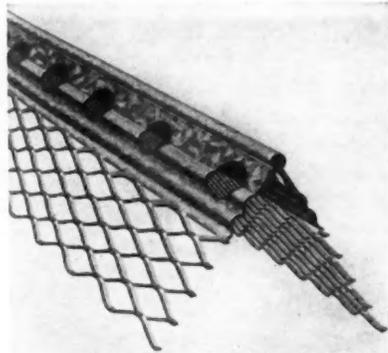
"Many married men of draft age now feel that they are almost certain to be called into service should war come. Thousands of these men are so concerned about their families' future that they are planning to build at once, so their wives and children may be assured of roofs over their heads should men with families eventually be called to arms. Another new group of prospective home builders now considering building is made up of those who are convinced that it is preferable to put earnings and savings into a permanent, tangible form of investment with high use-value, rather than in those depending for their value upon dividends or interest returns.

"These, and other such tendencies," concluded Morrill, "convince us that more new homes will be put up during the coming year than during any previous year in the past decade."

### Develop New Metal Corner Bead

A NEW Super-Ex corner bead has been recently developed by the Milcor Steel Company, Milwaukee, Wis., which, through the use of a half-solid, half-expanded wing, combines the rigidity of a solid-wing corner bead with the plaster-bonding qualities of an expanded metal wing. The central section of the unit is a "backbone" of solid steel, perforated and double-fluted for extra strength. The remainder of the wing is of expanded mesh, insuring a tight plaster bond and a crack-proof building corner.

The solid wings of Super-Ex extend far enough on either side of the nose of the bead to reach the base wall at all points, thus eliminating all irregularities due to rough corners. In case of an accidental blow to the corner, major shocks are transmitted directly to the solid wall, and resulting minor shocks are diffused by the expanded metal reinforcing the plaster. Super-Ex is precision stamped and expanded from one-piece 24 and 26 gauge Titecoat galvanized steel.



IMPROVED corner bead.

### Rents Low in Slum Clearance Housing

MONTHLY rents averaging only \$12.34 per home have been established for the first 85 public housing projects for which rents have been approved under the United States Housing Authority slum clearance program.

These shelter rents which do not include light, heat, or other services, range from an average of \$9.98 a month for 50 projects in the South to an average of \$14.28 for 35 projects in the North.

The 85 projects will provide homes for 27,605 low-income families, or about 110,000 persons. They are located in 58 communities in 18 states and one territory and are the first of the 475 low-rent public housing projects in the current USHA program to reach an occupancy status.

In addition to shelter rent, tenants in all projects pay a small sum each month for utilities—such as cold and hot water, heat, electricity and gas—where provided. With these extras added, the average monthly shelter rent plus utilities for the 85 projects is \$17.82 per home. The range throughout the country is from an average of \$13.75 in the South to an average of \$21.18 in the North.

The estimated average income of the tenants in these pioneer projects will be about \$756 a year, or approximately \$63 a month.

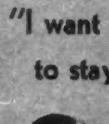
Sixty-seven USHA projects totaling 21,671 homes now are occupied. By January 1, 1941, there will be 82 more projects, with a total of 30,684 homes, ready for occupancy.

In addition, 1,174 USHA low-rent homes for families of enlisted Army and Navy personnel and low-income civilian national defense workers are scheduled to be completed by the end of December.

## WE QUIZZED THESE HOUSEWIVES ABOUT WALLS



"I want my walls to be easily cleaned," said Mrs. A.



"I want mine to be attractive—and to stay that way," said Mrs. B.



"I'm sick and tired of cracked bathroom walls," said Mrs. C.

ABOVE are the wall requirements of threetypical housewives. If you can tell such women that your houses or apartments have wall coverings that meet these requirements, you've gone a long way toward closing the deal. Here are advantages Armstrong's Linowall has to offer.

**MAINTENANCE.** Since Armstrong's Linowall is a linoleum-like composition, it can be easily cleaned—with mild soapsuds. Dirt, finger marks, and ordinary stains wipe right away. Expensive refinishing is never necessary.

**STYLE AND PERMANENCE.** Linowall's handsome colors make it easy for you to plan attractive wall effects. These colorings won't scuff off, because they run right through to the flexible fabric back of the material. A variety of patterns and textures provides an attractive effect for almost every room.

**WEARABILITY.** Even under moderately settling walls, Armstrong's Linowall will not crack, craze, or buckle.

**PRICE.** The cost of Linowall is just about half as much as other permanent wall finishes. Let us send you our informative book, "Colorful Walls of Enduring Beauty." Write today to the Armstrong Cork Company, Building Materials Division, 1218 State Street, Lancaster, Pennsylvania.

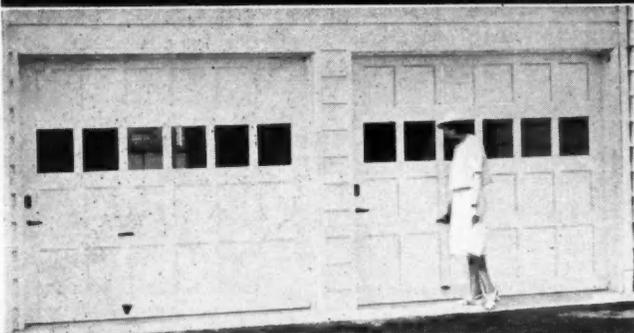


THE ANSWER TO A WOMAN'S DREAM—attractive, easy-to-clean Linowall used as a wainscot simplifies housework in this California residence. Floor—Armstrong-Stedman Rubber Tile. Architect: Milton J. Black.

ARMSTRONG'S *Linowall*

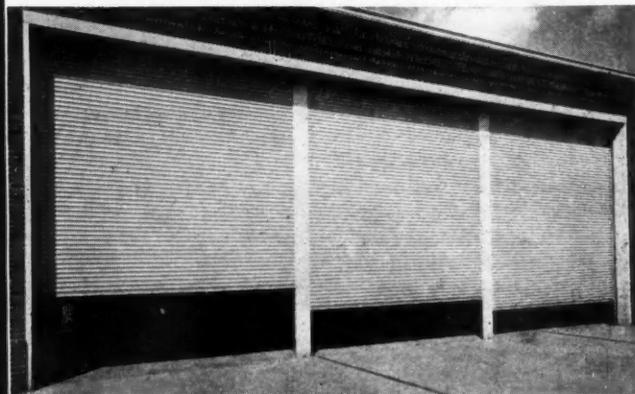
Made by the makers of Armstrong's Linoleum

# DOORS FOR ANY BUILDING!



## THE POPULAR RoL-TOP DOOR

in wood or all-steel, is built by the same organization — and to the same high standards of design and construction — as the famous



## KINNEAR STEEL ROLLING DOOR

which, in 45 years of wide industrial and commercial use, has done more to increase door efficiency, and reduce door operation and maintenance costs than any other type of door.

### SO, WHEN YOU NEED DOORS

for any job, from the small home to the largest building—call on Kinnear! Get the advantages of Kinnear's half-century of door specialization . . . the added value of more rugged, durable construction . . . the proved dependability of Kinnear's smooth, easy, efficient operation. Make sure of the all-around approval that pro-

jects your reputation, and helps you get new business. Send for the Kinnear Catalog today—see for yourself how Kinnear Rolling Doors provide the correct answer for every door problem. Write! The Kinnear Manufacturing Company, 1560-80 Fields Avenue, Columbus, Ohio.

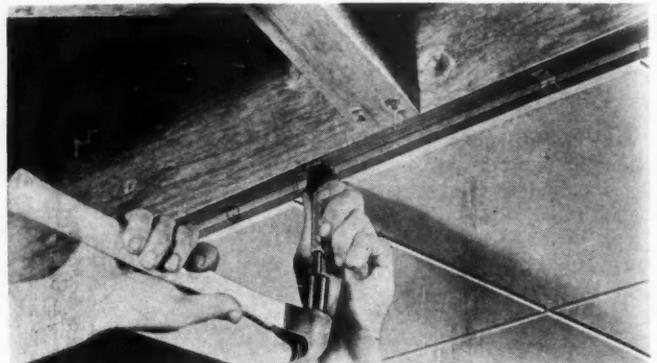


# KINNEAR ROLLING DOORS

## Insulation Finish Applied with New Tool

THE new Temlok De Luxe structural units are offering fifty per cent thicker insulation at no increase in their installed cost, according to an announcement by the Armstrong Cork Company of Lancaster, Pa. Extra strength is derived from the 3/4-inch thickness, permitting the erection of these panel and plank units on furring (or direct to framing members if true, even, and properly bridged) 16 inches on centers. Savings in furring cost and installation time actually more than make up for the slight extra purchase price of this thicker insulating interior finish.

These units are available in panels (16" x 16", 16" x 32", and 16" x 48") and in planks (16" wide by 8', 10', and 12' long). Colors are white and cream, and the base material is Temlok. Proper installation of these units calls for the use of Armstrong's Tem-Clips which provide permanent, invisible, mechanical support to furring strips or framing members.



ABOVE illustration shows how a 16" x 16" Temlok De Luxe panel is erected directly to the ceiling joists, with two Tem-Clips being nailed in place against the leading edge of each panel. Prongs of the clips extend to grip the male edge of the next panel to be put in place. The workman is using the special magnetic head setting tool (furnished by Armstrong) which conveniently holds Tem-Clip and nail in proper position.

## FHA Appraisals Will Not Cover Unjustifiable Increases

FEDERAL Housing Administrator Stewart McDonald has told manufacturers, distributors, and builders today that the FHA would not permit its appraisals of new home construction to cover any unjustifiable increases in materials prices.

In letters to representatives and members of the building industry, Mr. McDonald said that the FHA had noted with apprehension a tendency toward increased prices in building materials. He called attention to a statement by Leon Henderson, director in charge of Price Stabilization of the National Defense Commission, to the effect that recent price rises had not been justified by defense needs, and said, "Neither you nor the members of your organization, I am certain, will wish to permit anything to impede the current rate of home construction which is contributing so much to economic recovery and to national defense."

In letters to builders Mr. McDonald further stated: "I am aware that the building material dealers and distributors are not always solely responsible for increased prices, but that they are often obliged to protect themselves in their 60-90 day quotations to speculative builders, thus tying up their current inventories."

## Realtors to Discuss Home Building Outlook at Annual Convention in Philadelphia

BOTH home building and the whole question of defense housing are matters of first importance in the real estate field today, and they will have an important place in the discussions of the National Association of Real Estate Boards when it meets for its annual convention in Philadelphia the week of Nov. 11. The convention will be held at the Bellevue-Stratford Hotel.

Hugh Potter, Houston, Tex., past president of the Association and a member of the Advisory Committee to the Federal Hous-

ing Administration, will open the discussion of what's ahead for normal home building, addressing the Land Developers and Home Builders Division, of which he is a past chairman. Mr. Potter, a past president of the Houston City Planning Commission and of the Houston Real Estate Board, is head of the River Oaks Corporation, developers of River Oaks, one of the most beautiful residential developments in the country, occupying a tract of 1,000 acres, and served by a business subcenter planned for the motor age.

David D. Bohannon, San Francisco, vice chairman of the Division, and head of the David D. Bohannon organization, which is developing a number of residential communities in the San Francisco area in various price ranges, will give the convention his experience as to what is wanted and what is practical in design, layout and marketing of a residential tract under present-day conditions. Writing in *Freehold*, magazine of real estate, in the Sept. 1 issue, Mr. Bohannon says: "Recent experience has brought home to me the importance of location. A 27-acre tract opened this spring in the heart of a long-established residential community, an area where large estates have for long held choice land off the market, has sold much more rapidly, even though lots were smaller, than has land in a similarly attractive subdivision with larger lots in an identical price range but lacking the location factor."

He gives further information as to market trend on size of lots as follows: Lot sizes approximately 60 x 170 feet have sold readily for 40 cents per square foot, including quality improvements. But on the part of the property which is zoned to require a lot 125 feet wide, with 17,500 square feet as a minimum, the sites even at 26 cents per square foot move more slowly. Price range of the houses being built on the tract is \$9,500-\$20,000.

How to build and sell homes in a really low price range will get careful study in the Division's sessions.

### "ASQU," New Asphalt Roofing

A NEW asphalt roofing, identified by the name ASQU, has been perfected and placed on the market by its first licensee, the Philip Carey Company, Lockland, Ohio. Patents covering the process of manufacture, the equipment used in the process, and the product itself, have been granted. Almost complete saturation of the felt is the distinguishing mark of this new roofing material. Ninety-eight and one-half per cent asphalt saturation characterizes this roofing as compared with the minimum standard of 85 per cent saturation required by the Underwriters Laboratories.

Lack of uniformity in asphalt saturation and incomplete saturation of the felt base have been the causes of occasional unsatisfactory roofing performance, it is claimed, and these sources of trouble are eliminated by the ASQU manufacturing process. Accelerated weathering tests show that these fully saturated roofings are standing up longer and giving satisfaction under more severe punishment than builders have experienced heretofore. The Philip Carey Company has now introduced ASQU roofing widely to the trade, and reports nation-wide favorable reaction to the new product.

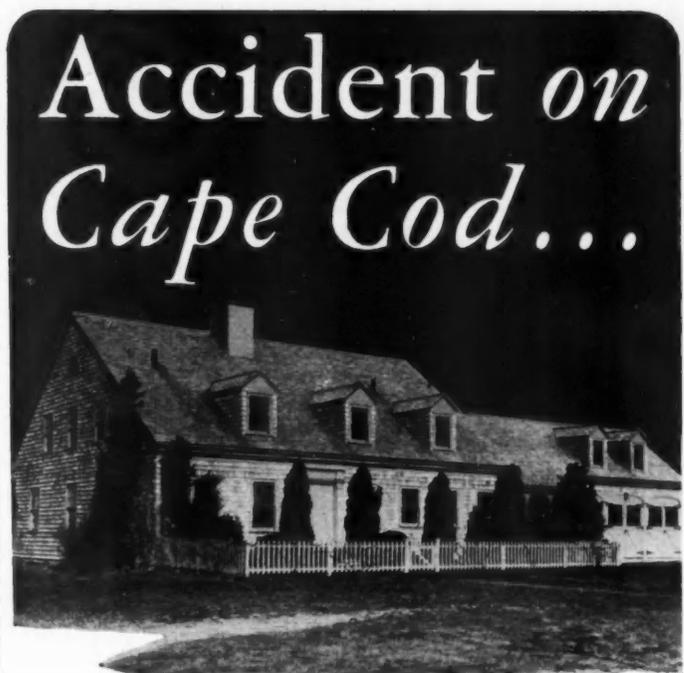
### Ornamental Lead Lanterns for Homes

LEDLITE is the name of a new line of lead lanterns developed recently by the Products Research Company, Stamford, Conn., to meet the demand for low cost ornamental lighting fixtures.

For centuries lead has been closely identified with beautiful ornamental metal work, lighting fixtures being one of the most popular applications. However, ornamental leadwork of this type in the past has been fairly expensive and restricted consequently to homes in the higher price brackets; modern Ledlite fixtures meet the budget requirements of even the most modest home, yet retaining all of lead's charm and beauty.

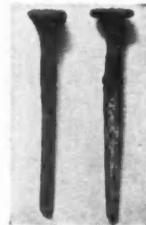
The everlasting lanterns are made in several models and designs with plain or ornamental beaten finishes. Both wall-hung and chain fixtures are available, as well as fixtures manufactured to the design of the individual specifier.

NEW lighting fixture of lead.

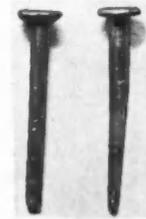


# Accident on Cape Cod...

## ...Became the Perfect Test Case for Maze Nails



Eight years of salt-laden Cape Cod weathering did this to ordinary shingle nails!



But Maze Zincluds, dipped in pure molten zinc, remained sound and serviceable!

The builder of this Cape Cod home (Barnstable County) recognized the superiority of Maze Zinclud nails and used them . . . but mixed in by accident on the job were a quantity of ordinary shingle nails. Unfortunate for the owner, for the shingles on a portion of his house went bad. But fortunate for us, because it provided the perfect test case for Maze nails! Examination of the shingles on the home revealed that the loose and rotten shingles had been laid with nails which rusted—whereas the remainder of the shingles were held perfectly by Zinclud nails. We procured samples of each type of nail after eight years of weathering on the Cape . . . we photographed them . . . and reproduce these pictures so that your own eyes will prove to you the superiority of Maze Zinclud nails. Could any test be more convincing? Is it worth the chance and risk to use any nails but MAZE, when the amount to be saved averages only \$2 per roof?

## Double the Life of Your Shingle Jobs! AT A COST OF ONLY \$2.00 PER ROOF

Your shingle jobs will last longer and your reputation as a builder will be safeguarded. Yet the extra cost of a roof laid with Maze Zinclud nails averages only \$2 per roof. That's so little to pay for so much "roof insurance." The wise builder uses Zincluds!

W. H. MAZE COMPANY • PERU, ILLINOIS

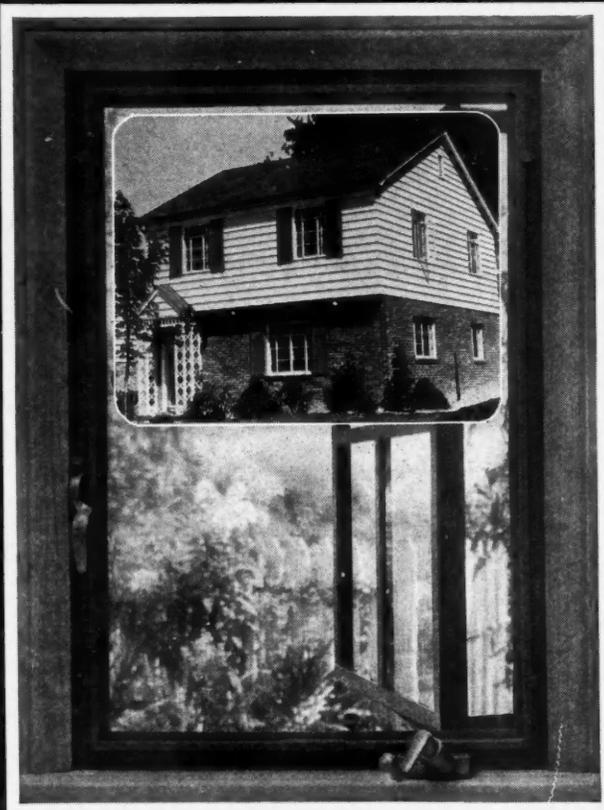


# HOPE'S

BONDERIZED STEEL

# WINDOWS

1818 The Name Guarantees 1940



## THEIR EXTRA SALES APPEAL

*Actually Costs No More*

● Hope's Bonderized Steel Windows will make your houses easier to sell. Home buyers like these benefits: more light and 100% ventilation; effortless operation; safe, easy cleaning; freedom from sticking and rattling and warping; no trouble or expense for upkeep. Best of all, Hope's Holford Windows are remarkably low in cost to the builder... require less time and labor to install... and there are no "extras" to buy. Regardless of the price class in which you build, it will pay to investigate Hope's. Steel windows saved \$996,629 in forty-six recent U. S. low-cost housing projects.

Write for catalog 68ABO

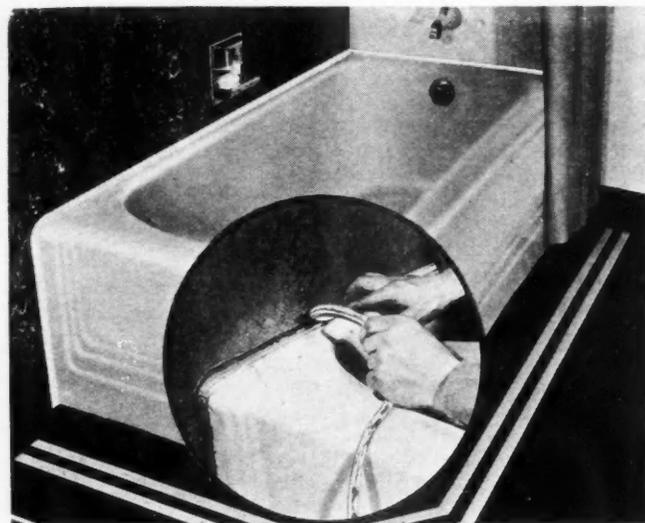
**HOPE'S WINDOWS, Inc.**  
Jamestown, N. Y.

## Flexible Moulding Seals Joint at Tub and Wall

**N**AIRN Tub Moulding is a new product created by Congoleum-Nairn, Inc., Kearny, N.J., for the purpose of sealing joints between bathtub and wall in installations of built-in bathtubs and Nairn wall linoleum. This moulding is a specially designed fillet strip of sponge rubber faced with solid rubber to provide a permanent, watertight, decorative and sealing joint around the tub and wall. While primarily designed for use with Nairn wall linoleum, it may be used with tile or other wall finishes. It will also serve as a protective seal and joint between floor and tub.

Nairn tub moulding is flexible, will follow contours of the tub, and will accommodate seasonal movement between tub and wall without breaking the seal. Its flexibility makes continuous one-piece installations easy, and may be used from one end of the tub joint to the other without any cutting except for a small notch at the sharp right angle of the inside corner. The hard rubber outer surface is impervious to soap and hot water.

The new material is carton-packed, with a 15-foot strip of Nairn tub moulding, proper amount of adhesive, an applicator brush and an instruction folder.



**RUBBER** moulding applied around bathtub with adhesive permanently seals this joint between wall and fixture.

## Low-Rent Public Housing Kept Simple

**A**CCORDING to an analysis by the United States Housing Authority, elimination of frills and gadgets on dwellings for low-income families from the nation's slums is producing simple, economical and comfortable homes at low costs. This "de-gadgiting" process is keeping low-rent public housing definitely out of the "de luxe" class.

Among the major departures from design and equipment used by private builders which have radically reduced costs, the following are common to most homes built in the USHA program:

Room areas are held to a minimum for health and comfort. These areas are smaller than are usually provided for dwellings for higher income groups.

Cooking and dining space are combined, or dining space is provided in living rooms.

Kitchen equipment—such as ranges, sinks and work top cabinets—are of the same height, but continuous kitchen counters are not provided.

Porches and balconies are provided only where the climate makes them necessary for living comfort.

Exterior and interior trim for decorative purposes are held to a minimum.

Fireplaces, built-in bookcases, shower baths, tiled bathroom walls and similar items are omitted.

All hardware is of simple and durable design. Latches only, instead of locks, are usually used for interior doors.

Lighting fixtures are simple, but effective and serviceable.

Doorbells and speaking tubes are installed only in buildings where they are deemed indispensable.

Other economies designed to reduce costs and bring rents within the means of low-income families removed from slum dwellings, which have been found practical in many projects constructed by local housing authorities are:

Basements are rarely provided for individual dwelling units. Cement finish floors are used in dwelling units in the majority of projects because it has been demonstrated that they are durable, economical to maintain, and satisfactory from the health and comfort standpoint.

Where climate permits, separate individual heating units, operated by the tenants, are used rather than central heating plants, except in larger apartment-type buildings.

Refrigerators and kitchen ranges, which are part of the equipment for most dwellings, are of simplified yet serviceable types, developed by manufacturers co-operating with USHA engineers. The refrigerators have no interior light or door on the ice tray compartment and are without exterior decoration or "selling point" finish. Ranges have no pilot light burner ignition and only one burner for broiler and oven.

Doors are not provided for kitchen shelving and storage space except where food is to be stored.

Facilities for recreation and community activities are likewise provided with a minimum of expense; these usually include a meeting room, social clubroom or place for the pursuit of studies and hobbies. Equipment usually is installed by the tenants under direction of local municipal recreational, educational and welfare workers. Residents of the neighborhoods adjoining the projects often participate in these activities.

### Unions Agree to Speed Defense

CO-OPERATING to speed up economical construction of low-rent housing for national defense workers, building trades unions throughout the country are agreeing to work double shifts of mechanics at straight time wages on defense housing projects financed by the United States Housing Authority.

This arrangement, which cuts building time in half without substantially increasing cost, already has been made in seven localities. It is based on resolutions adopted by the local unions which provide that they will furnish double shifts at straight time on an 8-hour day, 40-hour week basis. Only where individuals or shifts work more than 8 hours in one day, or more than 40 hours in one week, is an overtime rate to be paid.

Localities in which unions already have adopted this resolution are: Montgomery, Ala.; Columbus, Ga.; Pensacola, Fla.; East Moline, Moline, Rock Island and Rantoul, Ill.

Negotiations leading to the setting up of similar arrangements in other localities where USHA defense housing projects have been approved by President Roosevelt now are being carried on by Walter V. Price, director of the USHA Labor Relations Division.

\* \* \*



IN THE recently completed Bankers Life Building, Des Moines, Iowa, shown above, all air must check its dirt at the entrance and take a bath before being admitted. Equipped with the new Westinghouse Precipitron system which removes as much as 99 per cent of dirt particles, it is estimated that about 270 bushels of material will be taken from the air that is cleaned in a year's time.

**FLEXIBILITY for every job.... on the job!**

Over **50** wood-cutting cost cutting Operations with **ONE** machine!

bridging, fire stops, etc. . . . just another reason why . . . you can't afford to be without DEWALT.

**SAVES DOLLARS!**  
Every time you mark off material and cut it with hand tools you're losing hard-to-make dollars. So don't wait for the next job . . . let DEWALT finish your current work ahead of schedule and earn you more money. Furthermore . . . DEWALT equipped builders are busy builders . . . they can give more house for the money.

**GET THE FACTS YOURSELF!**  
Make us prove these claims. Ask for an "on the job" demonstration . . . it won't cost you one cent. Write today . . . or telegraph at our expense.

Hundreds of builders never start a job without their DEWALT because its remarkable flexibility and dependable performance saves time, money and material by handling every job . . . on the job.

**SAVES 20% TO 30%**  
These builders know, too, that DEWALT saves 20% to 30% in fabricating costs . . . it places the facilities of a complete woodworking plant on the job. From foundation to interior trim DEWALT cuts perfectly to help build better houses. Joists, studs, headers, rafters, etc. . . . are custom cut on the spot.

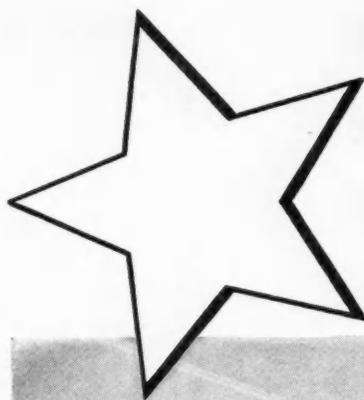
**SAVES TIME!**  
DEWALT takes the labor out of carpentry and speeds fabrication . . . one sawyer and helper keep 8 to 10 carpenters busy nailing up. DEWALT converts short pieces ordinarily wasted into close-fitting base blocks,

**DEWALT** PRODUCTS CORPORATION  
437 Fountain Ave., Lancaster, Pa.

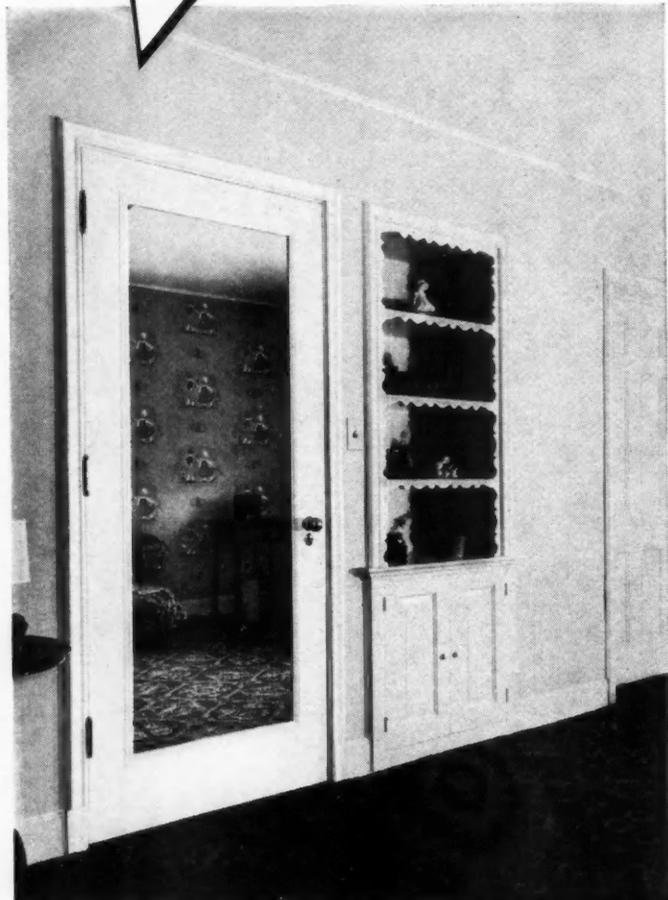


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Western Pine Association, Yeon Building, Portland, Oregon

\*Idaho White Pine

\*Sugar Pine

\*Ponderosa Pine

**\*THESE ARE THE WESTERN PINES**

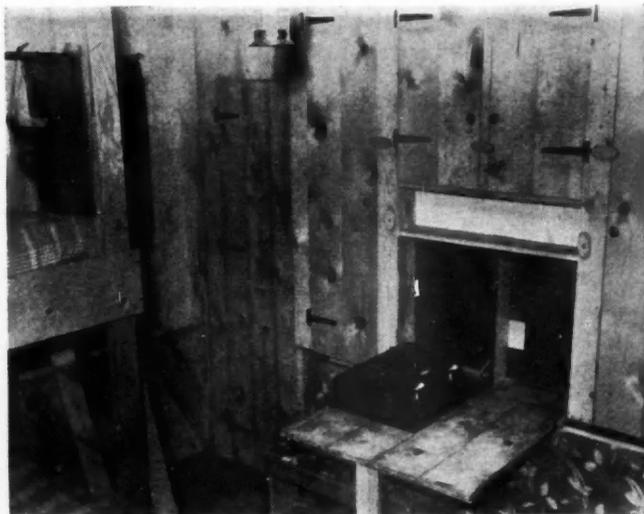
## Unused Space Made Into Rentable Small Apartment

**A**LTHOUGH there is nothing particularly newsworthy in the average home modernization covering the finishing of attic space into an extra bedroom or so, or in the fixing up of a basement for a hobby or game room, the conversion of unused space into a rent-producing unit in a home is of more than a little interest. As described here, the work covered the transforming of an old neglected fruit cellar into a modern bachelor apartment at comparatively small cost. Since there is similar space in the form of added rooms at the rear of many old homes, frequently called summer kitchens, woodsheds, or storage rooms, what has been done here may inspire other changes like this one.

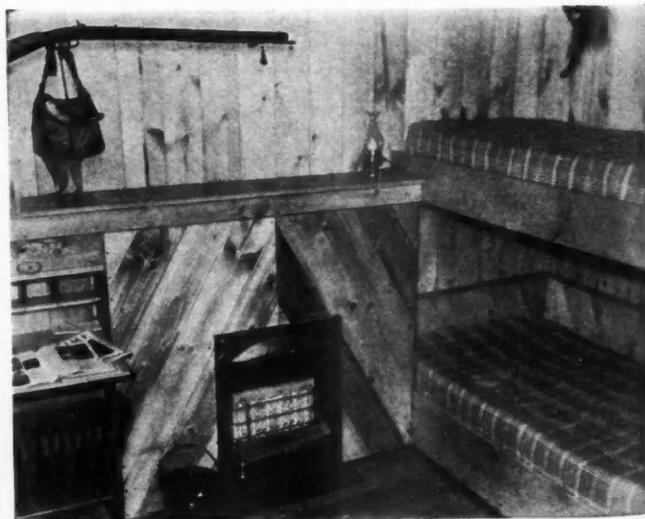
In this case the completed apartment, located in a western city, brought a return of \$30 per month rent, and several other units like it could have been filled from the list of applicants.

Before the rejuvenation, the out of the way room stood, an eyesore—its uneven brick wall broken in places, its common wooden steps and battered chimney apparently revealing an un-repairable condition. But less than thirty days later it was the pride of the neighborhood.

Following a general cleaning up of the room, the walls were lined with 1 x 12 knotty pine, a low cost construction material. From the ceiling to, within two feet of the floor, the pine boards



KITCHENETTE of apartment showing location of built-in cupboards.



ALONG the side opposite the kitchenette, the apartment features built-in bunks, a gas grate and mantel, and a built-in desk.



ABOVE: Rear room before conversion of this space into living quarters indicates what a hopeless appearing condition existed. Changes were limited mainly to interior finish and equipment at a cost of approximately \$200, which did not include bathroom fixtures.

were applied vertically, and bottom two feet were placed diagonally to relieve the plainness of the effect.

Over the cement floor, a new pine floor was laid and a Celotex ceiling made the room attractive and cool in summer and warm in winter.

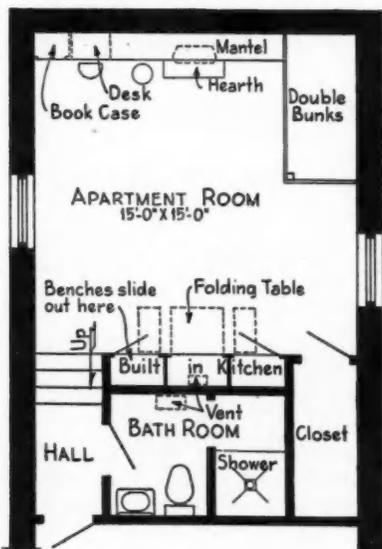
Next in line was the placing of two "man sized" bunks in one corner of the room, with a nine inch mantel extending from the bunks to the opposite corner. Built into the mantel was a small gas heater giving a miniature fire place effect, and beside it a small built-in desk folded completely out of the way.

The opposite side of the room features built-in cupboards, closet and kitchen stove and table, all folding compactly back into the wall; the apartment offers a table, an ironing board, and complete kitchen facilities for two. In the corner, a closet provides space for ample clothes storage and a cedar chest.

Lighting the room with old fashioned lamps wired for electricity gave the room just the rustic touch it needed. An ancient musket, powder horn, and knapsack added to the novelty. The bunks were not overlooked in comfort equipment, their inner-spring mattresses offering as fine a bed as could be found.

All in all, the transformation of the room was not only a profitable venture, but one from which a great deal of satisfaction in "making something from nothing" was obtained.

Of course, to suit the needs of various home owners the plans for the room could be changed for any purpose, whether for a child's playroom, guest or maid's quarters or a "hide away" for father, with his easy chair and one side of the room left for a library.—Walter H. Samuelson.



RIGHT: Living quarters as shown in this plan of an apartment room are complete, although compact. Within this limited space, formerly an abandoned fruit cellar, a great deal of livability and rustic charm will be found.

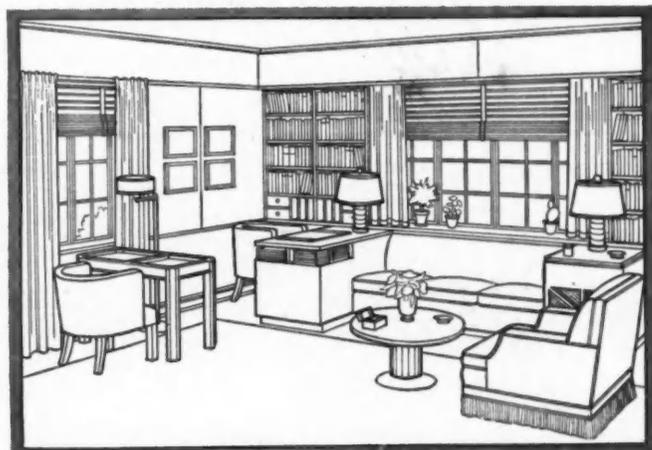
## MASONITE TEMPERED PRESWOOD

... TWO SIDES TO THE SAME QUESTION

**PROBLEM:** Given two living-rooms with identical dimensions, how would you design each room so that it would *not* look exactly like the other?



**SOLUTION No. 1**—By using Masonite Tempered Preswood for walls, ceiling and built-in furniture, many surface variations can be achieved without basic structural changes. Tempered Preswood is a low-cost, all-wood board that can be cut or sawed with ordinary wood-working tools and nailed to studs. In this solution, the outstanding feature is the bay-window effect produced by furring down the ceiling with Tempered Preswood.



**SOLUTION No. 2**—The design of this room stresses utility. The long window is left flush with the inside walls. Built-in Tempered Preswood sofa is flanked on one end by a built-in Tempered Preswood desk . . . on the other end by built-in radio cabinet. Additional bookshelf space is also provided. The marble-smooth surface of Tempered Preswood can be painted or enameled. Properly used, the board will not warp, chip, split or crack.



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## "Buy Home with Rent Money"

### Is a Timely Sales Approach for Builders

**B**UILDERS, bankers, realtors, dealers—all the active selling forces of the home building industry are taking advantage of the present very attractive and advantageous home financing terms to change renters into home owners. With a small down payment, future *monthly deposits*, "just like rent," acquire the new home and eventually lead to complete ownership.

"How much do you pay in rent?" is the challenging question which many of the savings and loan associations are asking the renting public through their little magazine, "Home Life," which is edited by the U. S. Savings and Loan League and distributed by its local associations. This article brings out the truly astonishing sums of money which the average renter pays out during a lifetime of paying rent to the other fellow instead of to himself. The explanation of this table and of other pertinent home buying facts, addressed directly to the renter or prospective home buyer, is quoted as follows:

"Here is a simple arithmetical schedule that has been set up to show you how much you will actually pay out in rent over a period of 1 to 25 years. It is simply the totals of the monthly rent added together. You could work out the same chart for yourself. But together these figures represent amazingly large figures—sums that are a little frightening when you think that they drain your pocketbook and all you have to show for the money spent is a pile of rent receipts.

"The amount of money you will spend during the time your family is growing up or during your married life-

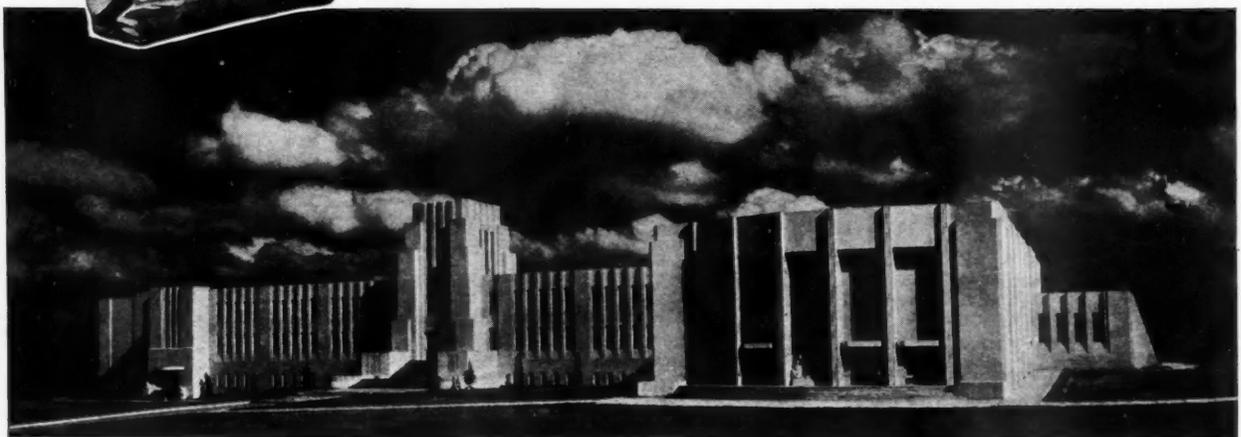


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The idea can be...

time are figures which amount to the cost of a very fine home if you are to apply them all at once to the purchase. The United States Life Table has a chart which shows the joint expectation of the life of the husband and wife beginning at certain specified ages. These figures are based on fact and denote the number of years of family life the average married couple may expect to have together.

"These years are the years when your own home is (Continued to page 104)

Rent Paid Per Month	1 yr.	2 yrs.	5 yrs.	10 yrs.	15 yrs.	20 yrs.	25 yrs.
\$25	\$300	\$600	\$1500	\$3000	\$4500	\$6000	\$7500
30	360	720	1800	3600	5400	7200	9000
35	420	840	2100	4200	6300	8400	10500
40	480	960	2400	4800	7200	9600	12000
45	540	1080	2700	5400	8100	10800	13500
50	600	1200	3000	6000	9000	12000	15000
55	660	1320	3300	6600	9900	13200	16500
60	720	1440	3600	7200	10800	14400	18000
65	780	1560	3900	7800	11700	15600	19500
70	840	1680	4200	8400	12600	16800	21000
75	900	1800	4500	9000	13500	18000	22500
80	960	1920	4800	9600	14400	19200	24000

JOINT EXPECTATION OF LIFE OF HUSBAND AND WIFE AT SPECIFIED AGES\*

Present Age of Wife	Present Age of Husband								
	20	25	30	35	40	45	50	55	60
20	35.5	33.6	31.4						
25	33.8	32.2	30.4	28.2					
30		30.7	29.1	27.3	25.1				
35			27.5	26.0	24.2	21.9			
40				24.3	22.8	20.9	18.7		
45					21.1	19.6	17.7	15.5	
50						17.8	16.3	14.6	12.6

\*According to United States Life Table.

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 Warren, Ohio.

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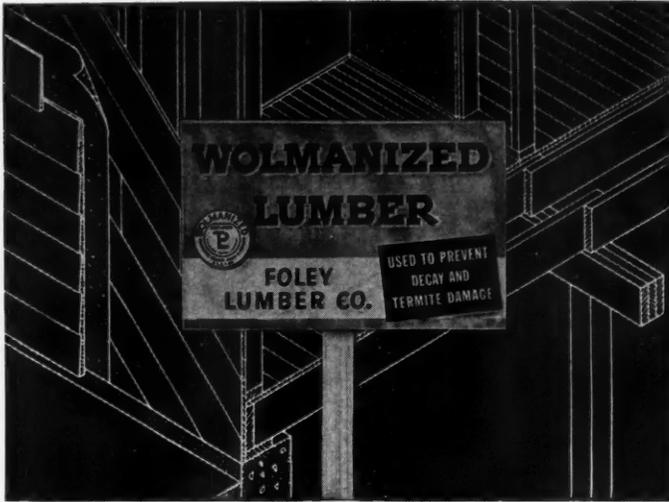
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Wolmanized Lumber is the only material of its kind which is always treated according to one standard set of specifications, and sold by lumber suppliers throughout the country under one brand. Its good reputation gives you dependable selling help. AMERICAN LUMBER & TREATING COMPANY, 1645 McCormick Building, Chicago.

### Other Selling Helps

Send for samples of these folders, which help you explain forcefully to your prospects the advantage of construction with Wolmanized Lumber.



\*Registered Trade-mark



# WOLMANIZED LUMBER

(Continued from page 103)

the most desirable place to live, because of the important activities of rearing and training your children and in sharing a rich and full life together. In these years rent-like payments can buy your home.

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"With all these possibilities for a still larger rent total than the chart shows, you can see that that amount of money, invested in a home, would provide a very serviceable as well as beautiful home for you for now and for all the years you might be paying out rent. If the figures in these charts are impressive in your circumstances, let us help you make a home of your own a reality.

"Did you know that a down payment of only a reasonable portion of the total purchase price, plus a monthly rent-like payment, will permit you to occupy now and enjoy while you are paying for your own home? We can give you not only complete and economical financing—but friendly helpful service, which will make every step of home purchase or construction simple and understandable. All details will be handled here, and you will be assured that the home on which one of our loans is granted is a sound investment for the future.



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## BOOKS on BUILDING

A REVIEW of current publications in the building field. For information about these books, write American Builder, Book Service Dept., 30 Church Street, New York City, or the publishers.

**THE BUILDING ESTIMATOR'S REFERENCE BOOK AND THE VEST POCKET ESTIMATOR**—by Frank R. Walker. 1940. 9th. 1700 pages, illus. 4 1/2 x 6 1/2, flexible. Frank R. Walker Co., Chicago. \$10.00.

The Silver Anniversary Edition of these standard reference books for estimating construction costs of all kinds of buildings, completely revised and rewritten and brought up-to-date. They are as valuable to the small contractor as to the large one because they contain information, estimating and cost data on all types of house construction, as well as for industrial and business structures. All items entering into the making of construction estimates are arranged for ready reference, giving complete itemized material quantities and labor hours to perform any class of work. New materials, improved methods and labor-saving tools are also described. "The Vest Pocket Estimator" contains in tabular form often-used estimating and cost data for ready reference.

**BUSINESS METHODS IN THE BUILDING FIELD**—by George Schobinger and Alexander M. Lackey. 1940. 350 pages. 6 1/2 x 9 1/4, cloth. McGraw-Hill Book Co., Inc., New York City. \$3.50.

A practical manual of business methods and documentary procedure in the development and execution of industrial, power and building projects. The book covers the range of contract documents and provides useful checking lists, as well as specimen forms for a complete building project. Chapter headings are as follows: Contract Relationships; The Agreement; The Advertisement and the Information for Bidders; The General Conditions of the Contract and Special Conditions; Suretyship and Insurance; The  
(Continued to page 106)

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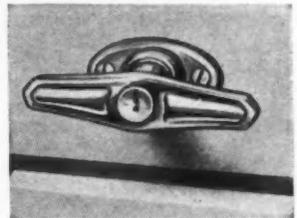
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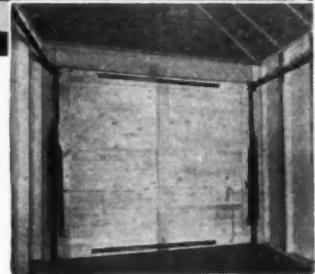
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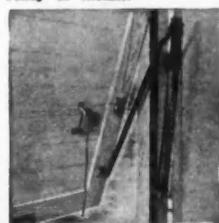
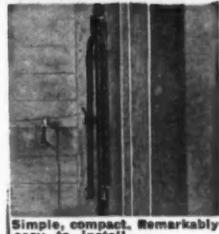


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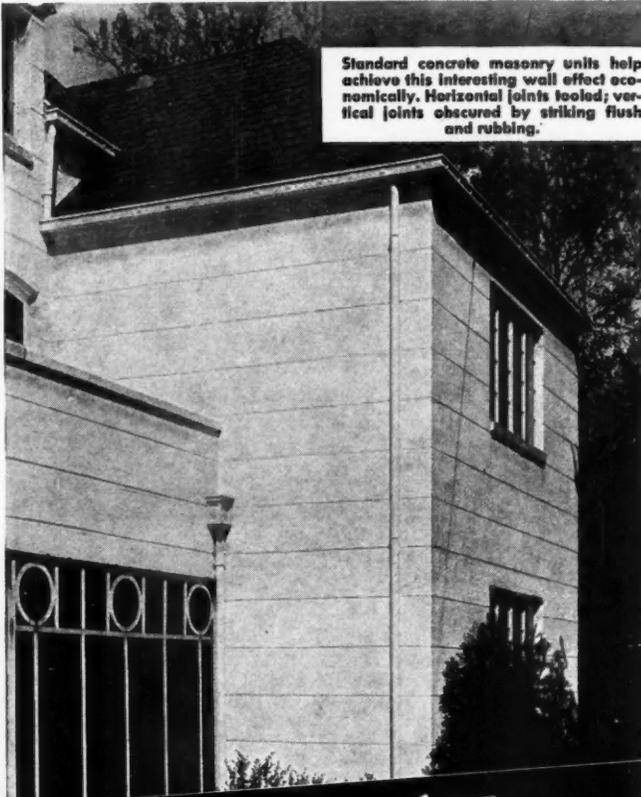
**FRANTZ MANUFACTURING COMPANY**  
Sterling, Illinois



**Junior**

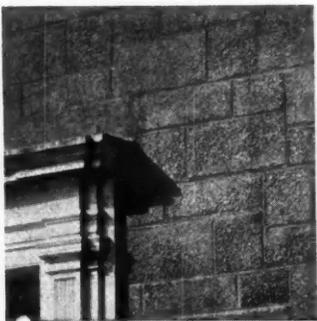
"OVER-THE-TOP"

**LIGHT DOOR EQUIPMENT**

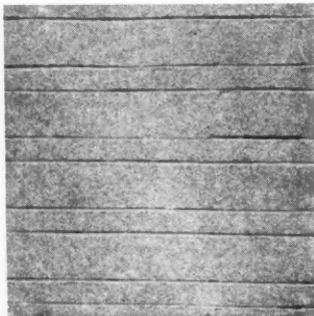


*Beautiful Wall Textures*

*in wide variety . . . one reason for the sales appeal of*  
**CONCRETE Homes**



One of many concrete masonry random ashlar patterns



Coursed ashlar—with vertical joints flush

If you are looking for sales-making eye-appeal, consider Concrete! The wide choice of attractive textures and patterns obtainable with concrete masonry and reinforced concrete will help you give variety and distinction to your homes.

**CONCRETE HOMES ALSO ARE**

- Firesafe.
- More comfortable and dry in all weather.
- Resistant to dampness, termites.
- Free from sagging walls and other costly, annoying faults, as only a rigidly built home can be.
- BETTER VALUES! Concrete construction means little or no higher price tag—less cost to owner in the long run, thanks to low maintenance and high resale value.

Over 45,000 new concrete homes built in past 4 years, and you'll see more and more of them. Proof that people want concrete. Write for additional facts.

**PORTLAND CEMENT ASSOCIATION**  
 Dept. 10-3, 33 W. Grand Ave., Chicago, Ill.

**BOOKS—**(Continued from page 105)

Specifications; The Drawings; The Estimate; Syllabus of Business Procedure; The Check List; Example of Procedure and Practice for a Building Project in a Metropolitan Area.

**AN AIR-CONDITIONING PRIMER**—by William Hull Stangle. 1940. 236 pages, illus., tables, charts, diagrams. 6 x 9, cloth. McGraw-Hill Book Co., Inc., New York City. \$2.50.

A complete and easily understandable introduction to air conditioning, telling what it is and what it can do, and explaining its technical fundamentals, the methods of applying them, and the many types of equipment available and how they work. The book is divided into two parts: Part I covers the basic characteristics of heat, air, people, and houses, which comprise the fundamentals and essentials of comfort air conditioning; Part II covers the application and apparatus which comprise the more practical adaptation of the fundamentals of Part I. Necessary tables and charts are given in the Appendix.

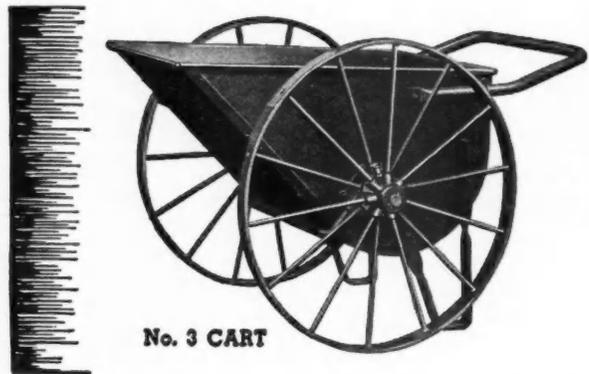
**SELLING REAL ESTATE TODAY**—by Hobart Brady. 1940. 100 pages. 6 x 9, cloth. The Dartnell Corp., Chicago. \$1.50.

A compact manual on real estate selling methods that will work today, written by a man in daily contact with the same practical problems of selling real estate that face every broker and salesman. The contents include: This Business of Ours; Why Brokers Are Necessary; Increasing Your Effectiveness; Your Prospect; Strategy of Creative Selling; The Art of Negotiation; and, Common Objections and Effective Answers.

**HOW TO DESIGN AND INSTALL PLUMBING**—by A. J. Matthias, Jr. 1940. 388 pages, 330 illus. 5 3/4 x 8 1/2, cloth. American Technical Society, Chicago. \$3.00.

A "how-to-do-it" book containing information of value to beginners and apprentices as well as to experienced plumbers. Some of the subjects covered are: Municipal and private sewage disposal; materials used for sewer pipe and fittings; storm drainage; ventilation; soil; water supply; house service; domestic hot water supply, and plumbing fixtures.

**STERLING CONCRETE CARTS**  
 PLAIN OR ROLLER BEARINGS



No. 3 CART

- 6 Cu. Ft. Capacity — 14 Ga. Tray. • 30 In. or 36 In. Diameter Wheels. • Flat or Oval Tires. • Heat Treated Under Slung Axle. • Can be Furnished with 30 In. x 3 1/2 In. Pneumatic Tires.

**STERLING WHEELBARROW CO.**  
 MILWAUKEE, WISCONSIN

## LETTERS from Readers on All Subjects

Facts, opinions and advice  
welcomed here

### Plans to Reproduce World's Fair Home Milwaukee, Wis.

To the Editor:

In your June, 1940, issue of the *American Builder* you ran a story on pages 45, 46 and 47 on the Typical American Home, the dedication of which was attended by Mayor LaGuardia, Grover Whalen and other notables.

It is our ambition to reproduce this home in Milwaukee and we are naturally desirous of making such contacts that will enable us to obtain copies of the publicity that this home received in the New York papers.

It appears to the writer that the editors of some of the New York newspapers must have written up some editorial in their real estate sections on the dedication of these homes at the World's Fair and as a subscriber of your magazine we appeal to you to send us whatever publicity you may have gathered from the newspapers, or otherwise to advise us where we can obtain copies of this publicity by quoting to us the newspapers and the dates that the story was carried.

JAY CONSTRUCTION CO.

### For and Against the New Deal

Woonsocket, R. I.

To the Editor:

Your magazine is doing a fine work in trying to protect the contractors and builders from government meddling and government competition.

(Continued to page 108)



For Garages—factories—  
warehouses—service  
stations and markets

## WAGNER GLIDE OVER GARAGE DOORS

Easy to operate—attractive appearance—simple to install—weatherproof. Here is perfection in overhead door construction . . . no bulky or complicated mechanism to clutter up the interior of the building—so easy to operate women and children can easily open and close the Glideover door.

The Wagner Manufacturing Company have had many years of experience in building high speed elevator door operating equipment. This experience has been utilized in the design of the Glideover Door which accounts for the 100% satisfactory performance. Wagner Electric Door Controls may be furnished for Glideover or any other type of door.

Get the facts on Glideover Doors. Write for new bulletin giving complete details.

**Wagner Mfg. Co.**

Dept. AB 1040, Cedar Falls, Iowa  
Serving The Building Trade For Over  
33 Years



"K.O.'s"  
KITCHEN ODORS

- ★
- WHISKS AWAY  
SMOKE, FUMES
- ★
- PULLS OUT  
HEAT
- ★
- ENDS GREASY  
GRIME

### ONLY ILG HAS THE SELF-COOLED MIRACLE MOTOR THAT "Breathes" NEVER "GUMS-UP"

Informed women who "shop" for modern homes or apartments want and expect ILG Kitchen Ventilators. For their complete satisfaction, specify the fan that is weatherproof . . . trouble-free . . . smooth, effortless and supremely quiet in operation . . . adjustable for different width walls . . . has certified ratings . . . and is backed by the time-tested "ONE-NAME-PLATE GUARANTEE"—that's ILG! Call in your nearby ILG sales engineer now, or write today for Bulletin H-511.



Completely enclosed motor is self-cooled by fresh outside air . . . stays clean . . . never reached by grease or smoke to interrupt service, shorten life! Low operating cost, no radio interference.



ADVERTISED NATIONALLY TO HOME-LOVERS  
Cut down sales resistance by suggesting and specifying ILG—the nationally-accepted Ventilator! Consistently advertised for over 20 years—now featured in *House and Garden* and *House Beautiful*.

**ILG ELECTRIC VENTILATING CO.**  
2852 N. CRAWFORD AVENUE, CHICAGO, ILL.

Offices in 42 Principal Cities



Vitalized  
**VENTILATION**

AND AIR CONDITIONING

\* AIR CHANGE... NOT JUST AIR MOVEMENT!



# I want my kitchen modern!

AND WHY NOT! A kitchen that has the benefit of modern planning is a pleasanter place to work. And the builder knows it's the kind of room that helps sell a house to a woman.

Take the sink, for example. When you install a "formed" sink, porcelain enameled on ARMCO Ingot Iron, you not only have the powerful sales features of modern lines and long-time luster, but you can tell your prospects that the porcelain enamel is acid-resisting at no extra cost. With the increasing use of fruit juices, this is important.

Another sales advantage is the ARMCO label, which you can have not only on formed-iron sinks, but on laundry tubs, bathtubs and lavatories when made of ARMCO Ingot Iron. That label, backed by more than 25 years of national advertising, is your customers' assurance of fine metal under fine porcelain enamel. Write for specifications and prices. The American Rolling Mill Company, 2541 Curtis Street, Middletown, Ohio.

## ARMCO INGOT IRON

A NAME KNOWN TO MILLIONS



• Hot-water Hint: The newest thing in hot-water tanks is one that's porcelain enameled inside and out on ARMCO Ingot Iron. Less chance of corrosion leaks and rusty water.

### LETTERS— (Continued from page 107)

Do the government crackpots ever stop to think about what the ultimate result of their methods is? They spent millions for propaganda trying to create a building boom and then drive the sensible, responsible, builder and real estate developer out of business by putting on USHA programs or threatening them. They use the taxpayer's money to put the taxpayer out of business. Here in Woonsocket real estate values take a drop with every report of the USHA program to be undertaken.

We are renting two-family 6-room 14-year old houses that cost \$7,500 for \$23 per month, and yet the government politicians are trying to catch a slum vote by bearing down on the property owners. If the government wants to increase building let them reduce the taxes and building will spurt ahead on its own initiative.

CARLTON J. ALDRICH.

1101 N. Estelle,  
Wichita, Kans.

To the Editor:

Your editorial in the September 1940 issue takes the blue ribbon for stupidity and distortion. You better go back to kindergarten. Historians, economists, and the preponderant portion of the American people agree that

1. The Republican Party, by its imbecility and intellectual sterility caused the wreck of 1929. That the business men who had a stranglehold on Government during the disgraceful Harding-Coolidge-Hoover era, were totally incompetent to correct the economic impasse they created.

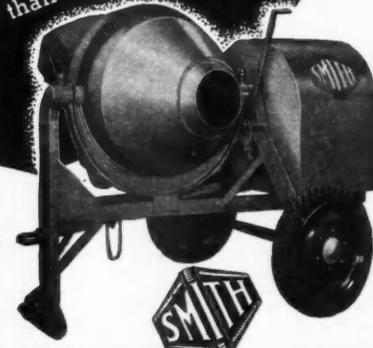
2. That the New Deal has (1) ended abuse of the national well-being by the wealthy and powerful economic units; (2) has restored better and sounder business; (3) has brought a better sense of order and coherence to America than ever it had in history, and (4) has immeasurably added to the standard of living and security of more people than ever before in the U. S. A.

M. ROBERT SAMBER.

(The above communication was received on a postal card.

It PAYS to Pay a Few Dollars More!

Buying a concrete mixer is like buying a suit of clothes — you get so much more by paying only a little more. The Smith 3 1/2-S Tilling Mixer gives you so many additional features — Famous END-TO-CENTER MIXING ACTION — SHORT 40" TILT for fast "TILT AND POUR" discharge, etc. Yet it costs but little more than ordinary "tub" mixers.



SMITH 3 1/2-S MIXERS are equipped with spring-mounted axle, anti-friction bearings, machine cut gears, enclosed crankcase engine and pneumatic tired disc wheels. Write for literature.  
The T. L. SMITH CO.  
2849 N. 32nd St., Milwaukee, Wis.

SMITH MIXERS

THE BOULDER DAM MIXERS

Inquiry at Wichita, Kans., about the author brought the following reply:—EDITOR).

"Do not locate M. Robert Samber, 1101 N. Estelle, but have located M. Robert Samborski, 1103 N. Estelle. He is a Polish lawyer who came here from Chicago about a year ago. He is now with the Wichita Federal Savings and Loan Association, promoting savings accounts and general utility man."

Pullman, Washington.

To the Editor:

I have just received the September copy of *American Builder*. I note your message on Government Housing. It is my sentiment, and I am glad the *American Builder* has spoken. Every community where "Defense Workers" are called has men and equipment sufficient that can supply the need. As a taxpayer I protest the plea of the USHA. I wish you would forward this with your message to our congressman.

L. O. DANA.

Bridgeport, Conn.

To the Editor:

My answer to the last paragraph of your article on page 29 of the September issue of the *American Builder* is "yes." I believe the New Deal has done an exceptionally good job for building recovery, as well as other recovery, and the comparison is evident in your table—and that figure represents the wreckage of our economy that was turned over to the New Deal by the reactionary Republican party.

I subscribed to the *American Builder* on the assumption that it was a building trade publication and not a political one; therefore, will you cease sending it to my office.

EDWARD E. BRAY, President,  
The Edward E. Bray Company, General Construction Contractors.

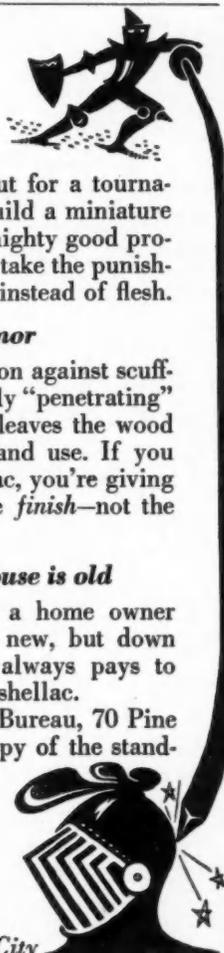
Sanford, Fla.

To the Editor:

Answering your editorial in *American Builder* for September, 1940, written by Samuel O. Dunn, chairman of the Board:

(Continued to page 110)

### What has a KNIGHT to do with the floors we build today?



500 years ago, when a knight set out for a tournament, he put on enough armor to build a miniature locomotive. Slightly awkward, but mighty good protection. For he was letting the armor take the punishment, meeting the blows with metal instead of flesh.

#### How to give floors a coat of armor

Floors today need plenty of protection against scuffing and furniture and wear. If a purely "penetrating" finish is used, it just sinks in, and leaves the wood itself exposed to damaging blows and use. If you use a built-up finish, such as a shellac, you're giving the floor a coat of armor. Then the *finish*—not the wood—takes the punishment.

#### Floors that look new when the house is old

Sturdy protection like that makes a home owner happy not just when the house is new, but down through the years. That's why it always pays to specify a *good* grade of pure white shellac.

Write to the Shellac Information Bureau, 70 Pine Street, New York City, for a free copy of the standard specifications for architects, as approved by the American Bleached Shellac Manufacturers Association.

**SHELLAC INFORMATION BUREAU** 70 Pine Street, New York City

Jim, when I say  
**Speedmatic**  
is the **BUY**  
I can  
**PROVE IT!**

Because it has  
all these

### PRACTICAL Features



## Speedmatic ELECTRIC HANDSAWS

User after user will tell you that SPEEDMATIC's many Value Points prove out *right on the job*—in a *bigger, easier day's work*.

You'll find practical, *in-built* reasons why SPEEDMATIC outperforms, whether you are looking for powerful, fast cutting; easy handling; simple, accurate adjustment and control; safety; or low upkeep.

And because SPEEDMATIC, with its strong-but-light housing, long-lasting bearings, wear-saving gears, is so dependable, its ability to reduce sawing costs *continues for years*.

★

**Speedmatic FLOOR SANDERS**

Get faster, better and easier floor-sanding—and make bigger profits on your job!

SPEEDMATIC Floor Sanders have the power, cutting-speed and balance for both Quality and Quantity of work. In suitable sizes for all requirements. Write for description.

### BEFORE Buying Any Saw

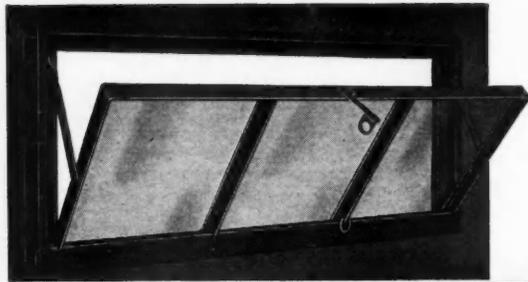
... make a cut-by-cut comparison and see on your own work why you'll be many dollars ahead with SPEEDMATIC. See telephone book and call your local Porter-Cable man NOW. Or write us for complete details. Without obligation, of course.

### PORTER-CABLE MACHINE CO.

1721-J No. Salina St., Syracuse, N.Y.

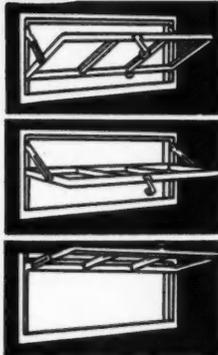
Representatives in all Principal Cities

**Follow the Lead OF THE SMART OPERATORS...**

...USE THE NEW AND GREATLY IMPROVED

**VENTO CHAMPION BASEMENT WINDOW**



Try the new VENTO CHAMPION basement windows in the next house you build. Then demonstrate to your prospects that these windows open either from top or bottom; that they provide any desired degree of indirect or direct ventilation; that they operate smoothly and easily without any fuss or special manipulation; that ventilator may be quickly removed from the frame for the passing through of large objects; that a broken pane of glass may be easily replaced by simply placing a new pane against the cork cushion and inserting angle glazing clips. (CHAMPIONS are available in either putty or puttyless types.) Then point out the obvious greater degree of weather tightness and the general superiority of construction. You will find that you have discovered an easy way to capture the prospect's interest and a potent means of impressing him with the fact that only finest quality materials have been used. And that, you know, helps to beat the band.

Valuable as this selling help is, it costs you absolutely nothing. For the VENTO CHAMPION doesn't cost a cent more than any other first line window. WRITE TODAY, for the complete facts; or, better still, ask your dealer to show this remarkable window to you.

VENTO manufactures a complete line of top-notch windows for every purpose and enjoys an enviable reputation for dealer co-operation. Catalog on request.

**VENTO STEEL PRODUCTS COMPANY MUSKEGON, MICHIGAN**

**LETTERS—** (Continued from page 109)

Yes, I believe that those who have prevented recovery for seven and a half years are best qualified both to (1) cause recovery and (2) provide most economically and efficiently for national defense in the future.

The figures quoted perhaps are correct, but you must remember that the nation was in a critical condition when those who have prevented recovery took over the affairs. Banks were closing daily, deposits were subject to the bank being open when the checks were presented for payment, homes were being sold, life insurance companies had discontinued lending money here, property was not selling for enough to pay off the mortgage, and it took time to readjust the hellish condition that existed at that time.

Our town did no construction from 1927 to 1934, seven stagnant years; since 1934 we have been building more and more houses each year.

I subscribe to your magazine for the purpose of learning about building and not as an advocator of political issues. To stuff your magazine with such editorials for your subscribers to read is in my opinion the same as businesses stuffing pay envelopes trying to dictate to employees how to vote.

The local lumber yards who have enjoyed an increased business during the past five years of the seven and a half years of New Deal Administration and some of your advertisers whose products they sell, if they should happen to read your "Business Under the New Deal," will I believe feel the same way as I about stuffing your magazine with this kind of political propaganda.

C. M. BOYD,  
C. M. Boyd & Company, Mortgage Loans, Insurance, Real Estate.

Pottstown, Pa.

To the Editor:

A group of local contractors, real estate men, etc. are trying to buck a proposed Federal Low Rent Housing Project here in Pottstown, and at a meeting of these men they asked us to write you to secure information on low cost homes.

We would especially like to secure some photographs of a



**3 1/2-S NON-TILTING KWIK-MIX**

Modern rubber tired roller drum drive—No ring gear—No countershaft—Less wear—Smooth running—Load while mixing—Increased production—End discharge.

**3 1/2-S TILTING KWIK-MIX**

End discharge — Air-cooled engine — Light weight — Welded construction—Anti-friction bearings—Spring mounting — High speed trailing.



Write for Bulletin AB

**KWIK-MIX CONCRETE MIXER CO.**  
PORT WASHINGTON . . . WISCONSIN

development of low cost homes similar to page 34 of September 1940 issue: If possible, we would like to have a set of plans for this house, and also any other information that you may be able to give us to help us in defeating this project.

This project has already passed the first reading in the Town Council and you can readily see that we need all the information that we can possibly get and as soon as possible.

FREDERICK BROTHERS, INC.  
By R. F. Frederick

**More About Soil and Cement Construction**

Chicago, Ill.

To the Editor:

In the "Letters from Readers on All Subjects" Department of your September issue of *American Builder*, page 84, is a letter from R. Burton Rose, M.A., San Jose, Calif., describing the use of soil and cement for building low cost houses. This letter has prompted several inquiries to us for more information since the Portland Cement Association was mentioned in Mr. Rose's letter. No doubt your readers would likewise desire more information.

In 1935 the Portland Cement Association began research and field work to determine the possibility, practicability and economy of mixing roadway soils and cement to produce a low cost, light traffic road. This work resulted in the development of scientific methods for combining soil and cement to achieve this objective. This is shown by the Portland Cement Association receiving the 1939 award from the American Trade Association Executives, by the recent action of the American Society for Testing Materials in approving the soil-cement tests as Tentative Standards and the construction, to date, of the equivalent of over 600 miles of soil-cement roads by the Public Roads Administration, state and county highway departments, and cities.

It was obvious, as soon as scientific control methods for soil-cement mixtures had been developed and proved, that this new structural material would have many other uses. Low cost houses were naturally included. As soon as road experience gave reliable

(Continued to page 112)

**Rain-Dust-Wind  
Cannot Penetrate  
A WEATHER-TIGHT  
RESIDENCE**

**Be Sure To Calk  
Door and Window  
Frames With**

**PECORA COMPOUND**  
FOR EFFECTIVE  
**AIR CONDITIONING-  
HEAT CONSERVATION**

Pecora Calking Compound has been used by leading builders and architects since 1908. Properly applied, Pecora will not dry out, crack or chip. Available in bulk, or in metal cartridges for use with Improved Pecora Calking Gun, illustrated.

Write for illustrated folder



With 3 Nozzles and 4 Cartridges or approx. 1 qt. each  
**This Gun Shipped Express \$6.50 Collect for**  
Terms: 2% disc. net cash with order. To approved credits, 3% 10 days, 30 days net.  
F. O. B. Philadelphia, Pa.

**Pecora Paint Company, Inc.**

Member of Producers' Council, Inc.  
Established 1862 by Smith Bowen

Fourth St. & Reading R. R. Philadelphia



ALSO MORTAR STAINS • SASH PUTTIES • ROOF COATING  
• PECOMASTICS FOR STRUCTURAL GLASS INSTALLATION

**THE Real COST OF BUILDING PAPER IS . . .**

**THE APPLIED COST**

**IT PAYS TO USE**

**SISALKRAFT**

**I**TS applied cost is LOW. There's no time lost patching tears and punctures . . . no waste — no worry. Sisalkraft is *tough*. It goes on faster . . . can be yanked around corners — handled by one man alone, even in a heavy wind. No batten strips — just roofing nails. These factors cut the *applied* cost of Sisalkraft to the level of even the flimsiest papers. Make this one "best" building paper your standard on every job. It will pay you.

**A TIGHTER BUILDING . . . GREATER SATISFACTION**

Sisalkraft over all sheathing seals the structure against infiltration of moisture, air and dust. It won't deteriorate in the wall and helps avoid damage caused by construction cracks.

It's a material of **MANY** uses — for protecting and curing concrete floors — flashing window and door openings—temporary partitions and closures — protecting materials on the job.

Get better acquainted with Sisalkraft. Ask your lumber dealer for demonstration samples and detailed literature — or write us.

**The SISALKRAFT Co.**

205 W. WACKER DRIVE CHICAGO, ILLINOIS  
New York • • San Francisco





**KITCHEN MAID** developed the modern kitchen and its standard unit cabinetry has continued to set the pace for 18 years. *Design* is distinctive, yet practical, for kitchens of any size; gives architect and builder unlimited possibilities for planning. *Construction* is of the finest...

with wood, metal and newest compositions used where each serves best, gives greatest strength, longest life. And consistent national advertising has won a high degree of *public preference* for the Kitchen Maid line. Write for full-color catalog and complete details today.

THE KITCHEN MAID CORP., 500 SNOWDEN STREET, ANDREWS, INDIANA



# SELL MILLWORK THAT CAN "TAKE IT"



Houses today are made comfortable. Insulated, storm windowed and weatherproofed against the elements; air-conditioned for further comfort. Comfortable for human beings but tough on building materials. It's up to modern builders to keep pace with these fundamental changes. The science of wood preservation has kept pace. Doors, windows, trim, cupboards, etc., can be protected so that they give life-long, trouble-free service.



On the cover of our new WOODLIFE folder "Keeping Up With The Times" is illustrated a door entrance that certainly "took it" under unusually trying circumstances. We would like to send you a copy.

## Protection Products Mfg. Co.

Mfrs. of PRESERVATIVE SOLUTIONS for **19** Years  
Research Laboratory and Plant KALAMAZOO, MICH.

### LETTERS— (Continued from page 111)

background on probable construction costs, estimates were made of probable costs of building soil-cement houses. These estimates showed that where concrete aggregates were available for usual concrete ashlar, concrete block and monolithic concrete construction, there would be little savings in soil-cement construction. However, in areas where concrete aggregates are expensive and where labor costs can be ignored, soil-cement might produce economical construction. These facts reduced the places where soil-cement house construction might be economical to limited areas which at the same time have limited population.

In spite of the limited, practical use of soil-cement houses, the Portland Cement Association is developing research, test, design, cost and construction data. At the present time we regret we are not in a position to assist on testing or construction or to make recommendations because our work on soil-cement houses is still in the research, development and demonstration stage. We are accumulating the needed data on construction methods, both block and monolithic, on design, on structural values, insulation values, and other basic information needed to make dependable recommendations. All research completed to date is most encouraging. We are extending this work as rapidly as possible. When the necessary background is developed, our organization will issue booklets and test data for the engineering profession.

PORTLAND CEMENT ASSOCIATION  
By M. D. Catton, Development Dept.

### Reports "Cotton House" in the South

Birmingham, Ala.

To the Editor:

A "Cotton House" is an innovation in farm home construction offered in this section by the Farm Security Administration. Several such houses were recently constructed near Elba, Ala.

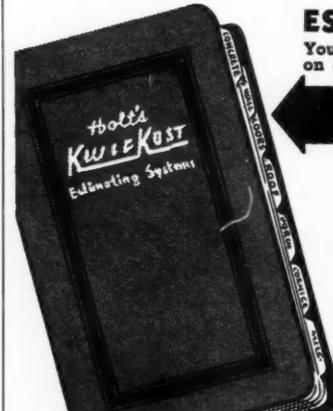
The houses can't be described as all cotton. The structural phase of the regular frame dwelling is retained, a smooth base provided by a layer of plywood, and then a cotton cover glued on by a formula developed by the U. S. Navy in ship building. The cotton is in the form of canvas duck, selected for its fire resistance, im-

## Yes, you get *TruCost* tables ... with Holt's **KWICKOST**

### ESTIMATING SYSTEMS

You can figure a complete, accurate price on a new building in one hour.

THIS "BOOK OF BOOKS FOR BUILDERS"



gives you the jump on your competitors. KWICK-KOST eliminates costly omissions.

This latest guide is the perfected culmination of 30 years of experience by America's foremost instructor of Simplified Estimating. Handy pocket-size, 3 3/4" x 6 3/4". Looseleaf and contains all the TRU-COST tables.

### KWICK-KOST SAVES TEDIOUS NIGHTS OF FIGURING

Holt's new KWICK-KOST Estimating Systems contains more and better tables than former Holt books.

PRICE ONLY \$7.00  
Money Back If Not Satisfied

MAIL THIS COUPON TODAY!

AND GET HOLT'S ROOF-RULE FREE



American Builder and Building Age, 30 Church Street, New York, N.Y.

Please send me HOLT'S KWICK-KOST ESTIMATING SYSTEMS. Enclosed is check or money order for \$7.00. Include without charge one Holt's Roof-Rule.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

perviousness to moisture, and durability. The canvas is used not only on the outer walls but for the roof as well, which is of the same material.

The canvas is laid on in such a way as to avoid air pockets, which would eventually cause sagging. It is laid on in strips—each overlapping the next by some four inches. After the duck covering is in place, it can be painted as any other ordinary surface.



According to W. V. Albright, district engineer for the FSA, the "cotton house" (four-room structure as shown in the picture) can be built for about \$1,350, which is about the cost of an ordinary frame dwelling with wood siding and shingle roof. The house is ceiled with plywood.

The houses are now about 18 months old and from all appearances the cotton exterior is entirely satisfactory. Occupants of the houses say they are warm in winter and cool in summer. There are no leaks, no cracks or sags.

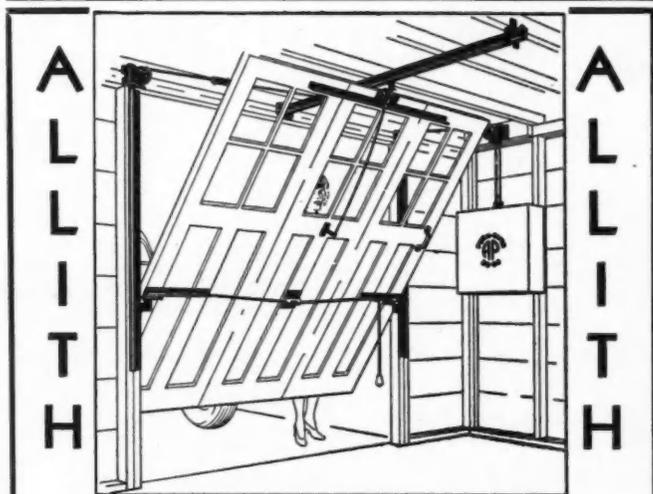
GEORGE H. WATSON.

### Wants Advice on Basement Floor Problem

Washington, D.C.

To the Editor:

The basement of my house is damp due to condensation which  
(Continued to page 114)



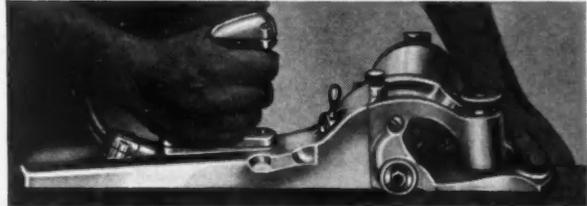
### GARAGE DOOR HARDWARE

We are proud of our "50-50" Push-Over set because it has made a host of friends for us—but more important is the fact that the dealers, the architects and the builders who have installed these sets have had no "kick-backs" or complaints.

This set is adjustable to fit all openings from 7'-7" to 8'-11" wide, by 8' high. Wider opening sets have two tracks.

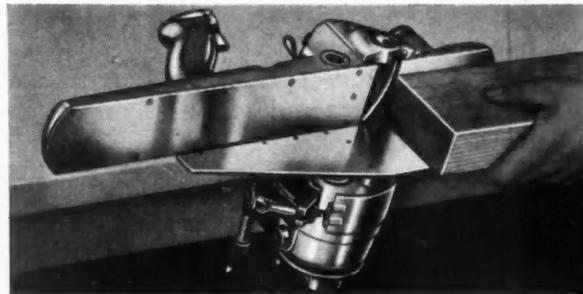
**ALLITH-PROUTY, INC.**  
DANVILLE, ILLINOIS

## COST CUTTING EQUIPMENT FOR LOWER COST HOUSING



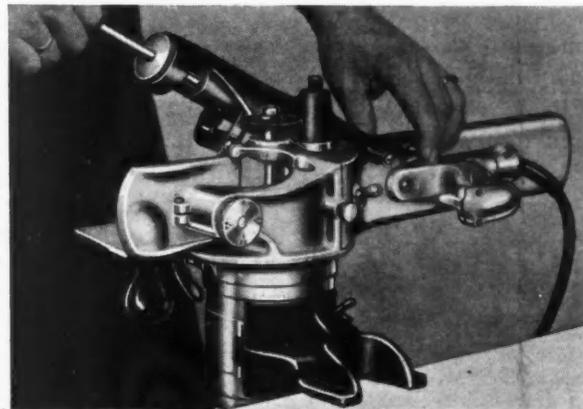
This Carter Electric Plane is so much faster than hand planing that comparative figures lose their meaning. You have to see it fitting doors, sash, storm windows, screens and transoms to appreciate its cost cutting, profit making possibilities. Mounted in the bench bracket furnished, it instantly becomes a high speed jointer indispensable for inside trim work.

Powered with a 1 H.P. motor it is the largest, most powerful plane on the market. It will plane a surface up to 2½" wide. In spite of its power it is light because it is made from aluminum alloy.



Other features: *Spiral Cutter* makes smooth, waveless cuts with or across the grain without splintering the edges. *Quickly Adjusted* for paper thin or heavy cuts up to 3/16 of an inch. *Sharpens its own cutter.*

Would you like more information on this new electric plane?



**R. L. CARTER DIVISION, The Stanley Works**  
133 Elm Street, New Britain, Conn.

Tell me more about your electric planes.

Name .....

Address .....

**CARTER MONEY MAKING TOOLS**

# YOUR ANSWER TO "BUILD FOR SECURITY NOW"



**ROOFS  
SIDE WALLS**

**RU-BER-OID ETERNIT  
ASBESTOS CEMENT  
FIRE-PROOF • ROT-PROOF  
TIME-DEFYING**

Roof—Ruberoid-Eternit Dutch Lap Asbestos Shingles  
Sidewalls—Ruberoid-Eternit Colonial Asbestos Siding

You sell Building Security when you sell these improved Ruberoid-Eternit building products. Security against fire—security against rot and decay—security against upkeep costs.

For example, roofs of Eternit Asbestos-Cement Shingles. Here is beauty to sell—colorful shingles resembling "Wood Texture" or "Rugged Rock"—shingles that cast deep shadows, make interesting roof lines.

But there's *more!* Eternit Shingles offer *security*. They cannot burn. They are fire-proof. They won't dry out or rot—this year, next year or ever. They are time-defying. Periodic painting or staining is never needed to prolong their life. That is real security—investment security.

For another example—Side Walls of Eternit Asbestos-Cement Siding. Beautiful to look at. Modern as tomorrow. Colonial, Thatch or Weather-board designs. Smooth or textured like wood. Yes, you can sell eye appeal. But you can also sell security—for Eternit Sidings are both fire-proof and rot-proof. Termites get fooled. Paint protection is not needed. Fuel bills go down. Isn't that a real security story?

Both Eternit Asbestos Roofs and Sidings are Ruberoid-made—the best assurance of exacting quality and performance. Get all the facts. It will help you sell the idea, "Build for Security Now". Address Dept. AB-10.

**The RUBEROID Co.**

Executive Offices: 500 Fifth Avenue, New York, N.Y.



Reg. U.S. Pat. Off.

# RU-BER-OID

ROOFING AND BUILDING PRODUCTS

## LETTERS—(Continued from page 113)

collects on the cement floor only. When the house was built, the basement floor was laid directly on the dirt. The contractor said a cinder base was not needed as the house is situated on a hill. However, the house is in a wooded section surrounded by numerous large trees.

I feel sure the dampness is caused by the hot, moist air condensing on the cold cement floor. There is no dampness during the winter or during the summer when the weather is cool. I have tried exhaust fans, but this only increases the dampness. I have also painted the floor with deck paint but while this remained dry during the winter it became sticky in hot weather. The paint had to be taken up. I also laid solid rubber floor covering in places, but dampness collected under the rubber. The house is three years old.

It is almost impossible to dig up the cement floor, lay a cinder base, and put down a new cement floor. I realize this would be the best solution.

I am now considering laying a composition tile floor on top of the cement floor. I hope this will keep the cold ground temperature from coming up to the surface of the basement floor. To further this object, I have in mind putting an asbestos base felt-paper between the cement floor and the tile to increase the insulation value of the tile.

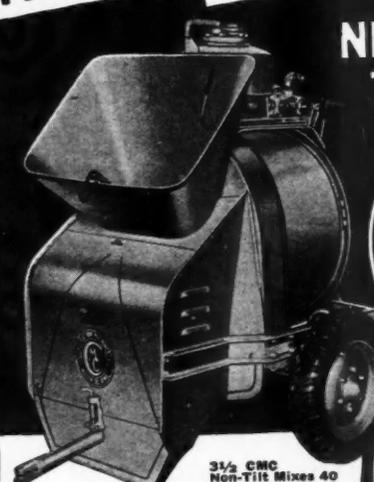
Will you kindly give your advice in answer to the following questions:

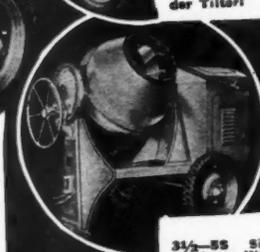
1. Do you think this will stop the condensation?
2. Is it practical to lay the felt-paper between the cement floor and the tile or will this cause a layer of dampness between the two surfaces or cause the tile to become loose or raise up in places? Would the paper decay in time and cause the tile to settle?
3. Is there any better material with higher insulation value and longer life to substitute for the felt-paper as a base for the tile?
4. What tile would you recommend that has a durable finish as well as high insulation properties?
5. Is there any better way to correct this condensation?

PLANT & GORDON, INC.  
By A. H. Plant

**HIGHEST PRODUCTION · LONGEST LIFE · GREATEST VALUE**

## NEW C.M.C. TRAILERS





**3 1/2 CMC Non-Tilt Mixes 40 to 50% More!**

**3 1/2-55 End Discharge Wonder Tilter!**

**3 1/2-55 Side Discharge Wonder Tilter!**

This profit trio gives you a choice of the BEST for your work. They are built to move fast—mix fast and last longer. Wonder Tilters and the new CMC 3 1/2 Non-Tilt lead the industry.

Before buying, get the new CMC catalog of Mixers, Tilters from 2 1/2 to 10 cu. ft. Non-tilts to 1 yard size, 1 and 2 bag Hoe Type. Pumps, Hoists, Power Saws, Carts and Barrows.

**CONSTRUCTION MACHINERY COMPANY  
WATERLOO, IOWA**

## "TruCost" Estimating Figures for Home Designs in this Issue



The Editors have prepared a 28 PAGE EXPLANATION of American Builder's "TruCost" system of quick, accurate estimating and offer it to anyone interested at 25 cents per copy. Please enclose payment when ordering. Address American Builder, 30 Church St., New York City.

### Page 42, October: Nelbren, Bldr.

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 162 lin. ft.; Trench Walls, 72 lin. ft.; Basement Floor, 1240 sq. ft.; Garage Floor, 180 sq. ft.; Excavation per ft. deep, 52 cu. yds.; Outside Walls, 20.00 sqs.; First Floor, 12.40 sqs.; Second Floor, without fin. flg., 8.00 sqs.; Ceiling, 12.40 sqs.; Roof Pitch, 9" rise per ft. run; Roof, 17.00 sqs.; Hips and Valleys, 20 lin. ft.; Cornice, C & F, 188 lin. ft.; Partitions, 170 lin. ft.; Inside Finish OS Walls, 162 lin. ft.; Front and OS French Doors, 2 opgs.; Rear and Grade Doors, 1 opg.; Garage Door 8 ft. wide, 1; Inside Doors and Cased Opgs., 12 opgs.; Windows and Casements, 17 opgs.; Gable Sash and Louvers, 2 opgs.; Chimney, 28 lin. ft.; Main Stairs, 1; Porch Floor, 1.12 sqs.; Porch Ceilings, 1.12 sqs.; Porch Beam, 30 lin. ft.; Porch and Balcony Post and Newels, 5; Porch Roof, 1.40 sqs.; Porch Cornice, 34 lin. ft.; Terrace Fence, 12 lin. ft.

### Page 43, October: Nelbren, Bldr.

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 146 lin. ft.; Trench Walls, 100 lin. ft.; Basement Floor, 1225 sq. ft.; Garage Floor, 288 sq. ft.; Excavation per ft. deep, 54 cu. yds.; Outside Walls, 21.50 sqs.; First Floor, 13.35 sqs.; Second Floor, without fin. flg., 7.50 sqs.; Ceiling, 13.35 sqs.; Roof Pitch, 7" rise per ft. run; Roof, incl. Porch, 20.00 sqs.; Hips and Valleys, 24 lin. ft.; Cornice, C & F, (Continued to page 116)

**EASIER to BUILD**

A complete metal form for the masonry. Firebox, damper, smoke dome and down-draft shelf are all built-in parts.

**CIRCULATES HEAT WILL NOT SMOKE**

CIRCULATING WARM AIR

SEND FOR FURTHER INFORMATION  
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AIR INTAKE

**HEATILATOR Fireplace**

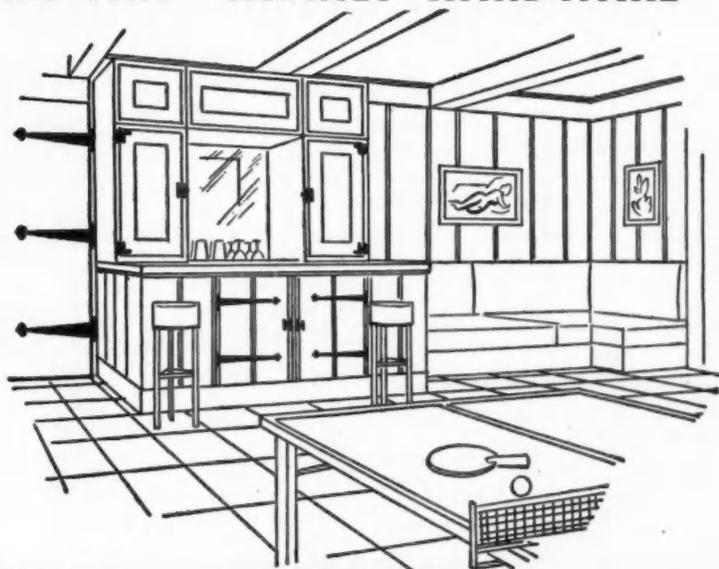
## MATCH YOUR HOMES—"INSIDE-OUT" with

# McKinney INTERIOR AND CABINET HARDWARE

## for Game Rooms and Dens

- Authentic Design
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Sales are easier to make when you show your prospect a "follow through" of exterior and interior hardware. McKinney offers a wide variety of styles in every price range.



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YEARS OF DESIGNING AND MANUFACTURING GOOD HARDWARE

# ONE HAND Drives A STANLEY Safety Saw



Stanley W8 With Exclusive Duplex Handle

## IT'S BUILT TO MAKE MONEY FOR BUILDERS

**U**SE it in the shop, to pre-cut stair stringers and other timbers that can be done inside - then take it out on the job. It handles jobs like bevel cutting for roof framing, cutting off sheathing, ripping floors and scores of other jobs easily and quickly.

The Stanley Safety Saw is built for builders, with the in-built power and ruggedness that a builder needs. The balance and the complete safety features make this an easy and safe tool to use. Ask your Stanley distributor for a demonstration, or write for literature. Stanley Electric Tool Div., The Stanley Works, 133 Elm Street, New Britain, Conn.

Stanley Safety Saws Are Made In Six Models, with Capacities From 1 1/8 to 6".

### STANLEY ELECTRIC TOOLS

"COST LESS PER YEAR"

## TruCost Figures—

(Continued from page 115)

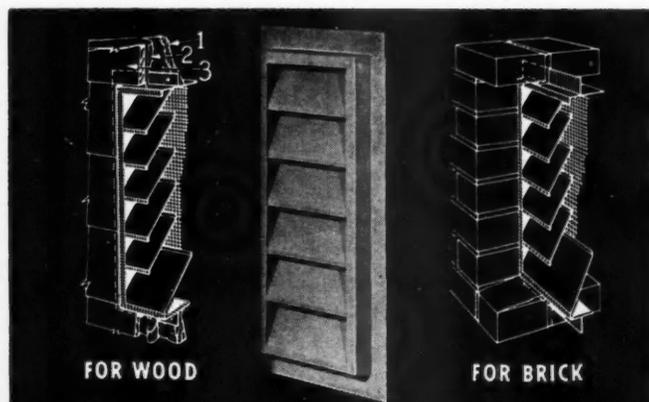
244 lin. ft.; Partitions, 184 lin. ft.; Inside Finish OS Walls, 166 lin. ft.; Front and OS French Doors, 2 opps.; Rear and Grade Doors, 2 opps.; Garage Door 15 ft. wide, 1; Inside Doors and Cased Opps., 16 opps.; Windows and Casements, 25 opps.; Gable Sash and Louvers, 2 opps.; Chimney, 26 lin. ft.; Main Stairs, 2; Porch Floor, .70 sqs.; Porch Ceilings, .70 sqs.; Porch Beam, 10 lin. ft.; Porch and Balcony Post and Newels, 4; Porch Cornice, 10 lin. ft.

### Page 44, October; Borsodi

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Trench Walls, 154 lin. ft.; Utility-Heater Room Floor, 130 sq. ft.; Garage Floor, 160 sq. ft.; Excavation per ft. deep, 19 cu. yds.; Outside Walls, 19.00 sqs.; First Floor, 4.85 sqs.; Second Floor, with fin. flg., 3.36 sqs.; Ceiling, 9.50 sqs.; Roof Pitch, 12" rise per ft. run; Roof, 13.00 sqs.; Hips and Valleys, 36 lin. ft.; Cornice, C & F, 193 lin. ft.; Cornice, 12", 168 lin. ft.; Partitions, 152 lin. ft.; Inside Finish OS Walls, 210 lin. ft.; Front and OS French Doors, 2 opps.; Rear and Grade Doors, 2 opps.; Garage Door 8 ft. wide, 1; Inside Doors and Cased Opps., 11 opps.; Windows and Casements, 14 opps.; Gable Sash and Louvers, 2 opps.; Chimney, 28 lin. ft.; Main Stairs, 1.

### Page 45, October; Borsodi

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Trench Walls, 140 lin. ft.; Utility Room Floor, 60 sq. ft.; Excavation per ft. deep, 34 cu. yds.; Outside Walls, 17.00 sqs.; First Floor, 8.00 sqs.; Second Floor, with fin. flg., 7.50 sqs.; Ceiling, 15.50 sqs.; Roof Pitch, 13" rise per ft. run; Roof, 13.00 sqs.; Hips and Valleys, 24 lin. ft.; Cornice, C & F, 275 lin. ft.; Partitions, 258 lin. ft.; Inside Finish OS Walls, 240 lin. ft.; Front and OS French Doors, 1 opp.; Rear and Grade Doors, 2 opps.; Inside Doors and Cased Opps., 16 opps.; Windows and Casements, 17 opps.; Chimney, 28 lin. ft.; Main Stairs, 1.



## Low-Cost DONLEY steel ATTIC VENTILATORS

• Prevent stifling summer heat and damaging winter condensation in the attic space by using low-cost, Donley Steel Attic Ventilators. These preabricated, easy-to-install, louver ventilators save time and money in home construction—increase summer comfort and scalability of homes.

Sketch at left above shows installation in frame construction, requiring no trim. Just nail flange to sheathing, then fit the siding right up to the casing as in sketch. Sketch at right shows installation in brick construction. Also available without flange at slightly lower cost. Flangeless type, however, requires wood trim in frame construction.

Made of 20 ga. steel, finished with two coats of high grade paint. Free area is generous and allows maximum air movement. Bronze fly screen attached to inside is standard. Available in four sizes in each type. Write today for further information and prices.  
**THE DONLEY BROTHERS COMPANY**  
13910 Miles Avenue • Cleveland, Ohio

**Page 51, October: Olson & Jacocks, Bldrs. (Plan A)**

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 113 lin. ft.; Trench Walls, 26 lin. ft.; Basement Floor, 744 sq. ft.; Excavation per ft. deep, 21 cu. yds.; Outside Walls, 15.00 sqs.; First Floor, 7.44 sqs.; Second Floor, without fin. flg., 5.00 sqs.; Ceiling, 7.44 sqs.; Roof Pitch, 10" rise per ft. run; Roof, 9.60 sqs.; Hips and Valleys, 20 lin. ft.; Cornice, C & F, 130 lin. ft.; Partitions, 125 lin. ft.; Inside Finish OS Walls, 113 lin. ft.; Front and OS French Doors, 1 opg.; Rear and Grade Doors, 1 opg.; Inside Doors and Cased Opps., 13 opps.; Windows and Casements, 16 opps.; Gable Sash and Louvers, 3 opps.; Chimney, 28 lin. ft.; Main Stairs, 1; Porch Floor, .50 sqs.

**Page 51, October: Olson & Jacocks, Bldrs. (Plane B)**

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 112 lin. ft.; Trench Walls, 15 lin. ft.; Basement Floor, 700 sq. ft.; Excavation per ft. deep, 30 cu. yds.; Outside Walls, 14.00 sqs.; First Floor, 7.00 sqs.; Ceiling, 7.00 sqs.; Roof Pitch, 10" rise per ft. run; Roof, 9.44 sqs.; Hips and Valleys, 20 lin. ft.; Cornice, C & F, 130 lin. ft.; Partitions, 97 lin. ft.; Inside Finish OS Walls, 112 lin. ft.; Front and OS French Doors, 1 opg.; Rear and Grade Doors, 1 opg.; Inside Doors and Cased Opps., 9 opps.; Windows and Casements, 14 opps.; Gable Sash and Louvers, 2 opps.; Chimney, 28 lin. ft.; Porch Floor, .20 sqs.

**Page 52, October: Durbin, Bldr.**

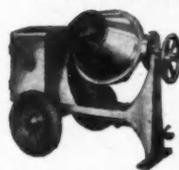
"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 140 lin. ft.; Basement Floor, 975 sq. ft.; Excavation per ft. deep, 41 cu. yds.; Outside Walls, 16.25 sqs.; First Floor, 9.75 sqs.; Ceiling, 9.75 sqs.; Roof Pitch, 9" rise per ft. run; Roof, 14.00 sqs.; Hips and Valleys, 32 lin. ft.; Cornice, C & F, 200 lin. ft.; Cornice, 4", 84 lin. ft.; Partitions, 172 lin. ft.; Inside Finish OS Walls, 140 lin. ft.; Front and OS French Doors, 1 opg.; Rear and Grade Doors, 1 opg.; Inside Doors and Cased Opps., 20 opps.; Windows and Casements, 19 opps.; Gable Sash and Louvers, 3 opps.; Chimney, 26 lin. ft.

(Continued to page 118)



**30% to 40% MORE CONCRETE with this Latest Jaeger 3 1/2 S**

• Load Measuring Batch Hopper (12" lower) while you mix and discharge — fast as a power loader.



**3 1/2 HIGH SPEED TILTER TRAILER**  
Also 5S, 7S, 10S, 14S  
Power Loader Non-Tilts with Automotive-Type Transmission, Machined Steel Drum Tracks.

- Criss-Cross "Re" - Mix Drum gives more thoro mix, faster discharge.
- Accurate Measuring Water Tank is fast, syphon type.
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- Most advanced mixer on market. Get new Catalog and prices.

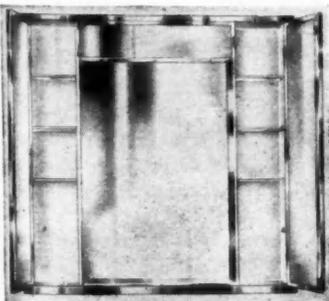
**THE JAEGER MACHINE CO.**  
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**JAEGER 1940 SPEEDLINE**



Build more beauty into **YOUR BATHROOMS** with

**MIAMI BATHROOM CABINETS MIRRORS and ACCESSORIES**

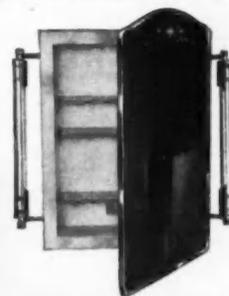


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A skillful blending of chrome and glass—the finest cabinet money can buy. Spacious compartments, one on each side of large recessed mirror, have chromium-framed mirror doors. Indirect lighting—wired complete at factory.

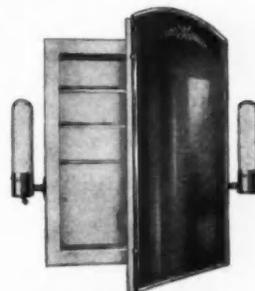
**B**EAUTIFUL BATHROOMS help sell homes—they "catch the woman's eye". Make your bathrooms more attractive with MIAMI Cabinets and Accessories.

The beauty and distinction created by MIAMI Cabinets far exceeds the proportional investment—write for the MIAMI Catalog. Dept. AB.



**MIAMI-CAREY Cabinet No. 1622CF with No. 3 Light Brackets**

The mirror is set in stainless steel frame. A budget model for the moderate priced bathroom fitted with chrome accessories.

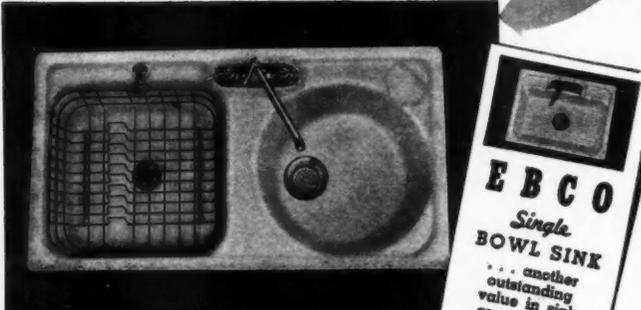
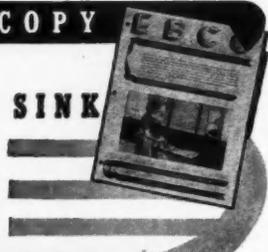


**MIAMI-COLONIAL Cabinet No. 486**

A Colonial, all-mirror front model, equipped with demi-tubular light brackets, light switch and electric convenience plug . . . completely wired at factory.

**MIAMI CABINET DIVISION** The PHILIP CAREY COMPANY, Middletown, Ohio.

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*Tells How the*  
**EBCO DISHWASHING SINK**  
*Steps-up Efficiency*  
*Adds more Convenience*  
*Saves On Installation*



The Sink America Is Buying! And no wonder! There's no substitute for the EBCO Dishwashing Sink. It offers so many improvements you can't afford to be without the details. It reduces dishwashing to three simple steps. The round compartment is patented — and more efficient. The permanence and quality of the porcelain enamel (in a choice of colors) can be demonstrated. Location of fixtures eliminates back-of-wall piping. Level rim insures watertight mounting. Offering many other features and available in various sizes, it's ideal for home or apartment. When it's an EBCO you are sure of the best!

**The EBCO Manufacturing Company**  
 401 WEST TOWN STREET COLUMBUS, OHIO

**TruCost Figures—**

(Continued from page 117)

**Page 54, October; Richardson, Bldr.**

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Trench Walls, 320 lin. ft.; Service Porch Floor, 65 sq. ft.; Garage Floor, 270 sq. ft.; Excavation per ft. deep, 70 cu. yds.; Outside Walls, 28.00 sqs.; First Floor, 20.00 sqs.; Ceiling, 20.00 sqs.; Roof Pitch, 5" rise per ft. run; Roof, inc. Porch, 33.00 sqs.; Hips and Valleys, 112 lin. ft.; Cornice, 10", inc. Porch, 300 lin. ft.; Partitions, 210 lin. ft.; Inside Finish OS Walls, 300 lin. ft.; Front and OS French Doors, 3 opps.; Rear and Grade Doors, 2 opps.; Garage Door 16 ft. wide, 1; Inside Doors and Cased Opps., 23 opps.; Windows and Casements, 26 opps.; Gable Sash and Louvers, 1 opg.; Chimney, 18 lin. ft.; Porch Floor, 2.70 sqs.; Porch Ceilings, 1.44 sqs.; Porch Beam, 36 lin. ft.; Porch and Balcony Post and Newels, 5.

**Page 56, October; Christian, Bldr.**

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 107 lin. ft.; Trench Walls, 72 lin. ft.; Basement Floor, 690 sq. ft.; Excavation per ft. deep, 30 cu. yds.; Outside Walls, 18.00 sqs.; First Floor, 6.90 sqs.; Second Floor, with fin. flg., 5.70 sqs.; Ceiling, 12.60 sqs.; Roof Pitch, 12" rise per ft. run; Roof, 10.00 sqs.; Hips and Valleys, 16 lin. ft.; Cornice, C & F, 176 lin. ft.; Cornice, 6", 36 lin. ft.; Partitions, 145 lin. ft.; Inside Finish OS Walls, 203 lin. ft.; Front and OS French Doors, 2 opps.; Rear and Grade Doors, 1 opg.; Inside Doors and Cased Opps., 11 opps.; Windows and Casements, 20 opps.; Chimney, 32 lin. ft.; Main Stairs, 1; Porch Floor, 1.96 sqs.; Porch Ceilings, 1.66 sqs.; Porch Beam, 60 lin. ft.; Porch and Balcony Post and Newels, 20; Porch Roof, 2.00 sqs.; Porch Cornice, 68 lin. ft.; Porch and Deck Rail, 10 lin. ft.

**Page 58, October; Walsh, Bldr. (with Basement)**

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 108 lin. ft.; Trench Walls, 12 lin. ft.;

**KEEP YOUR PROFITS . . .  
 ON THE LONG END OF THE BOARD**



with an **ELECTRIC**  
*Mall Saw*

Blade Sizes  
 6 1/2" to 12"

Balanced for Safety  
 With Greatest Weight  
 On Long End of Board

The original cost of an Electric MALLSaw is quickly absorbed in savings on time, labor and material. MALLSaws are powerful, fast, efficient and eliminate all blade binding near end of cut. In addition, they are easily adaptable for cutting metal, stone, or slate and sawing with an abrasive wheel. Each model has spring safety guard, loop handle with built-in switch and quadrant for bevel cuts to 45 degrees. Write TODAY for FREE Demonstration and full information.

★We make over 200 gasoline engine, air and electrically operated tools and attachments.

**MALL TOOL COMPANY** 7737 South Chicago Avenue Chicago, Illinois  
 Successors to WAPPAT INCORPORATED AND WAPPAT GEAR WORKS  
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 City..... State.....



**SOFT WOOD NEEDS LAUX REZ!** Gives fir or pine a hard, smooth surface that repels water, wear and weather. Under stain, paint, enamel—REZ controls grain raise, minimizes moisture absorption, swelling, checking, decay. Over stain, REZ gives a final finish that's hard, protective, satin-smooth. Millions of gallons already used and approved by wood product manufacturers, millwork plants, contractors, painters. Ask your dealer today.

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Basement Floor, 642 sq. ft.; Excavation per ft. deep, 28 cu. yds.; Outside Walls, 15.00 sqs.; First Floor, 6.42 sqs.; Second Floor, with fin. fig., 4.76 sqs.; Ceiling, 11.18 sqs.; Roof Pitch, 12" rise per ft. run; Roof, 9.75 sqs.; Hips and Valleys, 40 lin. ft.; Cornice, C & F, 140 lin. ft.; Cornice, 6", 76 lin. ft.; Partitions, 172 lin. ft.; Inside Finish OS Walls, 190 lin. ft.; Front and OS French Doors, 1 opg.; Rear and Grade Doors, 1 opg.; Inside Doors and Cased Opgs., 13 opgs.; Windows and Casements, 21 opgs.; Gable Sash and Louvers, 2 opgs.; Chimney, 32 lin. ft.; Main Stairs, 1; Porch Floor, .24 sqs.

**Page 58, October: Walsh, Bldr. (without Basement)**

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Trench Walls, 146 lin. feet.; Utility-Recreation Floor, 172 sq. ft.; Excavation per ft. deep, 20 cu. yds.; Outside Walls, 15.00 sqs.; First Floor, 4.70 sqs.; Second Floor, with fin. fig., 4.76 sqs.; Ceiling, 11.18 sqs.; Roof Pitch, 12" rise per ft. run; Roof, 9.75 sqs.; Hips and Valleys, 40 lin. ft.; Cornice, C & F, 140 lin. ft.; Cornice, 6", 76 lin. ft.; Partitions, 162 lin. ft.; Inside Finish OS Walls, 190 lin. ft.; Front and OS French Doors, 1 opg.; Inside Doors and Cased Opgs., 11 opgs.; Windows and Casements, 15 opgs.; Gable Sash and Louvers, 2 opgs.; Chimney, 28 lin. ft.; Main Stairs, 1; Porch Floor, .24 sqs.

**Page 59, (top), October: Walsh, Bldr.**

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Trench Walls, 180 lin. ft.; Utility Room Floor, 209 sq. ft.; Garage Floor, 200 sq. ft.; Excavation per ft. deep, 29 cu. yds.; Outside Walls, 26.00 sqs.; First Floor, 7.68 sqs.; Second Floor, with fin. fig., 7.20 sqs.; Ceiling, 14.88 sqs.; Roof Pitch, 7" rise per ft. run; Roof, 10.00 sqs.; Cornice, C & F, 316 lin. ft.; Cornice, 12", 48 lin. ft.; Partitions, 236 lin. ft.; Inside Finish OS Walls, 256 lin. ft.; Front and OS French Doors, 1 opg.; Rear and Grade Doors, 2 opgs.; Garage Door 8 ft. wide, 1; Inside Doors and Cased Opgs., 18 opgs.; Windows and Casements, 24 opgs.; Gable Sash and Louvers, 2 opgs.; Chimney, 34 lin. ft.; Main

(Continued to page 120)

**\$1,000.00 PRIZE WINNER**

Architect, J. H. Hughes, Abilene, Texas  
Builder, H. L. Rice, Abilene, Texas

Selects the **HOTSTREAM** Feature

★ Architect Hughes selected a Hotstream Water Heater for this A. G. A. contest prize winner. Let him tell you why.

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Write for Hotstream catalog showing specifications and data on "the most complete line of water heaters."

**THE HOTSTREAM HEATER COMPANY**  
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What better proof of SKILSAW superiority than the simple fact that more SKILSAWS are in use than all others combined! SKILSAW leads the field because it leads in profit-making performance . . . because it represents 20 years of constant improvement on the original electric handsaw!

SKILSAW is lighter, more powerful, will do more sawing jobs. Has a simple adjustment for depth and bevel cutting. New improved gears for quieter running and longer life. All ball bearing construction. Works from light socket. 9 POWERFUL SIZES for wood, metal, stone and compositions.

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up to 8'x14'



**HOMASOTE** combines great structural strength with high resistance to air infiltration; and it is *weatherproof*. Its complete wall sizes—up to 8'x14'—make it possible to cover the average wall in one piece; the surface provides an ideal base for paper or paint. With Homasote, you have no waiting for plaster to dry; your walls and ceilings are *permanently crackproof*. Homasote may also be used for exterior sheathing or exterior finish.

**HOMCO** represents an important development in insulating boards manufactured in small panels. Although the largest size of Homco is 4'x14', it combines beauty of surface with greater structural strength, greater resistance to air infiltration and a low moisture absorption. Homco does not require a priming coat before painting. Like its big brother, Homasote, it is *weatherproof* and may be used on the exterior as well as the interior. Homco is superior in quality by any test—yet it is priced competitively.

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**HOMCO**  
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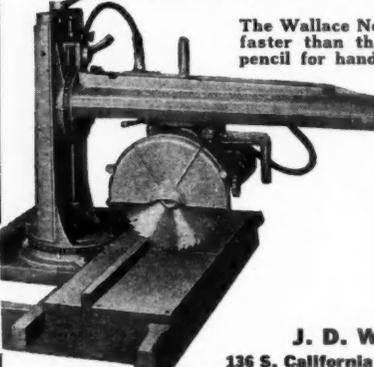
**TruCost Figures—**  
(Continued from page 119)

Stairs, 1; Porch Floor, .18 sqs.; Garage and Balcony Post and Newels, 12; Garage and Vest. Roofs, 4.88 sqs.; Deck Rail, 84 lin. ft.

**Page 59, (bottom), October: Walsh, Bldr.**  
"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Trench Walls, 184 lin. ft.; Utility Floor, 190 sq. ft.; Garage Floor, 190 sq. ft.; Excavation per ft. deep, 25 cu. yds.; Outside Walls, 25.00 sqs.; First Floor, 5.75 sqs.; Second Floor, with fin. flg., 8.25 sqs.; Ceiling, 14.00 sqs.; Roof Pitch, 7" rise per ft. run; Roof, 12.32 sqs.; Hips and Valleys, 10 lin. ft.; Cornice, C & F, 184 lin. ft.; Cornice, 6", 88 lin. ft.; Partitions, 240 lin. ft.; Inside Finish OS Walls, 252 lin. ft.; Front and OS French Doors, 1 opg.; Rear and Grade Doors, 2 oppgs.; Garage Door 8 ft. wide, 1; Inside Doors and Cased Oppgs., 18 oppgs.; Windows and Casements, 23 oppgs.; Gable Sash and Louvers, 2 oppgs.; Chimney, 34 lin. ft.; Main Stairs, 1; Porch Floor, .32 sqs.; Vestibule Roof, .40 sqs.; Vestibule Cornice, 16 lin. ft.; Deck Rail, 16 lin. ft.

**Page 60, October: Asbahr, Bldr.**  
"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 149 lin. ft.; Trench Walls, 21 lin. ft.; Basement Floor, incl. Garage, 1150 sq. ft.; Excavation per ft. deep, 49 cu. yds.; Outside Walls, 17.60 sqs.; First Floor, 11.50 sqs.; Second Floor, without fin. flg., 6.50 sqs.; Ceiling, 11.50 sqs.; Roof Pitch, 10" rise per ft. run; Roof, 13.50 sqs.; Hips and Valleys, 48 lin. ft.; Cornice, C & F, 150 lin. ft.; Cornice, 8", 78 lin. ft.; Partitions, 170 lin. ft.; Inside Finish OS Walls, 150 lin. ft.; Front and OS French Doors, 1 opg.; Rear and Grade Doors, 1 opg.; Garage Door 8 ft. wide, 1; Inside Doors and Cased Oppgs., 15 oppgs.; Windows and Casements, 28 oppgs.; Chimney, 34 lin. ft.; Main Stairs, 1; Porch Floor, .36 sqs.; Porch Ceilings, .18 sqs.; Porch Beam, 10 lin. ft.; Porch and Balcony Post and Newels, 1; Porch Roof, .25 sqs.; Porch Cornice, 10 lin. ft.

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The Wallace No. 1 Radial Saw cuts rafters faster than they can be marked with a pencil for handsawing!

Also does cross-cutting, mitering, ripping, shaping, routing, fluting, dadoing, grooving, etc. Portable, to move about the job.

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GUIDE TO ESTIMATING MATERIALS FOR PRACTICAL PLUMBING INSTALLATIONS  
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Price \$3.00. Money Refunded if Not Satisfactory

Book Department  
**AMERICAN BUILDER AND BUILDING AGE**  
30 Church Street New York, N. Y.

**Page 62, October; Garling, Bldr. (No. 1)**

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 110 lin. ft.; Trench Walls, 18 lin. ft.; Basement Floor, 720 sq. ft.; Excavation per ft. deep, 31 cu. yds.; Outside Walls, 15.25 sqs.; First Floor, 7.20 sqs.; Second Floor, without fin. flg., 3.00 sqs.; Ceiling, 7.20 sqs.; Roof Pitch, 10" rise per ft. run; Roof, 9.00 sqs.; Hips and Valleys, 28 lin. ft.; Cornice, C & F, 126 lin. ft.; Partitions, 126 lin. ft.; Inside Finish OS Walls, 110 lin. ft.; Front and OS French Doors, 1 opg.; Rear and Grade Doors, 1 opg.; Inside Doors and Cased Opps., 13 opgs.; Windows and Casements, 19 opgs.; Gable Sash and Louvers, 3 opgs.; Chimney, 32 lin. ft.; Main Stairs, 1; Porch Floor, .32 sqs.

**Page 62, October; Garling, Bldr. (No. 2)**

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 100 lin. ft.; Trench Walls, 16 lin. ft.; Basement Floor, 624 sq. ft.; Excavation per ft. deep, 27 cu. yds.; Outside Walls, 12.75 sqs.; First Floor, 6.24 sqs.; Ceiling, 6.24 sqs.; Roof Pitch, 8" rise per ft. run; Roof, 7.68 sqs.; Cornice, C & F, 112 lin. ft.; Cornice, 6", 48 lin. ft.; Partitions, 100 lin. ft.; Inside Finish OS Walls, 100 lin. ft.; Front and OS French Doors, 1 opg.; Rear and Grade Doors, 1 opg.; Inside Doors and Cased Opps., 10 opgs.; Windows and Casements, 15 opgs.; Gable Sash and Louvers, 2 opgs.; Chimney, 28 lin. ft.; Porch Floor, .28 sqs.

**Page 62, October; Garling Bldr. (No. 3)**

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 116 lin. ft.; Trench Walls, 13 lin. ft.; Basement Floor, 775 sq. ft.; Excavation per ft. deep, 33 cu. yds.; Outside Walls, 17.00 sqs.; First Floor, 7.75 sqs.; Second Floor, without fin. flg., 5.00 sqs.; Ceiling, 7.75 sqs.; Roof Pitch, 10" rise per ft. run; Roof, 9.75 sqs.; Hips and Valleys, 28 lin. ft.; Cornice, C & F, 138 lin. ft.; Partitions, 136 lin. ft.; Inside Finish OS Walls, 116 lin. ft.; Front and OS French Doors, 1 opg.; Rear and Grade Doors, 1 opg.; Inside Doors and Cased Opps., 14 opgs.; Windows and Casements, 18 opgs.; Gable Sash and Louvers, 3 opgs.; Chimney, 28 lin. ft.; Main Stairs, 1; Porch Floor, .36 sqs.

**NO CLOSET IS COMPLETE—  
OR PROPERLY EQUIPPED—  
WITHOUT K-VENIENCE  
CLOTHES CLOSET FIXTURES**

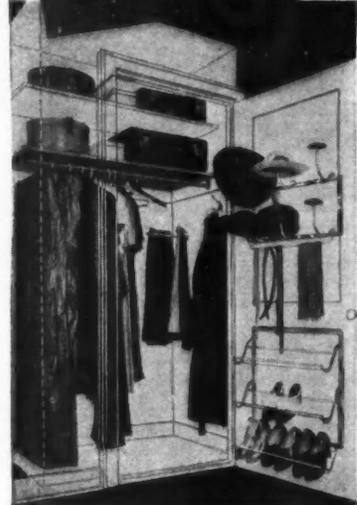


Photo courtesy Architectural Forum

More than 40 modern space-saving fixtures that Double Closet Capacity by making systematic use of closet space—regardless of size or shape. Clothing carriers, extension closet rods, shoe racks, garment brackets, hat, tie, trouser and skirt holders, and many others for all types of wardrobes and all clothing. K-Veniences keep closets orderly, all apparel in quick, easy reach. The ideal solution to the universal demand for greater closet capacity in houses, apartments, hotels, clubs, institutions, etc. Sturdily built, smartly designed, polished nickel or chrome finish, easily attached. Specify and install K-Veniences in every clothes closet... on every job... and make the most of available closet space!

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**KEES GOSSETT HANGERS**

\*Special guide flange and large "eyes" make them handiest of all hangers. And one set of hooks serves for both storm sash and screens. You can get extra eyes or lower halves packed separately. Write for Free sample and Kees Catalog to-day. Cash in on the growing popularity of storm windows. They save fuel.

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**NEW COMBINATION SASH BALANCE and WEATHERSTRIP**

**SAVES UP TO \$1.00 PER WINDOW**

- Eliminates all pulleys, weights, sash cords and the old leaky, clumsy box frames. Gives greater glass area for each opening and efficiently weatherstrips the sash. Fits any size window, new or old . . . two grooves per sash is all that is required and installation is simple enough for any carpenter to do a satisfactory job. Easy operation provides actual finger-tip control. Here is an opportunity for every contractor to cut costs on the small home. Send coupon today for full information.

DETAIL SHOWING TYPICAL APPLICATION ON 1 3/8" SASH AND GROOVING DIMENSIONS

**MASTER NO-DRAFT SASH BALANCE**

**MAIL TODAY**

• Eliminates weights, pulleys and cord.  
• Eliminates leaky, costly, "box" frames.  
• Fits new or old sash.  
• Provides efficient "finger-tip" control plus efficient weatherstripping.  
• A "two-in-one" cost saver for small homes.

Master Metal Strip Service Inc.  
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I am interested in your new Sash Balance. Please send me complete information.

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**AUTOVENT'S**  
*Low Cost*  
**FURNACE BOOSTER**  
*Solves Every Gravity Heating Problem*

■ LOW original cost—LOW installation cost—All 'round Economy! Real Forced Air Heating.

■ Here is an inexpensive propeller type furnace booster fan that gives maximum heating efficiency to every gravity warm air furnace. Forced air heating inexpensively installed because the fan fits inside cold air duct at base of furnace. Comes in four different air capacities! Write for details and new literature!

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FIRZITE tames "wild," raised grain, helps eliminate hairline checking in Fir Plywood. Enables subsequent materials to "take" better, producing rich, smooth finished effects. A big help to Contractors on both regular and "DRI-BILT" construction. A profit-builder for Dealers. Made by specialists with years of experience in the development of fine natural wood finishes.

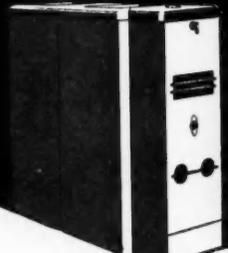


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**"Indoor Weather Control"**  
SELL YOUR HOUSES



Throughout the nation, successful builders are letting *comfort appeal* help sell their houses! And no comfort appeal is stronger than that of year 'round automatic temperature control. The gas-fired, streamlined PAYNE Zoneair heats, circulates, ventilates, filters, and humidifies—dependably and economically. Used singly, or in batteries. For information, see your PAYNE Dealer or Gas Company. Or write us.



All PAYNEHEAT equipment is **twice-tested** for reliability, efficiency, safety.

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- Gravity Furnaces



**PAYNEHEAT** Payne FURNACE & SUPPLY CO., INC.  
BEVERLY HILLS • CALIFORNIA

**"Trade-in" Plan**

(Continued from page 55)

he assures them of steady employment and at the same time is able to secure favorable contract prices.

Richardson pursues a vigorous sales promotion and advertising program that calls for an expenditure of about \$600 a month in newspapers alone. Various types of this builder's advertising are shown. A 24-page booklet issued monthly and sent to a select list of doctors' and dentists' offices and beauty shops was a means of publicizing Richardson-built homes, the trade-in system and free appraisal service. Back-page ads carried coupons inviting inquiry of the home pictured or the exchange plan.

The organization consists of the builder, who is very active in affairs of the local and National Realty Boards; Thomas M. Banning, Jr., manager; A. J. Engdahl, sales manager, and Helen D. Gordon, decorative consultant. Besides the home designing service, as mentioned, the services of an outside certified architect are retained in addition to a selling force of from seven to ten.

\* \* \*

**Modernizing Main Street**

(Continued from page 67)

in the town has set up a general plan for buildings on the public square which will in time create a modern business center and draw increasing number of buyers from the surrounding country. The lumber yard is always a good place to set the pace for building improvements.

The town of Manhattan, Kans., has enjoyed a substantial increase in business because of the attractive changes made in the downtown district thru a general

There's **PROFIT** in **ALLMETAL WEATHERSTRIP**

**EASIER INSTALLED MORE EFFICIENT**

Every home should have ALLMETAL weatherstrips on doors and windows. Home buyers demand it. Architects recommend it. You can make EXTRA PROFITS installing these well known, consistently good weatherstrips.

Write for our prices on Metal Weatherstrip, Caulking Compound, Metal Thresholds, Metal Wall Board Trim, Counter Edging, Sink Rims, etc.

**ALLMETAL**  
Weatherstrip Company  
231 West Ohio Street CHICAGO  
OVER 25 YEARS SATISFACTORY SERVICE

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"HOW TO READ BLUE PRINTS"

**FREE TRIAL LESSON**

This Free Trial Lesson on "How to Read Blue Prints," and a set of blue prints plans—sent to show you how this 37 year old School for Builders makes it easy for men in the building industry to lay out and run jobs, read blue prints, estimate costs, superintend construction, etc. Drawing of plans included if wanted.

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Men with this training are needed now to handle expanding business in building construction. This knowledge leads to promotion. Building contractors urge employees to get this training. For Free Trial Lesson address:

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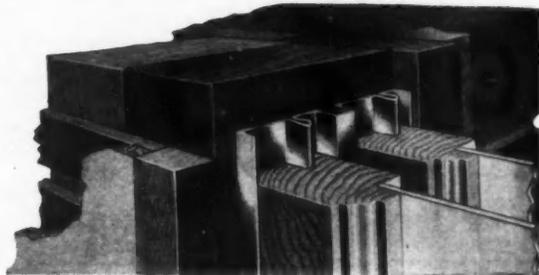
plan, set up in advance by the civic interests. Some fifteen new fronts have already been installed in keeping with the general plan.

Kirksville, Mo., found that setting up a plan of modernization brought benefits to the city, the unemployed, and the property owners and tenants. One building that was renovated at a cost of \$8300.00, resulted in salvaging an investment that was about gone and created a building that will be good for the next twenty-five years. It also brought an excellent financial return to the owner, increased business with the tenants and a substantial reduction in fire insurance rates. Dealers in the town sold three thousand dollars of building materials on this job.

Every town in the country presents innumerable examples of this type of modernization if the dealers will take the "bull by the horns" and create a program for Main Street. It will take a little time; it will take organized effort to set up a Downtown committee to study and act upon the many problems that will be dumped into their laps by the general public. It isn't hard to find what the public wants if they can express themselves and clear their needs thru an established agency. Here is opportunity for every dealer and builder to lift the standard of his town and community and at the same time insure its trade prosperity. It's an excellent way to absorb unemployment in the building industry; to create payrolls and purchasing power in the community. It is also good insurance for perpetuating dealer business. It will place the dealer out in front on the selling line where he is most badly needed today. A growing country needs operating generalship, but a grown up country demands salesmanship. We are living in a grown up country.

(Continued to page 124)

## THE BEST WINDOW ON THE MARKET!



- The Non-Stick Window is simplicity itself.
- The Non-Stick Window is provided with 2 x 4 Jamb: sturdy construction prevents wearing.
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See the Non-Stick Window at Your Dealer or Write Us.

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## NON-STICK WINDOW

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FROM THINNEST COVERINGS to THICKEST WALLBOARD

Trims for every type, gauge or thickness of covering material . . . linoleum, rubber, tile, plywood, wallboard, etc. For example, our 120 series of outside corner trims comes in nine lip sizes, ranging from 1/16" to 1" And there are more than 550 designs, types and sizes . . . nosings, decorative panels, wainscot caps, corners, coves, edgings, bindings, channel trims, tubular stock, and many others! You'll save time, avoid problems, and get better results on every job with metal trims trademarked—



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TRADEMARK REG. U.S. PAT. OFF.

The B & T FLOOR COMPANY  
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SUCCESS equipment assures profitable products plants. BECAUSE—they are efficient, self-contained, offering lowest production cost with lowest maintenance. BECAUSE—they produce a complete range of products, all sizes and faces of block, on plain pallets. BECAUSE—they make block, building tile and brick by interchanging simple production machines. ALL THESE ADVANTAGES with minimum investment in equipment. All planned for easy expansion as your business justifies. INVESTIGATE. Start now to bigger profits. Write today for free catalog. SUCCESS plant from \$190.00 up shipped on 15 days trial. CONCRETE EQUIPMENT COMPANY  
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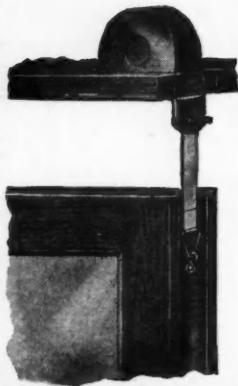
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Manufacturers of Famous BILT-WELL Millwork

## for WEATHER-TIGHT WINDOWS

The best weatherstrip or caulking can't make a box frame weather tight. Ask your dealer or sash and door jobber to show you a weather-stripped unit window, balanced by Pullman. There's a window without chance for leakage of cold air or dust, a frame you can pack insulation right up against, a sash that moves freely and stays where it's put without help of friction. Write for catalog and specifications. Pullman Mfg. Corp., 1180 University Ave., Rochester, N. Y.



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### Carpenters Make up to \$2 or \$3 an Hour in Spare Time

With a Foley Automatic Saw Filer you can file hand, band and circular saws better than the most expert hand filer. Cash business, no canvassing. No eyestrain, no experience needed. Louis F. Wadovick, Ohio, says: "I have filed 764 saws in spare time and have earned \$550.00 in carpenter work dug directly to my saw filing contacts." Send coupon for FREE PLAN, no obligation.

Large Contractors and Builders who have many saws to file can increase production, do better work and reduce filing costs with a Foley Saw Filer. Soon pays its cost. Get the facts.

**FOLEY MFG. CO., 1024-40 Foley Bldg., Minneapolis, Minn.**

Send Free Plan on Custom Saw Filing.

I want to file saws for crew of about (10-25-50-100) men (Check No.)

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**1** Installed cost of Union Metal Steel Bridging is no more, frequently less, than wood because it can be installed in 1/2 to 2/3 the time.

**2** Better floor construction obtained because Steel Bridging has greater ability to reduce floor vibration, also freedom from warpage and shrinkage.

Union Metal Steel Bridging is made from genuine Ternplate, a special lead coated steel which is highly rust-resisting. It is available in lengths to fit all regular joist sizes and spacings. Write for free sample, descriptive folder and prices.

Accepted by F. H. A.

THE UNION METAL MANUFACTURING COMPANY • CANTON, OHIO

## Modernizing Main Street

(Continued from page 123)

Why not take a fling at this highly interesting and modern way of going after business? Start the ball rolling in your community now. The building business is your business and you are trained by experience and aptitude to lead. Be the first to shove off in a movement that gives every promise of an old-fashioned revival for the building industry.

\* \* \*

## Security on an Acre of Good Earth

(Continued from page 45)

who attend the School are educators, students of sociology, housing specialists and clergymen—the latter seeking a better way of life for their parishioners.

But one does not have to travel to Suffern to learn what is there. Bulletins on every conceivable phase of home production are available for the price of 25 cents.

Of interest to the building profession are the bulletins "How to Economize in Buying Land" and "How to Economize in Planning a Home." Not that there is anything new to builders in these bulletins. What should be of interest to them is that a man established a school to show people how to get more joy out of life—and the prime requisite of this happy living means having a home.

There are now four communities developed through the Borsodi plan. The School of Living and its associate organizations, Independence Foundation, Homeland Foundation and Free America Magazine, will give ready counsel to those interested in home-stead developments.

Thirty-seven houses have been built or are now under construction in the four communities. One of the most successful is Van Houten Fields, located in West Nyack, N. Y., on the site of a 106-acre farm of an early-American settler. Another is the Bayard Lane development in Suffern, N. Y., where the School of Living is located. The houses are built with local materials, as

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far as possible, many of them using natural fieldstone. They differ from ordinary city dwellings, largely in the extensive use of utility rooms, larger kitchens and ample storage and utility space.

The builder should serve as a developer of the restricted community. If the project possesses common property, such as woods, a lake, an athletic field or a social house, the administration of these properties should be arranged by democratic procedure in which all the members of the community take part.

No titleholder, as a resident of the community, should be permitted to subdivide his land into less than one acre, unless the entire community democratically approves.

Because this homestead program envisions an annual economic sustenance of \$500 to \$800 worth of foodstuff (including the canning, drying, freezing, etc., of the soil's product) this land must have cultivation qualities and ought to be within approximately the following acre costs to the homesteader (including roads, sewerage and water):

Outside cities of over 4 million (per acre).....	\$800
Outside cities of between 2 and 4 million (per acre).....	600
Outside cities of between 1 and 2 million (per acre).....	450
Outside cities of between 1/2 and 1 million (per acre).....	400
Outside cities of less than 1/2 million (per acre).....	350

It will be noted that with the exception of the top population (the New York region) the variations are slight. While the land costs depreciate markedly, the cost of servicing the communities with water, roads, etc., remains about the same. Those who join homestead projects outside extremely large cities have further to commute and will feel the land costs more acutely, of course. But these same people get slightly higher wages, as well, and seek satisfactions of home ownership that "suburban" rows of flats can never supply emotionally to the degree that "rurban" homes can!

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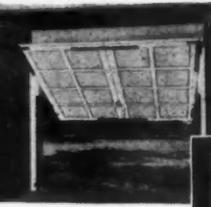
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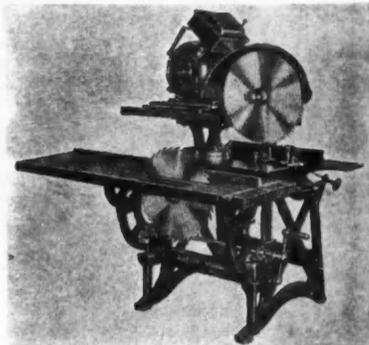

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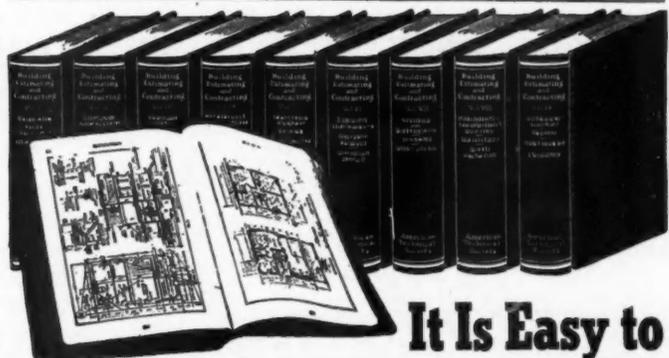
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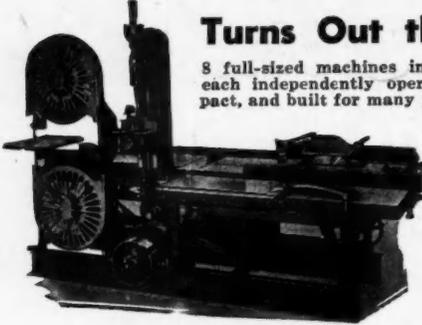
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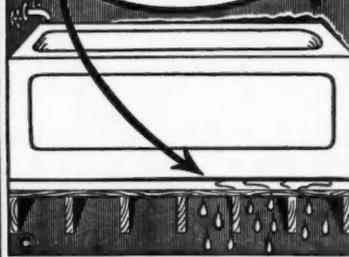
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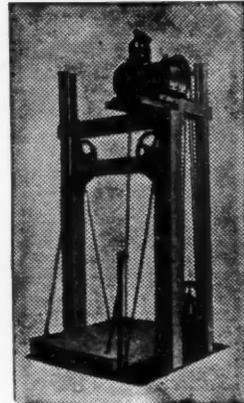
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