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AMERICAN BUILDER

AND
BUILDING
AGE

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AMERICAN BUILDER

and Building Age

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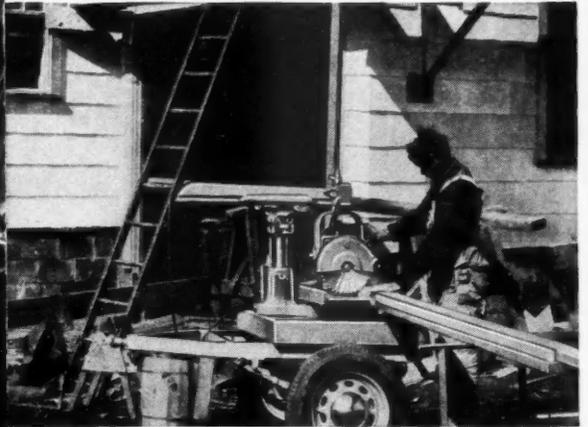
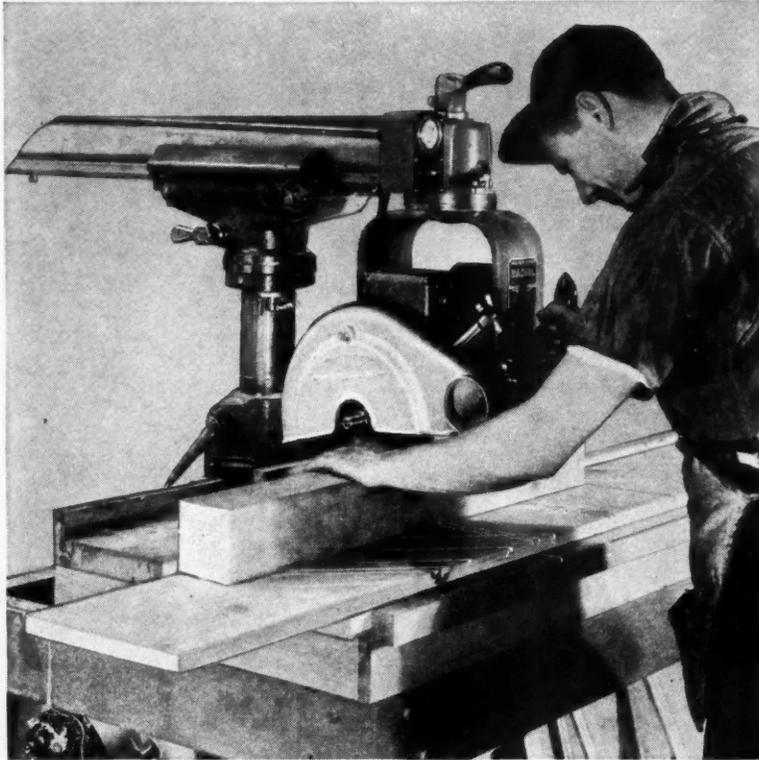
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PUBLISHER'S PAGE

The Future of Business

MANY evidently have believed, since the German blitzkrieg against Great Britain and France began, that there is nothing certain about future business in the United States excepting uncertainty. There is a remarkable contrast between what occurred here following the beginning of the war last September and what has occurred since early in April.

Between August 30 and October 1 the average price of important industrial stocks, as reported by Dow-Jones, increased from \$134 to \$155; and in the last third of 1939 there was an almost unprecedented expansion of business. But between April 6 and May 23 the average of these stocks declined from \$151 to \$114. And yet during April and May there was no recession of business—on the contrary, some improvement.

Those who believed last fall the war was going to cause a lasting improvement of business were wrong. The expansion that occurred then soon petered out. Those that recent developments in Europe have given such a scare probably are equally wrong. The war is a horrible thing. In the long run it will injure us, whether we enter it or not. But experience and reason refute those who believe it will have bad effects on American business in the near future.

The same kind of people became so scared after war began in 1914 that it was soon necessary to close the Stock Exchange. We were then in a mild depression which for a few months became worse. But in 1916 (before we entered the war) the amount of business done in this country was larger than in any previous year in history and one-third larger than in 1914.

OUR economic conditions are widely different now—in some respects less favorable; but, *as regards early future possibilities, much more favorable.* Whether these more favorable future possibilities will be realized in this country will be determined by *what is done here and not by what is done in Europe.*

Suddenly we have begun developing a vast program of defense. Almost every-

body favors it. But from what source is to come the means of paying for it? Are the expenditures to be *substituted* for other expenditures now being made by the federal government, or *added* to them? Are policies that have hindered revival of business for years to be continued or modified?

Business in the United States is relatively much worse now than in 1914. There are much more unused productive and transportation capacity, much more idle capital, many more unemployed. *But these very conditions* afford opportunity for much more expansion of business within a short time—as was strikingly shown last fall. Large expenditures for defense will directly stimulate the “heavy industries,” failure of revival in which has protracted the depression. Revival of production, employment and payrolls in them would increase business, employment and payrolls in the industries from which they buy raw materials, fuel and transportation; and there would automatically result largely increased expenditures for consumers’ goods and housing.

PROBABLY in large measure these developments will soon occur—as they actually did in 1914-1916.

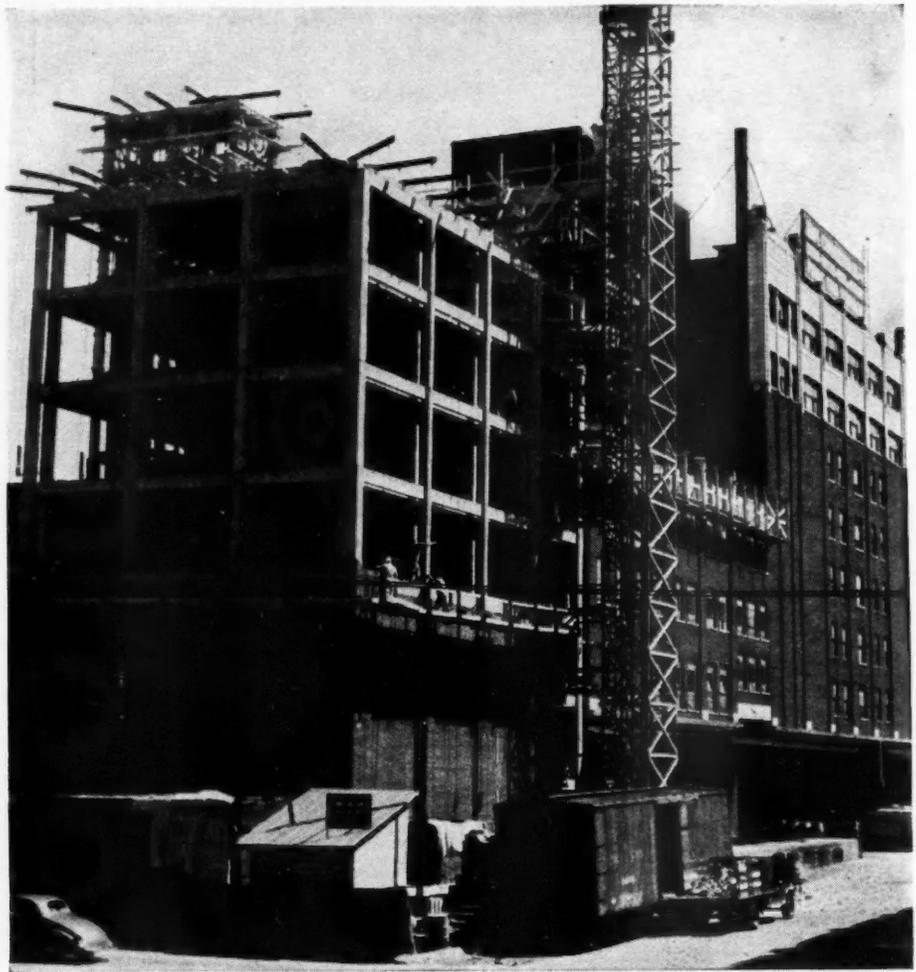
But there is a limit to the amount of government interference, spending and taxing that private business can stand. Exceed that limit, and you limit its *total expansion—expansion* in branches that are stimulated being *offset* by *contraction* in others that are restricted by excessive taxation, government interference and government competition.

Business as a whole in the United States is now *improving*. Probably it will continue to improve for some time. But how much and long it will improve will be determined largely by the extent to which government, business and labor *abandon* policies that have kept it bad, and *restore* policies under which for a century and a half it almost always expanded.

Samuel O. Dunn

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'INCOR'
SAVED
\$1.96 NET
PER CU. YD.
OF CONCRETE



**6 WEEKS' EARLIER OCCUPANCY
 EARNED \$10,500 FOR OWNER**

ONCE again, dependable 'Incor' high early strength produced worthwhile savings—this time in new addition for Jerpe Cold Storage Company, Omaha. This 7-story ice-box contains 1000 cu. yd. of 'Incor' concrete in floor slabs and roof. 'Incor' net savings, summarized at right, amounted to \$1,965. That means \$1.96 per cu. yd. of concrete. And 6 weeks' earlier occupancy meant \$10,500 extra income for the owner.

Outside walls are of double concrete frame construction with cork insulation; columns and slabs throughout are covered with cork. Total elapsed time of one month and 8 days for completion of concrete frame indicates good job organization plus 'Incor' operating economies. Heavy rains fell on two of the floors an hour or so after troweling the finished concrete. The contractor states that 'Incor' saved him the cost of re-topping.

Typical of 'Incor's' economies in all kinds of concrete work the country over. And a 13-year performance record, exclusive with 'Incor', proves long-time durability of this first high early strength Portland cement. Write for copy of "Cutting Concrete Costs." Lone Star Cement Corporation, Room 2234, 342 Madison Avenue, New York.

*Reg. U. S. Pat. Off.

SUMMARY OF 'INCOR' SAVINGS

Addition to Jerpe Cold Storage Co. Building 12th & Dodge Sts., Omaha, Nebraska.

Engineers: Smith, Brubaker & Egan, Chicago.

Contractor: John Lof & Sons, Omaha.

1000 cu. yd. of concrete . . . 7 stories and roof.

Savings to contractor in regular salaries, supervision and overhead—6 weeks at \$380 \$2280

Savings, 1½ floors of shores 135

Rain on 2 floors, 'Incor' saved re-topping 300

Total 'Incor' Saving \$2715

Less Extra Cost of 'Incor' 750

Net Saving \$1965
 or \$1.96 per cu. yd. of concrete.

* * *

6 weeks' earlier occupancy meant \$10,500 extra income for owner.

LONE STAR CEMENT CORPORATION
 MAKERS OF LONE STAR CEMENT . . . 'INCOR' 24-HOUR CEMENT

AMERICAN BUILDER

AND BUILDING AGE

National Defense—Spending Billions—Will Lead to Enlarged Industrial Construction and Home Building

TO make America "safe for democracy" the Administration at Washington, with the practically unanimous backing of Congress and the people, has embarked on a stupendous program of rearmament and national defense. Billions of dollars will be spent for the manufacture of aircraft, naval units, guns and munitions, and for army, naval and air force supplies of every sort. Forts, naval bases and air bases are to be built, enlarged and extended. Greatly expanded equipment and personnel for pilot and officer training are to be created.

The full productive capacity of American industrial plants suitable for these purposes, it is expected, will be called upon to supply the thousand and one urgent requirements under this vast program. Shortages of skilled labor will develop and labor-training will become common. Factories will be modernized and enlarged. The housing of industrial workers will demand attention. Rents will go up; employment will be expanded; buying power will be increased. All business, including eventually agriculture, will be stimulated, most forecasters agree.

The Editor of this publication has been asked, in the light of these facts, to analyze the present building outlook. Of all building and architectural publication editors, he is the only one to have had the same editorial vantage point in 1914 as now; and it is thought that his personal knowledge of the somewhat similar developments experienced back in 1914 to 1920 will be helpful in foreseeing what the building industry may expect from the present war and our own rearmament and national defense program to keep the war away from our shores.

A study of the basic factors, back in 1914 to 1920, that encouraged or discouraged building activity and a statistical analysis of them should give dependable guidance to what lies ahead today, insofar as these same basic factors are concerned.

Stimulus to Employment and Buying Power

There are two very important and obvious present-day facts that should be mentioned, because of their vital bearing on prospective building volume for this year and next. One is the immediate prospect of the widespread re-employment of factory and transportation workers, and their transfer from WPA wages and

relief doles to the higher wages of private industry because of the government's vast rearmament and national defense program. There was no such prospect in 1914 because there was then no such unemployment as now. The other is the eventual certainty of better farm product prices and improved farm population prosperity and farm building because of war needs for food supplies on a world-wide scale, both to belligerent and to non-belligerent populations.

Home building for the past five years has forged steadily ahead in spite of the great handicap to business and agriculture of so many millions of workers unemployed in private industry. But, even with this great burden of uncertainty and lack of purchasing power, home building has expanded, increasing from only about 54,000 housing units built in 1934 to about 500,000 housing units built in 1939.

If home building and the far-flung local home building industry have been able to make such a record in spite of the general unemployment, business depression and recession of the past few years, what marvels of building activity can we expect under the stimulus of re-employment, larger payrolls and the "undoubling" of families, resulting from this new national defense and rearmament program!

Lessons from the War Period 1914-1920

The statistical records of the last war period, for every factor influencing building, are open to all; but possibly to us who lived through those hectic days they carry a clearer meaning. In August, 1914, when Kaiser Bill's Big Push started, general business in this country had been on the down grade for more than two years; and residential building and real estate activity had been declining since 1909. Residential rents and building costs were stabilized at a fairly low level. Vacancies ranged from 6 to 10 per cent, and the number of new family dwelling units being built each year averaged, for the period 1905 to 1914, about 400,000.

Soon after the European war started industry in the United States felt the stimulating effects of war orders. Industrial production shot up from index 74 in September 1914 to index 97 in the spring of 1915. Bank clearings doubled; car loadings and rail revenue largely increased. Real estate activity turned upward and advanced consistently for two years, or until the United

States itself entered the war early in 1917. Rents were working higher preliminary to their skyrocket course from mid-1917 to the rental peak in 1923.

Now contrast those basic business and building factors with what we have today. General business has been improving since midsummer 1938. Industrial production has gone up from index 73 to index 126. Residential building has climbed steadily since 1934. Real estate activity has kept step over this same period. Rentals have worked up to 73 per cent of the 1923 level. Vacancies stand at the lowest point in recorded history; in fact, there is a critical home and housing shortage today in practically every city, town and rural community. Ten million new homes are needed, and more than half of all existing homes require structural repairs and modernization, according to government surveys.

The building industry along with general business is entering this present period of war orders and national defense activity with an entirely different background than was the case back in 1914. We have changed from a debtor nation to a creditor nation; we have the raw materials, the factories, the man power, the organizing ability, the inventive and creative genius, and the necessary capital practically unlimited in amount and including 70 per cent of all the gold in the world's financial coffers.

Judging from the extent of the stimulus to employment, wages, purchasing power, and farm prices which the "heavy industries," home building and all business experienced in the first world war, it is logical to hope for a similar result now—only more so.

Stimulation to Business Already Noted

As a matter of fact, numerous lines of business have already felt the uplift of war activity. The steel mills are now operating at close to 80 per cent of theoretical capacity, which is virtually their actual capacity; auto sales are the largest on record; the machinery, aircraft, and shipbuilding industries are continuing at a fast pace.

Building construction, especially home building, is setting new marks since 1929; and Dodge residential contract figures for the first half of May show continuing expansion. The dollar value (May 1 to 15) is \$73,318,000 against \$65,312,000 last year, a 12 per cent increase in cost but a 23.6 per cent increase in the number of homes built; 11,181 against 9,044 last year. Residential jobs now under way and calling for building materials, supplies and equipment total \$556,000,000, as reported by F. W. Dodge for the 37 eastern states, for the first five months of this year. Adding an estimated 20 per cent for the active Pacific Coast area, and 20 per cent for unreported small town and rural projects, we estimate fully \$800,000,000 of home building work now and presently in progress. This business is sure, not subject to cancellation because of war or other uncertainties; and the building industry may well rally to the handling of this huge existing business while awaiting the further expected stimulus to building and all industry from the national defense and rearmament program.

Looking back to the summer of 1918, we recall vividly the deluge of company housing projects and of Government housing projects to accommodate munitions workers. The Rock Island arsenal housing, Sparrows Point, Muscle Shoals—and hundreds of others—come to mind as examples of hurried planning, outrageous costs, poor construction and the general bungling and ineptitude of home building by Government bureaus. *This time we are hoping for something better.*

It should be the duty and business opportunity of every industrial community to make a plant survey and a housing survey *now*; and to provide, through competent private competitive construction, for the additional plant and factory buildings and modernizing, and for the homes that are needed.

With such an outlook as the building industry has today for industrial housing, private home building, commercial construction and plant and factory expansion—because of this national defense activity added to our already vigorous home building business—it seems only prudent and reasonable to begin to plan now for greatly enlarged operations.

Little Risk Now in Buying a Home

One factor now, as contrasted with 1914, that is having a very controlling effect on home building and home buying is that of *financing*. Back in the period of the first world war it took a real investment to get started buying even a small home. The short-term first and second mortgage system was then in vogue, with its high interest rates, bonuses, commissions, etc. Today, no such big investment is necessary. Under the present long-term FHA or savings & loan single-mortgage system a very small down payment is all that is needed; and after that the owner's regular rent money pays the monthly ownership installment.

So it is evident that the old hazard and risk to the buyer have disappeared. Even among the uncertainties of war times a growing tide of low cost home building and home buying, under these favorable financing conditions, seems bound to sweep the industry and carry well planned and well built private construction to new heights.

And in our planning for national defense we must not forget the importance of decent housing and of home ownership in maintaining American loyalties. Our final line of defense is the patriotism and willingness to sacrifice that rests on love of country, family and home. Home building for industrial workers—and for all the people—takes on a patriotic significance in this national defense emergency. The men of the building industry can "do their bit" by planning and building with all their might the industrial structures, the business structures and the homes needed to help rapidly to carry out this vast rearmament and defense program.

Bernard L. Johnson



MAYOR LA GUARDIA, Grover Whalen, building industry leaders and a vast crowd of people took part in the dedication of the two low-cost FHA-approved houses at New York's 1940 World's Fair at which "typical American families" are living.

FHA Approved Houses at the FAIR

ONE of the lively new features of the striking 1940 edition of New York's World's Fair are two little low-cost cottages especially designed for "typical American families." These low-cost homes have not only been built complete in every detail, but are actually being lived in by typical American families selected by competitions held throughout the 48 states.

Of great importance to builders interested in low-cost houses is the fact that these two homes have been fully approved by the architects and underwriters of the Federal Housing Administration. In fact, the World's Fair

project has been sponsored jointly by FHA and a group of participating manufacturers.

These are practical, livable little houses built by a successful builder, Paul J. Roche of Baldwin, Long Island. They are exact duplicates of low-cost houses Mr. Roche has been building and selling with great success in his Stephen Manor development at Bellmore, Long Island. The Baldwin National Bank and Trust Company of Baldwin, N. Y., was active in promoting the original development and financing the houses.

Thus the houses built at the World's Fair have be-



COLOR-STYLED roofs of attractive asphalt shingles are important features of the two low-cost FHA-approved World's Fair houses.

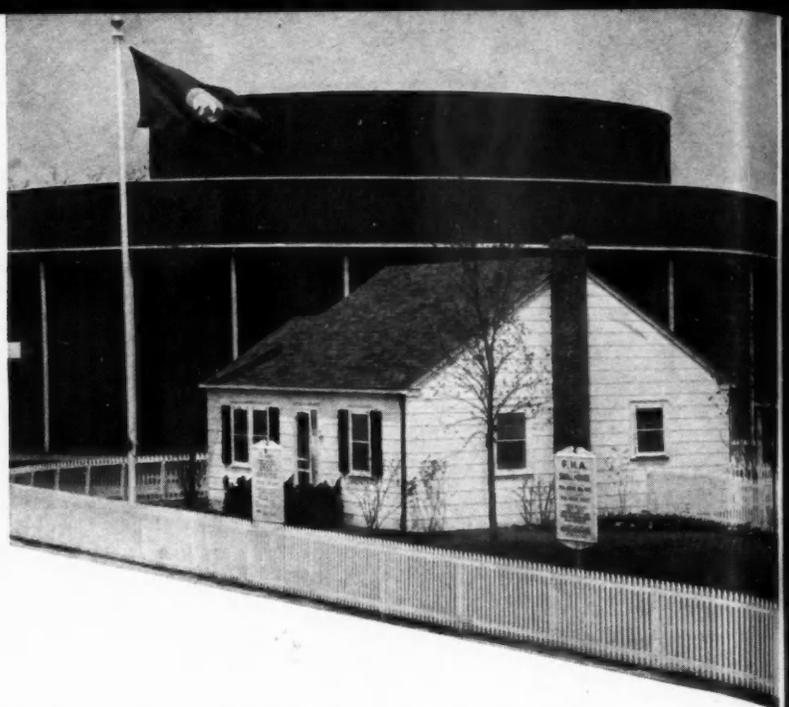


MIAMI meets Seattle as the first "typical American families" get acquainted across the back fence, while a number of notables look on.

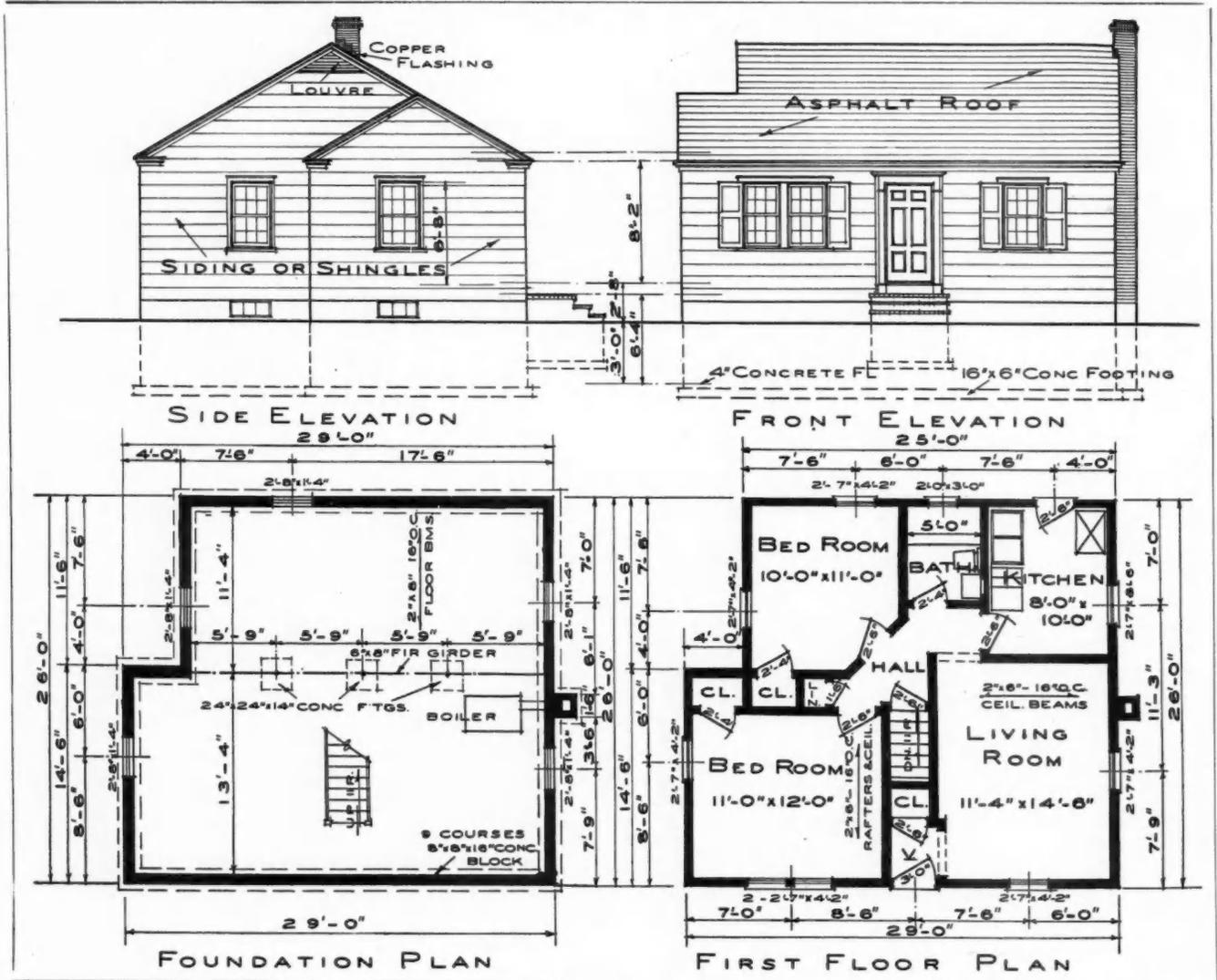
hind them the practical experience so necessary to any success in the low cost field. The plans and details have been worked out with great care to provide a maximum amount of livability in a small space and at low cost.

Placards at the World's Fair describe the smaller of these houses (4 rooms, no dining room) as a "\$2,500 house." The larger with a dinette and a second-story room is described as a "\$3,100 house." Undoubtedly these price labels will not apply in many communities due to differences in construction methods, equipment and local costs. Houses of this type, however, when financed under the 25-year FHA plan, should cost considerably less than a dollar a day.

The "typical American families" who are to live in these World's Fair cottages have been selected by newspaper contests throughout the 48 states. Each week the lucky family that wins the state contest gets its expenses paid to the Fair and all expenses paid while living in one of these houses for one week. The first two families came from Miami and Seattle, thus bringing the two distant states of the Union together in. (Continued on page 103)



THE \$2,500 house illustrated at left, above, and fully detailed below, is well proportioned and well laid out, with a full basement. The exterior is of asbestos cedar grained siding shingles, and the roof of multicolored asphalt shingles. Interior walls and ceilings are of gypsum board. Hall arrangement is efficient.

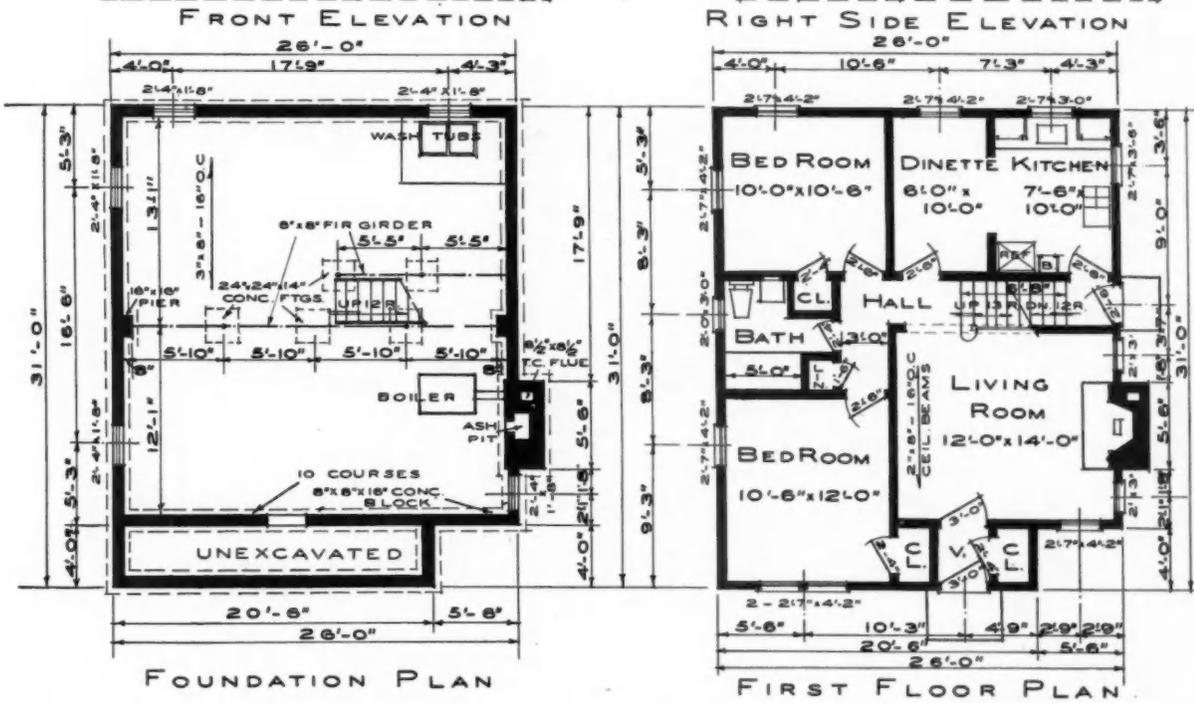
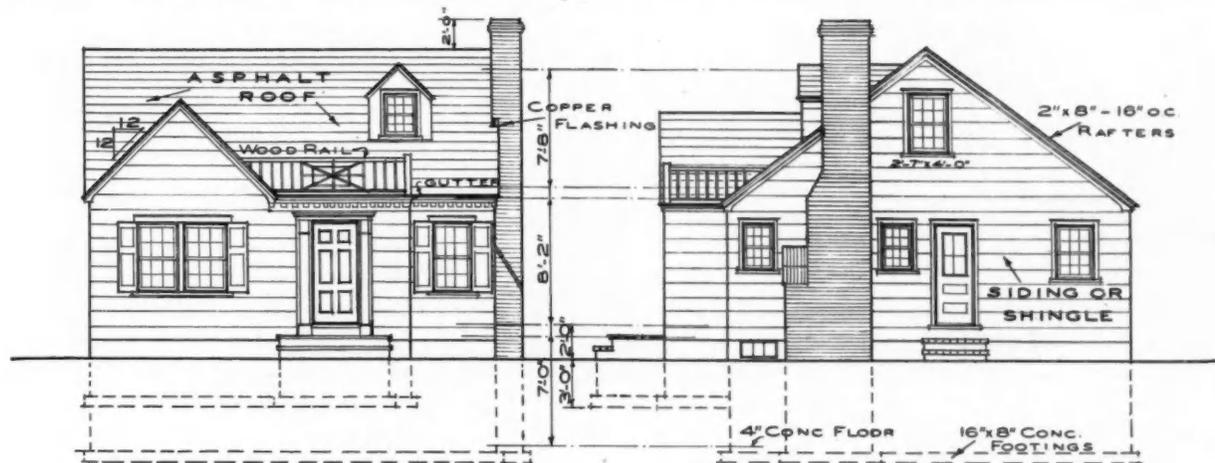


DETAILED PLANS, approved by FHA, show skillful room arrangement for a small house. Basic floor area is only 25' x 26' with a small bedroom extension of 4' x 14' 6". The builder is Paul J. Roche.

Low Cost Houses For "Typical American Families"



FOR \$3,100 the "typical American family" gets a little larger and more attractive house, as shown at the left and fully detailed below. This has a 6' x 10' dinette and space for additional rooms upstairs. Exterior is of Idaho white pine bungalow siding. Roof is of green blend, thick butt asphalt shingles. House has a full basement, forced circulation hot water heating.



WITH a floor plan only 26' x 31', Builder Roche has achieved a complete little cottage with two bedrooms and bath and a dinette. Space is available upstairs for an additional room. Tru-Cost Estimating Figures for these World's Fair houses are given on page 110.

Savings Clubs Build Business for the 40's

"Own-a-Home Savings" Clubs Already Started in Twenty-Three States by Local Savings and Loan Associations Will Provide Equities for Owners with Which to Build Homes After 1943

FORTY-FIVE "Own-a-Home Savings" Clubs are now in existence in the United States for the first time in history, the forerunners of what is expected to be the greatest movement of the 1940's to make home ownership easier for the average couple. Objective of the club is to help people save for the necessary down payment on the home in somewhere from three to five years, systematically and with compounded earnings. Channel for funds being accumulated is the local savings and loan association or building and loan association.

The first forty-five clubs to be organized are located in widely diverse places as to geography and population, demonstrating the essential appeal of the idea. The two associations in Chicago now starting the clubs are in the largest community so far represented and the association in 3,000-populated Sistersville, W. Va., is in the smallest community so far.

Twenty-three different states from the East Coast to the West and the Gulf to Minnesota are the scenes of these build-up organizations for home ownership.

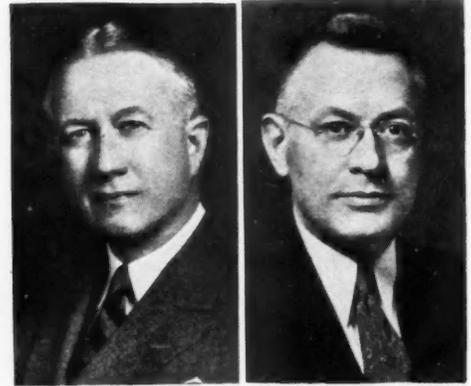
An Example of Local Co-operation

In Pomona, Calif., a most significant line of co-operation between the sponsoring thrift and home financing institution, the Pomona First Federal Savings and Loan Association, and the building interests in this community of 21,000 people has developed. Reproduced opposite is a full-page newspaper ad in which the association's play-up of the new club, featuring the first couple to join and start saving their money, was flanked by the advertising of the building material merchants and leading contractors in town, carrying the copyrighted insignia of the "Own-a-Home Savings" clubs in their space. The remainder of the page consisted of the space taken by individuals in the building trades, small contractors, plumbers, plasterers and masons. The entire group were bidding Pomona young couples to start saving the down payment for their homes because they knew that by this device demand for building three to five years from now would be tremendously stimulated.

Half of the clubs are starting in cities between 10,000 and 80,000 population, where such co-operation between the building interests and the association sponsoring the clubs is fairly easy to work out with individuals. In the cities of 100,000 population—and already the clubs are starting in eight of these—the local trade organizations of the building interests should be able to work out arrangements to help the association sponsor the club. As a select list of advertising prospects such groups of savers for tomorrow's home ownership can hardly be touched in excellence, the savings and loan executives point out.

First developed and advocated by F. Vaux Wilson, Jr., of Trenton, N.J., the movement to get home owners started saving their down payment has had enthusiastic pushing by the president of the United States Savings and Loan League, George W. West, of Atlanta, secretary-treasurer of the West Lumber Company, and a member of the board of directors of the Chamber of Commerce of

LEFT, George W. West, and right, F. S. Cannon, of U.S. Savings and Loan League support club plan.



the United States, as well as head of the First Federal Savings and Loan Association of Atlanta. He sees in it a return in one degree to the plan of the earliest building and loan associations which had many members saving up for their homes a long time before they borrowed the rest of the money from the association on a mortgage. The thousands of families which have not built homes during the past five years because they had no down payment and were unwilling to undertake such a project on a 10 per cent shoestring were cited by Mr. West as examples of the need to start home ownership plans ahead of time. He helped work out the plan whereby there should be no more lacking down payments on homes if the couple has any foresight.

Fernor S. Cannon, Indianapolis, who is second vice president of the United States League, gives it his blessing from the architect's point of view. He has had a long background in architectural practice as well as in savings and loan administration, and points out the advantages to the couple planning a home of having three to five years to get plans made, settled into shape, and lived with in the mind before they are actually executed. According to his observations a home, thus seasoned in the planner's and builder's minds, is always more satisfactory.

The "Own-a-Home Savings" clubs are planned so that members may determine the amount they want to save each month by the total they wish to accumulate and by the time they want to take to do it. For example, typical monthly payments of around \$25 will accumulate to \$1,000 counting their dividends, by 1943, and to \$1,600 by 1945. This will be sufficient down payment for homes running from \$4,000 to \$6,500 in cost, on basis of 25 per cent equity when the home buyer or builder borrows to acquire the property.

Would-be home builders of 1943 and from then on, if they come to the market as members of "Own-a-Home Savings" clubs will be already established as good credit risks at the savings, building and loan association where they have been accumulating their down payments. Thus from their point of view the problem of where to get their mortgage money is devoid of red tape; it is merely another step in the process of building the home which they started in their thinking and planning when they joined the club. Furthermore the influence of the accumulated down payments, which will probably run far into the millions of dollars by 1943, will be toward greater stability in home building from year to year, the United States League president explains.

"Imagine a couple who have saved for three years to get the \$1,000 to start building a \$4,000 home," said

Mr. West. "Obviously no matter what the popular trend of the time, toward more or less home building, no matter what the tenor of the real estate market, they are likely to go ahead and build. If it costs less to build at that time because of relative inactivity in the building industry they will get a better house than they planned three years before, and for that reason they will be even more likely to go ahead with their plans. Thus there will be each year the cumulative effect of these systematically accumulated down payments to keep up normal activity in home building.

"Heretofore many people have taken their savings out of a building and loan or savings and loan institution to use them as a down payment for a home, but in most cases the money has not been systematically accumulated and it has taken longer to get to the point where the family could build or buy than it is likely to take under the system we are now making every effort to popularize."

How much it is necessary to save each month to accumulate the amount they want in the time desired is given in the following table at a 3 per cent dividend rate. For associations which are paying 2½, 3½ or 4 per cent, the monthly required amount will be slightly different, but the table at the top of the next column gives a good idea of how the money will grow.

SAVE EACH MONTH	36 MONTH PLAN			60 MONTH PLAN		
	You will Receive	You Save	YOUR PROFIT	You will Receive	You Save	YOUR PROFIT
5.00	188.52	180.00	8.52	323.89	300.00	23.89
10.00	377.04	360.00	17.04	647.78	600.00	47.78
15.00	565.57	540.00	25.57	971.67	900.00	71.67
20.00	754.00	720.00	34.00	1295.56	1200.00	95.56
25.00	942.61	900.00	42.61	1619.46	1500.00	119.46
40.00	1508.18	1440.00	68.18	2591.13	2400.00	191.13
50.00	1885.22	1800.00	85.22	3238.91	3000.00	238.91

Associations which had inaugurated "Own-a-Home Savings" clubs as early as the middle of May were: Community Federal Savings & Loan Assn., Berkeley; Pomona First Federal Savings & Loan Assn., Pomona; Santa Ana Building & Loan Assn., Santa Ana; Palo Alto Mutual Building & Loan Assn., Palo Alto; Santa Barbara Mutual Building & Loan Assn., Santa Barbara, all of California; Denver Federal Savings & Loan Assn., Denver, Colo.; First Federal Savings & Loan Assn., Meriden, Conn.; First Federal Savings & Loan Assn., Bloomington, Ill.; Fairfield Savings & Loan Assn., Chicago; First Federal Savings & Loan Assn., Chicago; Home Building Assn. of Collinsville, Ill.; Hinsdale Federal Savings & Loan Assn., Hinsdale, Ill.; Peoples Federal Savings & Loan Assn. of Peoria, Ill.; Sterling Federal Savings & Loan Assn., Sterling, Ill.; Peoples Savings & Loan Assn. of DeKalb County, Auburn, Ind.; First Federal Savings & Loan Assn., East Chicago, Ind.; First Federal Savings & Loan Assn., Gary, Ind.; American Savings & Loan Assn., Hammond, Ind.; Henry County Building & Loan Assn., New Castle, Ind.; First Federal Savings & Loan Assn., Valparaiso, Ind.; Ames Building & Loan Assn., Ames, Ia.; First Federal Savings & Loan Assn., Sioux City, Ia.; Capitol Federal Savings & Loan Assn., Topeka; Southwest Federal Savings & Loan Assn., and Wichita Perpetual Building & Loan Assn., both of Wichita, Kans.; Guaranty Savings & Homestead Assn., New Orleans; Worcester Cooperative Federal Savings & Loan Assn., Worcester, Mass.; Kalamazoo Building & Savings Assn., Kalamazoo, Mich.; Waseca Savings & Loan Assn., Waseca, Minn.; Manchester Federal Savings & Loan Assn., Manchester, N.H.; Home Building & Loan Assn., Spring Valley, N.Y.; First Federal Savings & Loan Assn., Burlington, N.C.; Perpetual Federal Savings & Loan Assn., Urbana, O.; Ellwood City Federal Savings & Loan Assn., Ellwood City, Pa.; West Ward Building & Loan Assn., Shamokin, Pa.; Mechanics Federal Savings & Loan Assn., Rock Hill, S.C.; Leader Federal Savings & Loan Assn., Memphis; Pioneer Building & Loan Assn., Waco, Tex.; Federal Building & Loan Assn., Ogden, Utah; Cooperative Building & Loan Assn., of Lynchburg, Inc., Lynchburg, Va.; First Federal Savings & Loan Assn., Richmond, Va.; Franklin Federal Savings & Loan Assn., Richmond, Va.; Aberdeen Federal Savings & Loan Assn., Aberdeen, Wash.; and the First Federal Savings & Loan Assns. of Sistersville, W. Va.; and Fond du Lac, Wis.

THE PROGRESS-BULLETIN, POMONA, CAL., SATURDAY EVENING, MAY 4, 1940

PLAY SAFE! WHEN YOU BUILD THAT HOME—

Insist that your builder belongs to the Pomona Valley Chapter of the Building Contractors Association of California. It is your assurance of SKILL, INTEGRITY and COMPETENCY.

Patrons the men who display the emblem

Citrus Bolt Glass Co.
Everything in Glass
980 W. Holt
Phone Pomona 1139

Pomona Valley Hardware
Headquarters for BUILDERS' HARDWARE
324 W. Second St.
Phone No. 1279

ARCH L. BAC
PLUMBING
HEATING
120 W. 2nd St.
Phone 114

Edward's
550 W. 2nd St.
Phone No. 2158

Ray Sanders
PLASTERING AND CONTRACTING
Ph. Clon. 9331
338 W. 2nd St.

BEACON'S ELECTRIC SHOP
Phone No. 6241
1130 North
Cotton Ave.

W. F. FINTEL
Painting and Contracting
Phone No. 13053
219 E. 4th St.

EDWIN HANSON
PAINTING CONTRACTOR
Phone No. 308
605 E. 2nd Street

Milton F. Hall
Electrical Contractor
300 N. Main
Ph. No. 18147

Pomona First Federal Starts 'Own-a-Home' Club Plan

Here's How New Saving Club Works

Young Couple Joins 'Own-a-Home' Club

Thrifty, Convenient System Meets Need For Easy Financing

Mr. and Mrs. Betty J. Martin were among the first couples to take out membership in the Pomona First Federal Savings and Loan Association, signing their membership application and receiving their own bank which is given each month.

Quality Building at Fair Prices
You can avoid excessive depreciation in a home completely built by
Mark L. Barnes
Guest Contractor
1230 N. Park
Ph. No. 2216

A New Kind of Savings Club
THAT BRINGS HOME OWNERSHIP TO YOU WITHIN 36 TO 60 MONTHS

MARTIN JASKA
for
Chlor Building Sales
on North 5th St. and
Complete Home Construction Service
in Any Location
Ph. 4642 1432 N. Garden

Curran Bros.
Lumber Merchants
300 N. Main
Commercial and Cash
Phone 48

FREE HOME PLANNING KIT
Get your own. You save and plan your own home and get each room just the way you want it. It's so simple that a child can plan out an entire house. Get your free kit today. Call, write or phone for a kit. Free Estimates on Your Plans.

EQUITABLE REALTY SALES CO.
Equitable Built Homes
Wm. E. AVIGOLD, Manager
281 South Thomas
Phone 1467

Build Your Home with Quality Lumber from the NUTTER LUMBER CO.
198 N. Garden
Ask for a free copy
NUTTER LUMBER CO.
A Division of Republic for the Home Building

Floyd T. Byers
General Building Contractor
Phone No. 9004
280 E. 3rd St.

Ray Johnson
Building Co.
1716 E. 5th Ave.
Ph. 9381

Pomona Valley Hardware
FOR BUILDING MATERIALS and International Lumber

PHIL CURRAN
G. V. CURRAN

HENRY DURIG
PLASTERING CONTRACTOR
Phone Pomona 281
1130 North Cotton Ave.

GUY MUSGROVE
PLASTERING CONTRACTOR
408 Columbia

Hansawalt Bros.
Sand and Gravel
Le Vene 1907
219 E. 4th St.

Hal N. Byers
Painting & Contracting
Ph. Clon. 6996
850 Central

Charles B. Perich
Painting Contractor
Ph. Clon. 10079
311 Madison

PROOF!

★ NEWSPAPER ACCEPTANCE

★ MIDDLEMEN COOPERATION

How you can obtain this same kind of splendid publicity, middlemen cooperation and cooperation in ordering your materials for establishing and maintaining an Own-a-Home Savings Club.

IT'S A "NATURAL" FOR YOUR INSTITUTION

A PAGE newspaper ad formed the basis for promotion piece reproduced at left.



ARCHITECT'S rendering of the first group of six "garden court" houses to be built in Blue Island, Ill., Chicago suburb.

Evolve New Technique for Chicago Homes

C. Henning Vagtborg & Associates, Developers and Builders, and
Lind & Luckman, Architects, Build New Type Home in Chicago Suburb

By R. E. Sangster

METROPOLITAN Chicago has been known as a high cost residential building section for many years; as revealed in most indices, it ranks right up near the top. Naturally, such a condition is not too favorable for home building, but in spite of this, volume has increased recently. One of the reasons undoubtedly has been that such a handicap has really been a stimulant and a challenge to develop better planning practice and to evolve new construction ideas and practical procedures. Many devices have been tried, and a number of them have been successful in producing savings to allow better values in housing and overcome some of the barriers to increased volume. It is notable that many of the younger men of Chicago's home building industry have been doing a good share of this pioneering work in the effort to reduce costs.

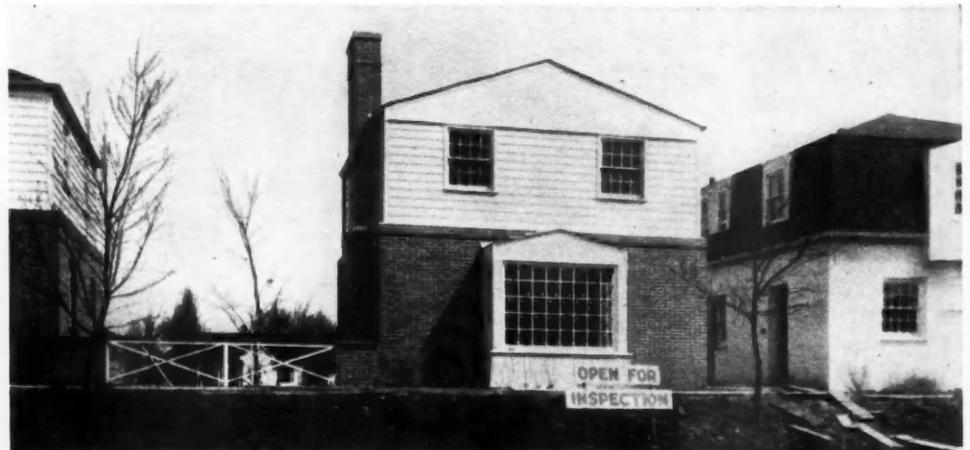
For instance, the project described here is the work of three young men who have entered the building business since the "booming twenties." C. H. Vagtborg of C. Henning Vagtborg & Associates, the builders, and Lind & Luckman, the architects, who together conceived, planned, built and sold the houses in this development at Blue Island, Ill., Chicago suburb, have truly contributed many worth-while ideas to home building everywhere, regardless of whether the object is to reduce costs to

widen the market or provide more livability at a price.

In the case of these individual houses, the object was to add some of the refinements which many people demand today but quite frequently are unable to pay for. Here these young men have done the job so thoroughly that their revolutionary ideas have received public acceptance far beyond early expectations, and to date orders for homes are running way ahead of construction.

A few of the important points of construction will indicate just how novel these houses are in their basic planning. As will be noted in the illustrations on these pages, even the first operation—the excavation for basement—departs from usual practice. Excavating is in the form of a trench dug long enough to provide basements for a group of houses, in the first unit there having been six. The usable basement space for the individual houses actually extends on the sides from lot line to lot line, the first and second floors being over only a portion of the basement. Service areas of adjacent houses are adjoining on one side and recreation areas on the other. Storage spaces and portions of the laundry for each two houses are covered with concrete slabs at front grade level, forming concrete entrance platforms about 9 feet wide serving front and rear doors of these houses. On the other side the continuous excavation gives sunken garden courts

CONSTRUCTION view showing spacing between houses, excavation for which consists of a continuous trench long enough for a number of units being built at one time. Earth is piled on the side toward the street and used to terrace up to the first floor level. On approximately 40-foot lots, there is a space about 23 feet wide between the houses where the sunken gardens are located and about 9 feet on the service sides.



FIRST group of houses as seen looking down the street at the time of near completion. The plan below indicates arrangement of two adjacent units in the row which are all identical except for alternate reversing of plan and addition of fireplaces and bays as extras at fixed prices.

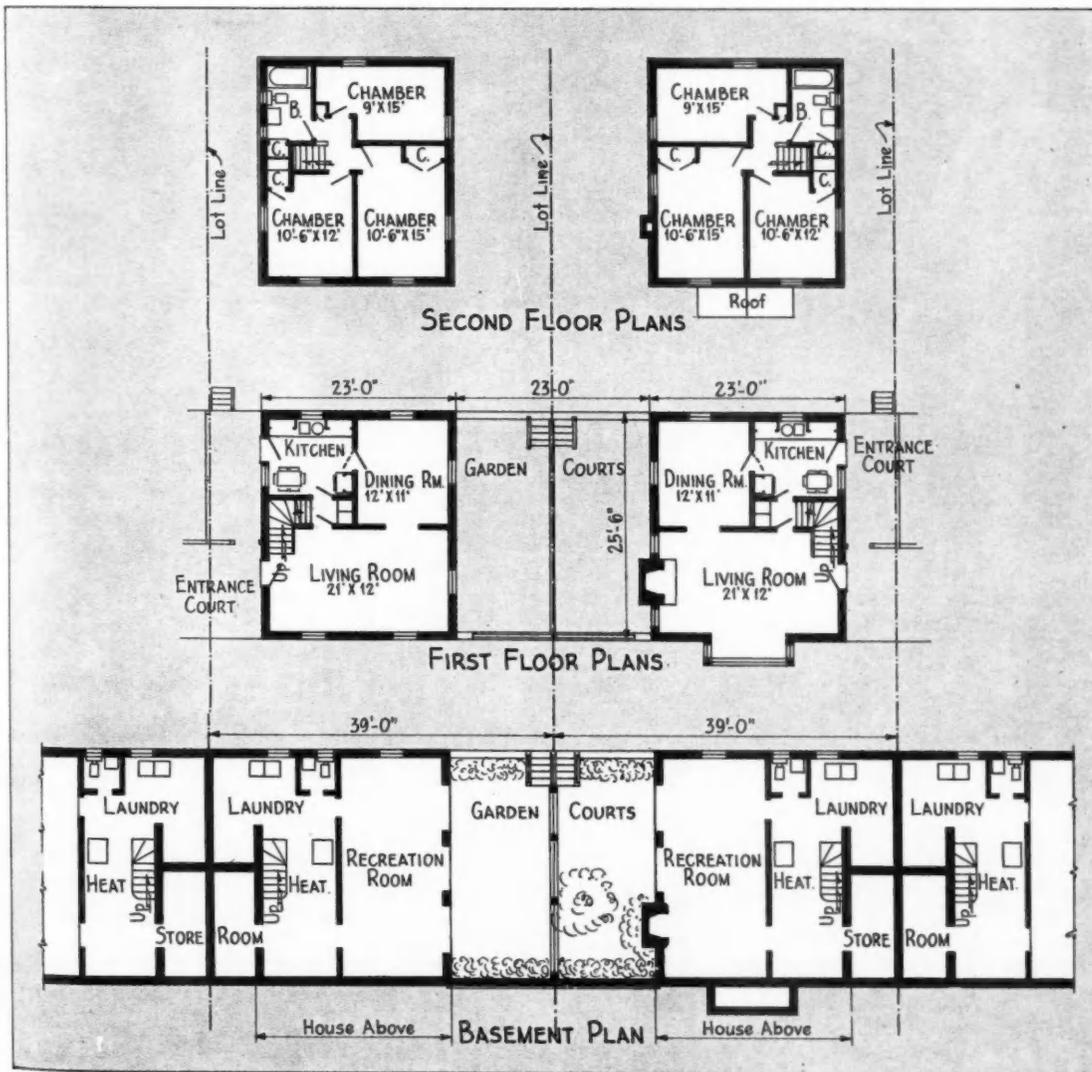


divided on the lot line by a fence with half available for the use of each owner. This garden court idea provides an outdoor living area off the basement recreation rooms, and French doors from these rooms open directly onto them. Screened in summer, this basement space serves the purpose of a porch, and each one looks out into its own landscaped summer garden about 11 feet wide. On this point, patents have been applied for.

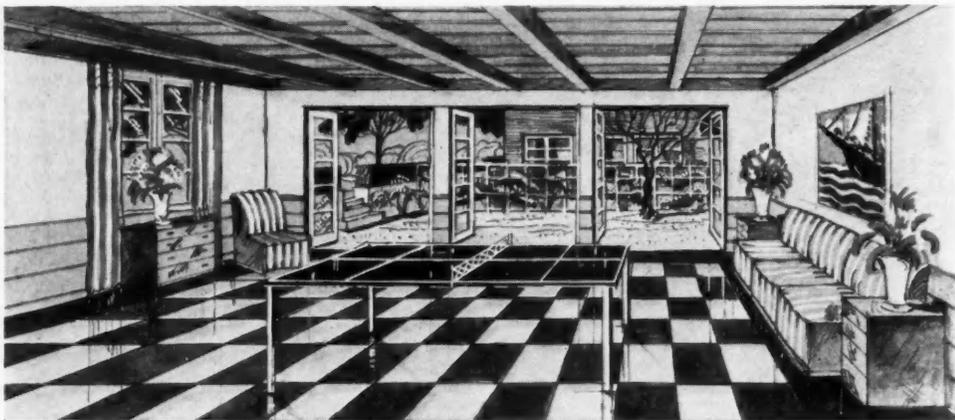
This arrangement can better be visualized by referring to the illustrations on the third page of this article. It will

be seen that this basement handling really gives a house extending above grade two stories from the front, two and a half stories from the rear, and three stories from the side.

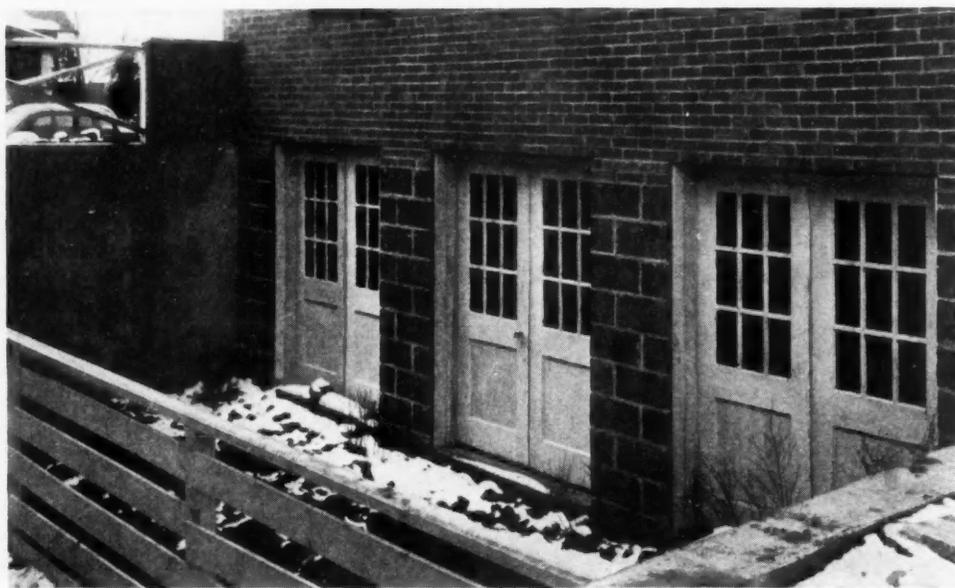
Another innovation is the use of shop-made steel stairs fabricated by Central Ornamental Iron Works; they can be installed as soon as the house is framed, making access to upper floors easier during construction. Oak treads harmonize with the floors and relieve any harshness. The stairs lead up out of the basement to a landing on the



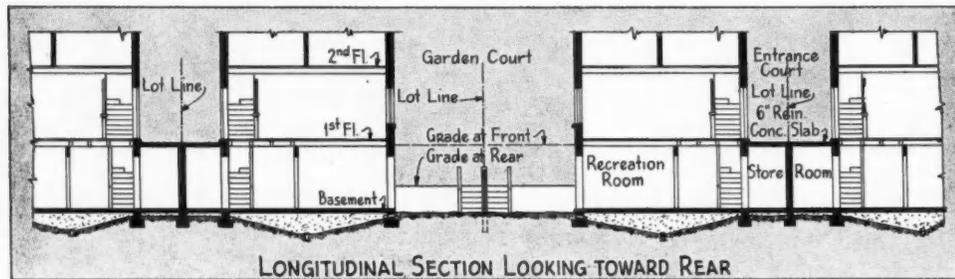
THE service areas which alternate with the garden courts between houses are located over the basement storage rooms and a portion of the laundries; above them, concrete slabs 6 inches thick provide service platforms to the front and rear entrances. These slabs are poured in two layers, the bottom one reinforced and then waterproofed before the 3-inch concrete surfacing is applied. It is estimated that these basement extensions amounting to about 100 square feet of usable floor area cost only about \$15 to \$20.



THE perspective drawing indicates the view which will be seen from these Blue Island houses as looking from the recreation room through the three pairs of French doors out into the sunken garden courts. Note the beamed ceiling effect by use of 4 by 8's and beaded 2 x 6 subflooring.



LOOKING down into one of the garden courts during construction from rear grade level; half-flight of stairs from these courts will lead to the back yards. Cross section shows grade and floor levels; tile through basement footing carries court drainage into cinder-filled sump under basement floor. At the time photo was taken, water from heavy snow-storm had been drained away quickly without trouble.



LONGITUDINAL SECTION LOOKING TOWARD REAR

first floor convenient to both kitchen and living room. The latter is of generous size for a moderately priced house, and among the extras which are available, a bay and a fireplace add to its size and livability. Three bedrooms and a bath on the second floor are most compactly arranged; in two of them, wardrobes replace closets.

Equipment and materials include 10-inch poured concrete foundation, brick veneer exterior on first floor, frame covered with shingle clapboard or vertical siding above, J-M or Bird 3-in-1 asphalt shingles on the roof, 4 inches of mineral wool over ceilings and 2 inches in sidewalls, Rezo doors, zinc weatherstripped sash fitted with Unique balances and glazed throughout with Lustraglass, Mueller gas-fired furnaces equipped with Transite flues, basement walls finished with casein paint, Standard Sanitary bath fixtures, Ebco double sinks and Harrison steel kitchen cabinets, West Wind kitchen ventilating fans, Rittenhouse chimes, and American Device Co. mail boxes.

ent as the points already discussed. Builder Vagtborg is himself an architect by training and received a good deal of his early building experience in the construction department of Swift & Co. While there, he conceived the idea of adapting to residential building the mill type construction on which he was working.

These Blue Island houses use a variation of this mill type construction for first floor. As shown in the illustrations at the end of this article, 4 by 8's supported by joist hangers replace conventional 2 by 10's. Over these, 2 by 6 T & G subflooring beaded on the underside is laid; this provides a decorative beamed ceiling for the basement and a substantial base for the finished oak flooring above. The use of 4 by 8's also gives extra headroom in the basement at no extra cost.

Power tools have been used extensively at the building site. Joists, subflooring, studs and rafters are all cut to length with Skilsaw portable electric hand saws, sizes

(Continued to page 100)



ROW of typical Preu five-room houses at Miami, Fla., and at the bottom of page, newspaper ad featuring one of them.

“Package” Houses Attract Miami Buyers

Perfect Coordination of Selling, Construction and Cost-keeping Enables Lester F. Preu Corporation to Build Better Houses with Lower Price Tags

THE Lester F. Preu Corporation, Miami Beach, Fla., developers and builders, whose 300-unit small homes project was reported in the October, 1938, issue of *American Builder*, recently has made new history in the building business. And so accurately has the Preu Corporation gauged the tastes and buying abilities of Greater Miami home-seekers, that 75 houses were sold before two-thirds of that number had been completed.

Their latest development features a 5-room, concrete-block house, stucco finished, with concrete tile roof; FHA selling terms for the house and 60' x 107' lot are

\$350 down and \$22.50 per month, including finance charges, insurance, interest and amortization of principal. The development, itself, covering approximately 40 acres, runs back from a main thoroughfare in the Southwest section of Miami and is well located in relation to shopping centers and schools.

Each of these houses is delivered to the purchaser as a complete home, ready for occupation, and includes landscaping, a “stepping stone” walk of 18" x 18" concrete slabs, crushed rock drive, porte cochere, solar water heater and copper-screened porch, doors and windows.

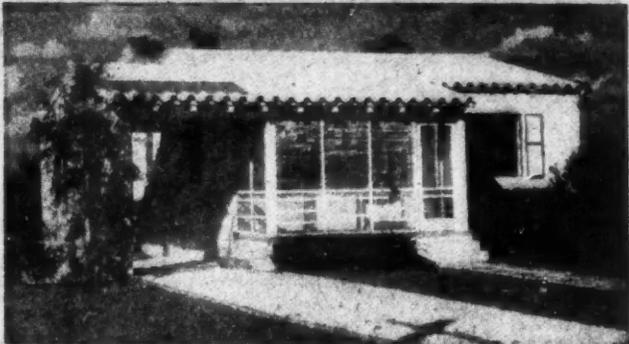
In brief, the visible specifications of these homes compare favorably with those of houses currently selling on the local market for \$5,000 or more.

“Talking points,” however, do not serve as a cover-up for the cutting of short corners in basic construction. From foundation to ridge these homes are exceedingly well built, bettering the requirements of FHA and the still more rigid local building regulations.

The production of a house of this quality at the price is made possible by perfect co-ordination of all the factors involved. First class merchandising, efficient construction methods, cost control, each contribute a part to the final results. Quantity buying of materials also is an important element.

Since the Preu Corporation does no speculative building, the sale of a house precedes its construction. Sales, therefore, must outpace the pre-determined production program. As a first step to this end, Preu constructed a “model house” on the main traffic artery, which forms the development’s southern boundary, and arranged with a well-known home furnishing firm

MIAMI'S FINEST LOW PRICED HOMES!
Model Furnished by Helmly, 4311 S. W. 8th St.



COMPLETE G.E. HOT POINT ELECTRIC KITCHEN INCLUDED!

<p>ONLY \$350 DOWN</p>	<p>ONLY \$22.50 PER MONTH</p>
--	---

You just can't beat this home at this price! Concrete Block
 —Tile Roof—Steel Sash—Pre-Cast Frames—Solar Water
 Heater—Full Tile Bath—Oak Floors—Screened Porch—
 Large Lots—Beautifully Landscaped—Excellent Location
 —All Loan Costs Included..

LESTER F. PREU CORPORATION
 1446 ALTON ROAD, MIAMI BEACH PHONE 5-7466
 — Builders of Fine Homes —



THIS Miami, Fla., home in new Lester F. Preu Corp. development features concrete block construction; as in other Preu houses, it has a solar water heater built into the roof over the porte cochere. The sun's rays furnish hot water.

to outfit the interior completely in attractive style.

A personable and competent young woman acts as "hostess" contacting prospective buyers, doing preliminary sales work and making appointments for closing interviews. This, of course, is merely routine. The key secret to Preu selling success is the Corporation's policy, which may be summarized thus: "Make it as difficult as possible for home seekers to buy to better advantage elsewhere."

As an effective means of removing sales resistance, a series of "options" has been worked out. These permit the inclusion of certain owner preferences without interference with construction routine. The options for which there is no extra charge include a choice in exterior detail, such as trim, stucco coloring, landscaping and type of roof construction. There is also a wide range of selection on interior detail.

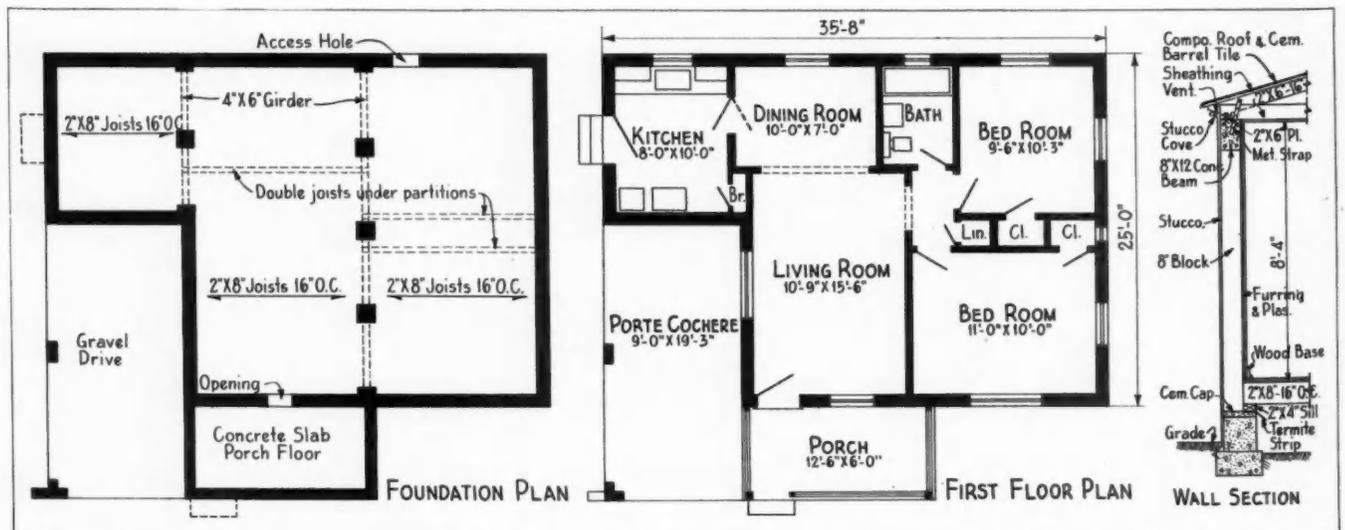
At an extra charge of \$150 the purchaser may add a living room fireplace, and for a like amount he may substitute a garage for the porte cochere. The latter is so constructed that the sum mentioned amply covers the labor and material necessary for filling in with concrete blocks on one side and for installing a main door of overhead type and a side door.

Instead of the regular front porch with single entrance

door, the buyer may select, at an extra cost of \$45, a rear living porch and a smaller front entrance porch from which French doors lead into the living room. The price of all "extras" is added to the down payment.

Since the matter of "exposure" looms large in the minds of many "prospects," the latter inexpensive option helps to close on locations, which otherwise might be considered less desirable. This is true, too, in regard to exterior options because the range of choice here is limited by selections already made. In order to avoid any duplication in outside appearance, under Preu policies the purchaser may not choose detail similar to that already selected for adjacent houses. To exercise a free choice, therefore, in the matter of roof construction type, for instance, the buyer may have to select a lot farther back in the development than he originally had intended.

By competent advice, timely suggestions and ever-ready tact, the "hostess" employs the Preu option system as an effective means for building sales volume. The construction department, too, is thoroughly sold on its advantages. The hostess records all buyer preferences on the option list on a 5" x 8" file card, copies of which go to the main office and to the construction department. Thus everyone concerned in the building of a house knows before ground is broken what the optional details include.



WHILE the room arrangement of houses in Lester F. Preu's new development follows the typical plan shown above, exterior details, roof colors, and framing are varied so that together with reversed plans, an interesting and harmonious group of small homes results.

Foundations are steel-reinforced concrete, mixed on the job. Only "Underwriter's certified" concrete blocks go into the construction of exterior walls. In roof construction, offered in five different styles, a layer of 30 lb. felt is laid over the sheathing, followed by 90 lb. slate surfaced roofing; concrete tile, either flat or barrel type, with the latter in white, "golden glow" or two shades of red, is used for top surfacing.

Joists, rafters and other framing members are No. 2 long leaf Southern pine. Floor joists are chemically treated as a preventive against rot and insects. National gypsum rock lath is used as a plaster base.

Among other features new to houses in this price-class is the use of precast, concrete window frames. These are constructed of special high-strength mix and are especially adaptable to the quick erection of steel sash. Threaded brass inserts for screws are incast, as are brass channels and inserts for easy installation of Venetian blinds, which are in current demand in South Florida homes.

One particularly outstanding interior feature is the closet arrangement (see floor plan). Inside end-partitions stop 16" from ceilings, allowing greater ventilation. Light also is admitted by four Pittsburgh glass blocks set into the exterior wall.

Floors, except kitchen and bath, are oak. The kitchen floor covering is linoleum, as is the room-width drain board. Above the latter is a full battery of convenient kitchen cabinets. The 4-light sash in the upper half of the kitchen entrance-door is hinged at the bottom, allowing it to drop down inside. The opening left is screened. This feature has a special appeal for women "lookers."

Systematic saving in the costs of construction in this development starts with careful planning by Lester F. Preu, president of the Corporation, and T. P. Coogan, vice president. This includes an estimated cost for each and every operation. The next step is the establishment of cost control "in the field." A running cost-of-production sheet is kept in plain sight at construction headquarters, where Ed Andrews, superintendent, can see at a glance how the cost on any particular operation is running in relation with the "estimate." Any overage is checked at once and its reason found.

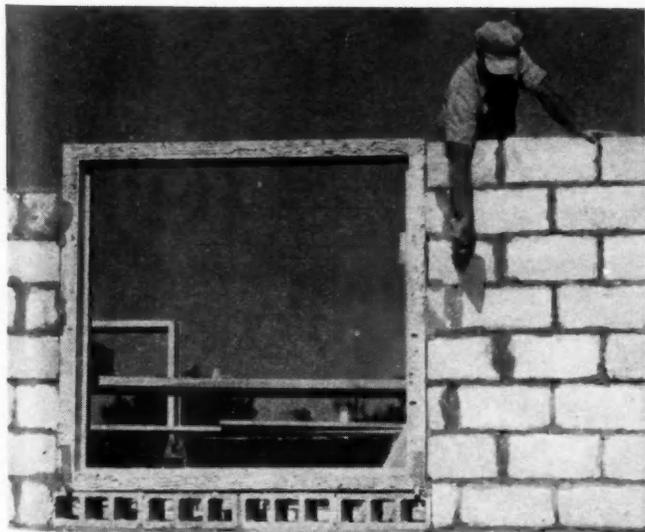
For a good portion of its cost-cutting the Preu Corporation depends on "specialization." The construction personnel on each operation is especially trained to perform that operation and does nothing else, thereby eliminating all possible lost motion. Sub-contracting work

is conducted in the same manner, as sub-contractors are not required to enter competitive bids but follow construction from one Preu development to the next.

The sales department keeps orders comfortably ahead of the construction schedule and, therefore, actual building operations proceed on a smooth "factory production" basis. The Preu Corporation is very proud of the fact that it is able to give its working force steady, year 'round employment, thereby building up and retaining a high-grade construction personnel. It is proud, too, that its sub-contractors make money.

Small economies, which add up to large totals, have a place in the setup. One idea alone lops off \$15 per day from the cost of construction. In a small store house next to operating "headquarters" approximately 25 kegs of nails in 8 sizes from 4d finishing to 16d common constantly are kept on hand. The same plan is used in relation to other supplies for which there is a frequent demand, thus eliminating time lost in waiting for materials to come from supply houses located at a distance.

During the past five years Lester F. Preu and his organization have built in the neighborhood of 1600 homes at prices ranging from \$2,760 to \$75,000. His operations have covered the entire Florida East Coast from Jacksonville to Miami, a 400-mile stretch, in which differences in climatic conditions and buyers' tastes demand wide variations in construction type and architectural design. Broad experience, such as this, puts Preu in an excellent position to know "who wants what at how much," and just how to supply the potential market on a profitable basis.

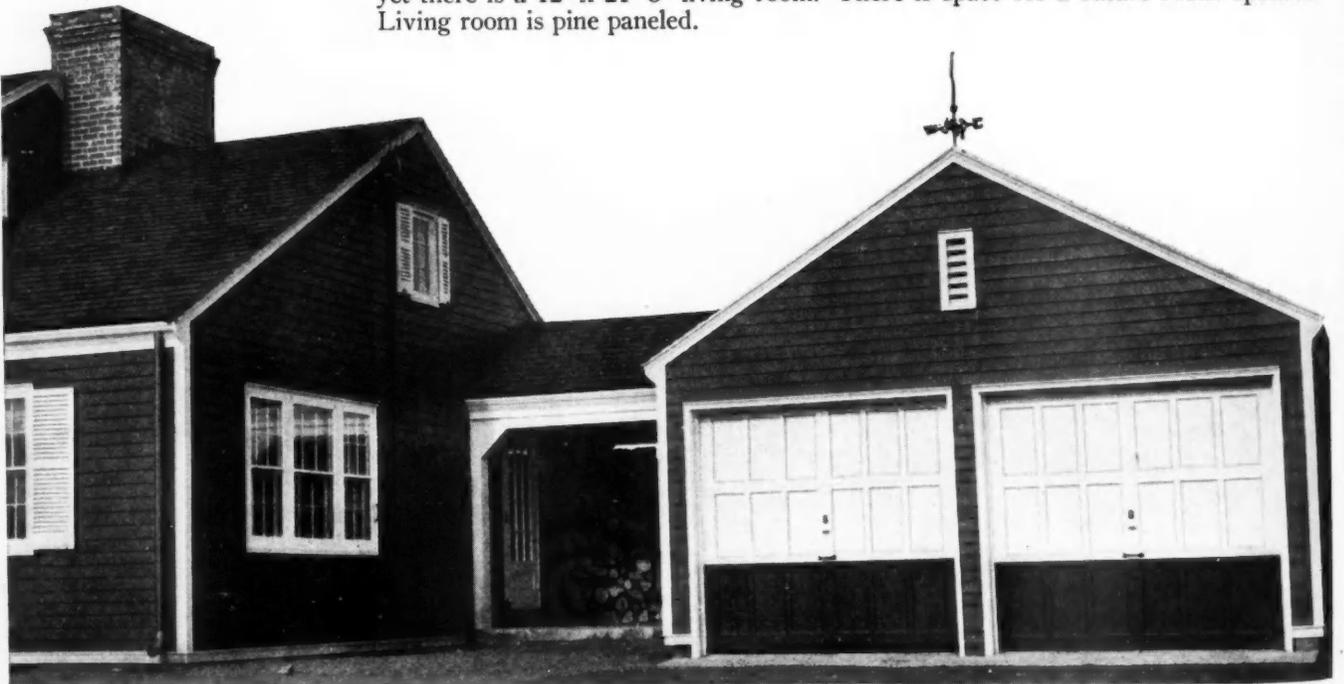


ABOVE at right, construction of Preu houses showing, at top, foundation being poured; center, beam forms in place ready for pouring on top of block wall; and bottom, roof being framed. At left, precast concrete window frame being set into the masonry wall.



Breezeway Cottage—West Hartford, Conn.

THIS appealing little cottage was built by Deming & Luscomb of West Hartford, Conn., from plans by Architect Clifton C. West. An interesting feature is the two-car garage with connecting "breezeway" or attached porch. Cubage is under 20,000, yet there is a 12' x 21' 6" living room. There is space for a future room upstairs. Living room is pine paneled.



THE 2-car garage with Overhead doors is connected by a covered porch or breezeway. Clifton C. West, architect.



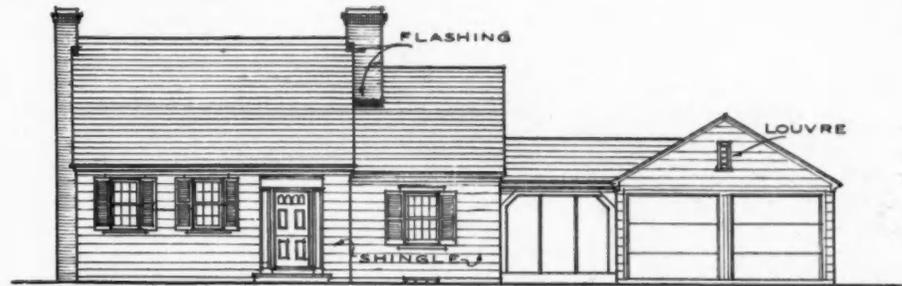
Photo by H. D. Holt.

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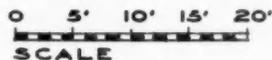
SPECIFICATIONS include Balsam-Wool insulation, Andersen frames, Corbin Colonial hardware, Du Pont paints (exterior is a deep red), Anaconda brass pipe.

EQUIPMENT includes a Gar Wood winter air conditioning system, Robbins & Meyers exhaust fan, Quality gas range, Overhead garage doors.

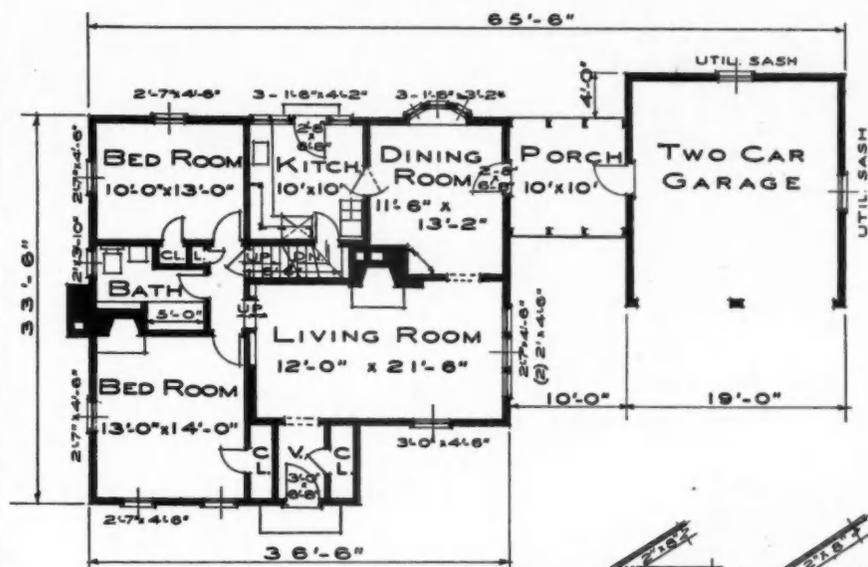
BATHROOM walls and floors are of linoleum. The front door is a 2-section Dutch type. The red cedar shingle roof has been stained a dark tone.



FRONT ELEVATION



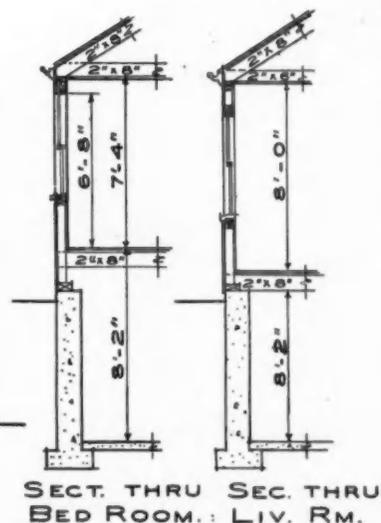
REAR ELEVATION



FIRST FLOOR PLAN



RIGHT SIDE ELEV.



DETAILED drawings by Clifton C. West show careful planning and skillful arrangement in this West Hartford, Conn., house. Ceilings are low but well insulated. Stair-well arrangement is compact. Tru Cost Estimating figures will be found on page 111.



DEMONSTRATION home in North Hollywood, Calif., was designed by Architect Sumner Spaulding; built by Kersey Kinsey.

Plywood Model Home Attracts Thousands

CALLED the "House in the Sun," this Dri-Bilt plywood home was sold the first day it was open for public inspection; 15,000 visitors were attracted to it, among them being 400 builders and architects to study its features of construction and planning.

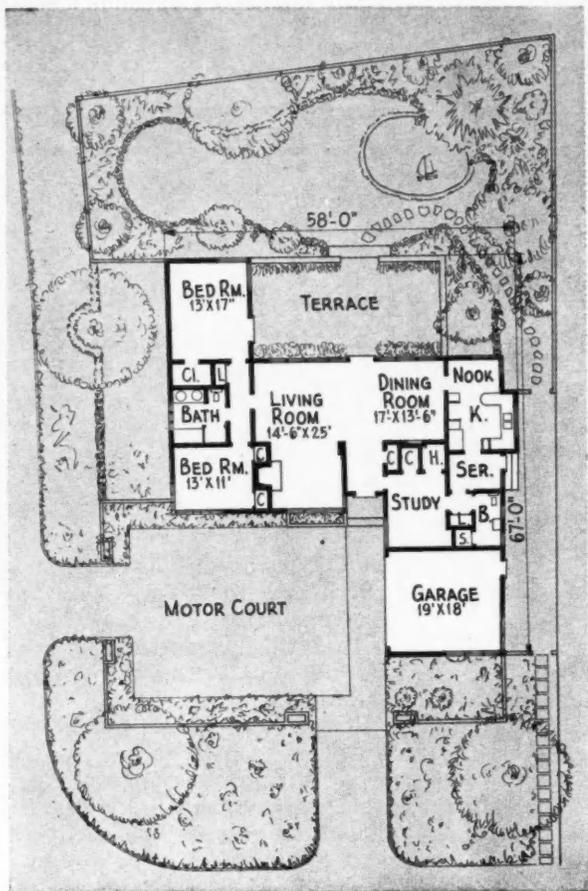
Interior walls and ceilings, as planned by Architect Sumner Spaulding, and built by Kersey Kinsey, feature Douglas fir plywood handled in a variety of interesting

treatments, illustrated below and on the opposite page. These include an open type V-joint for living room, dining room and hall wall panels, finished with light stain, horizontal V-jointed paneling painted in one of the bedrooms, plywood walls covered with paper in the second bedroom, and covered with grass cloth in the den. Ceilings throughout are finished with simple V-jointed plywood panels,

(Continued to page 99)

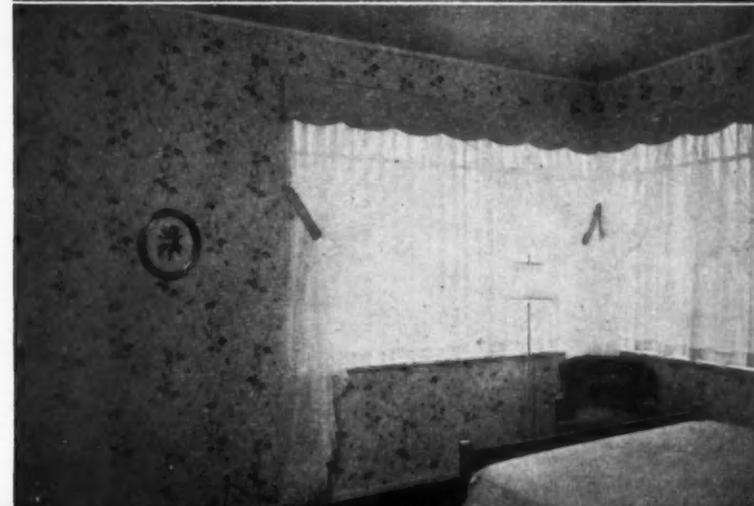
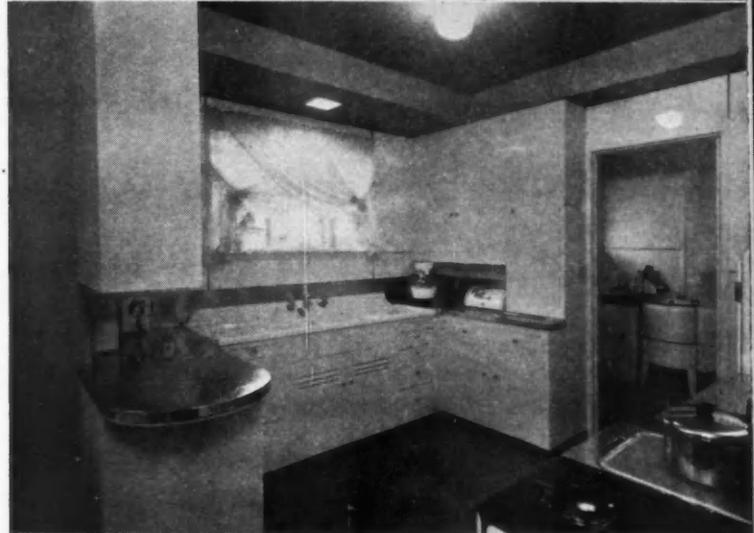


THE open plan is revealed in this view looking across the living room toward the hall and dining room. A curtain hung from the ceiling track gives privacy to the dining area when needed. Bullock's, Los Angeles, did the furnishing.



PLOT and floor plan above shows well considered placement and arrangement for light, air and view in Hollywood home designed by Sumner Spaulding, architect.

THE den, below, indicates plywood ceiling and grass cloth covered wall treatment with simplified trim. Other rooms at right, top to bottom, feature plywood finish—as open joint paneling in dining room, muslin covered and painted ceiling in kitchen, V-jointed panels in bedroom No. 1, and under wallpaper in other bedroom.





BUILT for the

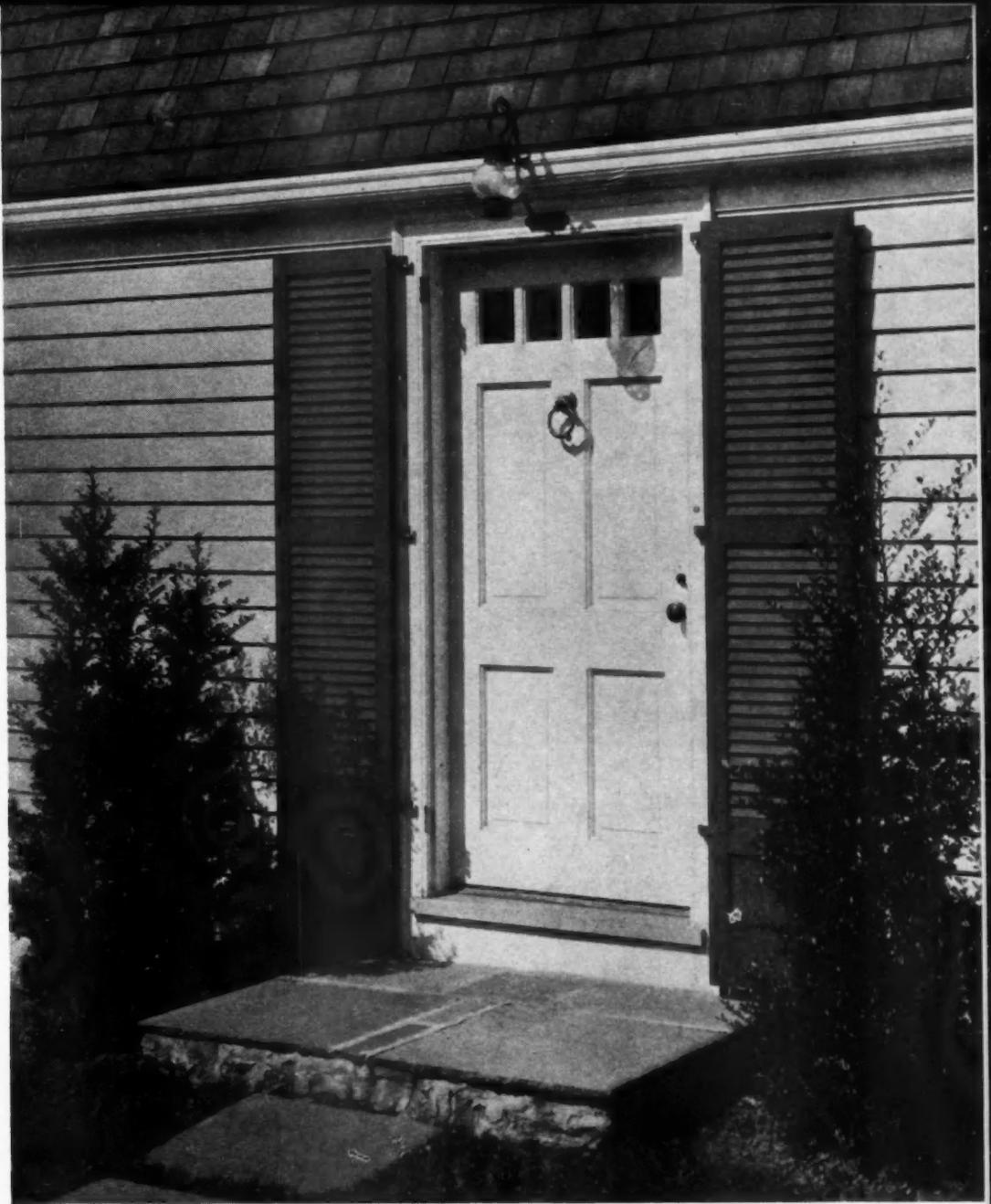
**Hudson River Colonial—
6 Rooms, 23,000 Cu. Ft.**

OUTDOOR terrace in this house at Irvington, N. Y., overlooks the Hudson River and is an important feature of the plan. The 15' x 21'9" living room has French doors leading to it. With a cubage of only 23,000, Builder G. Richard Davis of White Plains, N. Y., has provided three good bedrooms, a bath and a downstairs lavatory. Specifications include Covert damper, Curtis windows, Eagle-Picher mineral wool, Armstrong linoleum, Corbin hardware, Sherwin-Williams kitchen enamel, Cabot exterior paint, Chase brass pipe, A. G. P. winter air conditioning system, Rowe overhead doors.



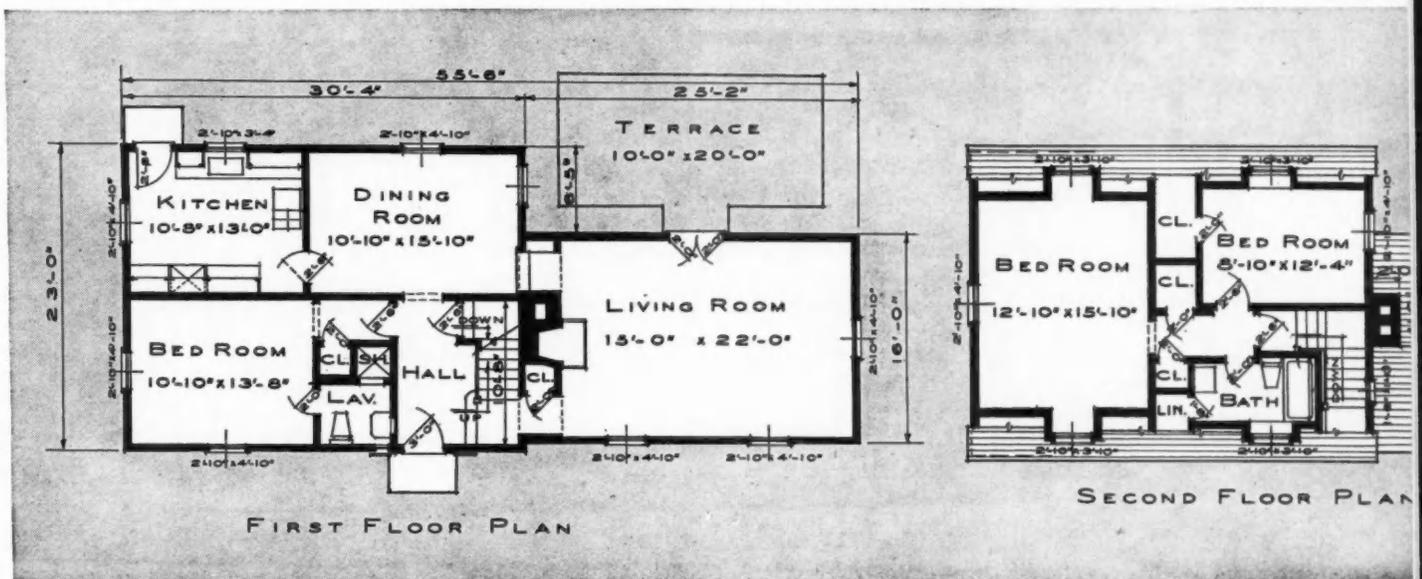
VIEW

FULL length shutters and an attractively detailed door contribute to the success of this entrance way. Shutter at left conceals a small lavatory window. A flagstone step is raised 6 inches to insure dryness. The architect is Edwin M. Loye of 11 Meadow Ave., Bronxville, N. Y.



Photos by John Gas

FLOOR plan provides a downstairs bedroom and bath, a large kitchen and separate dining room. Living room has exposure on three sides and a well placed fireplace dominating one end.





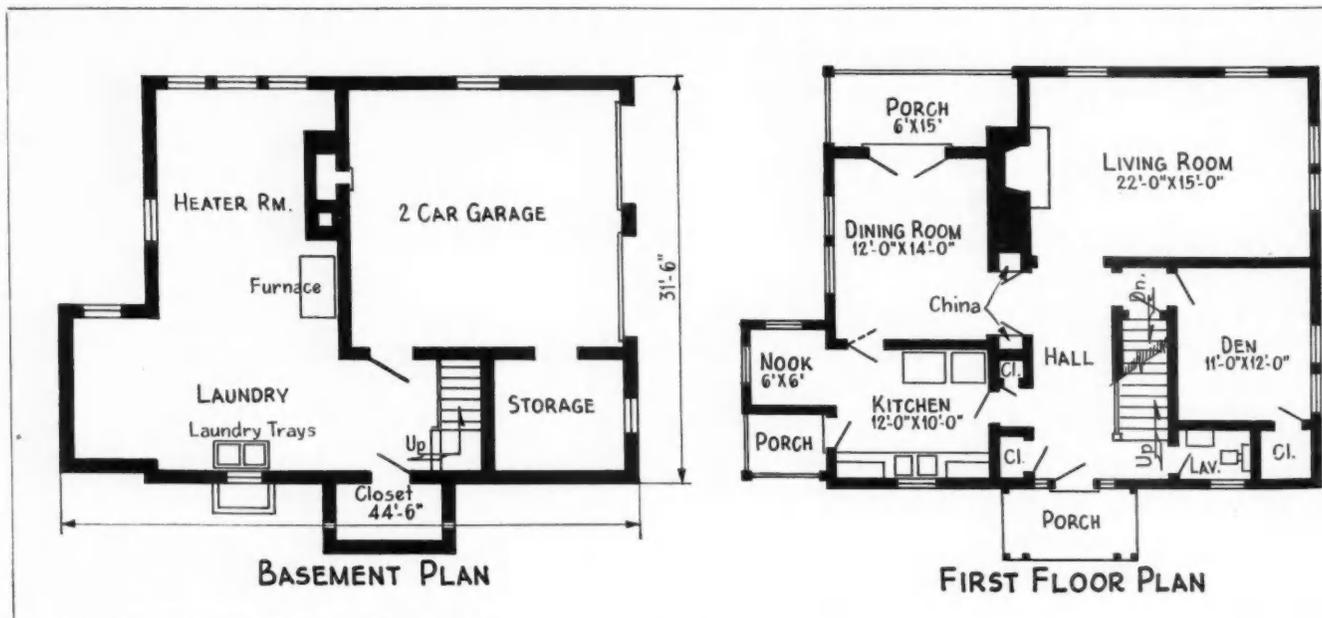
THIS attractive Colonial home built in Hugh Russell's Blue Ridge development, Seattle, Wash., was designed by Tenny Francis Bellamy, architect. Floor plans across the bottom of these two pages reveal eight generously proportioned rooms within this seemingly small house.

Two Trim Homes from the Northwest

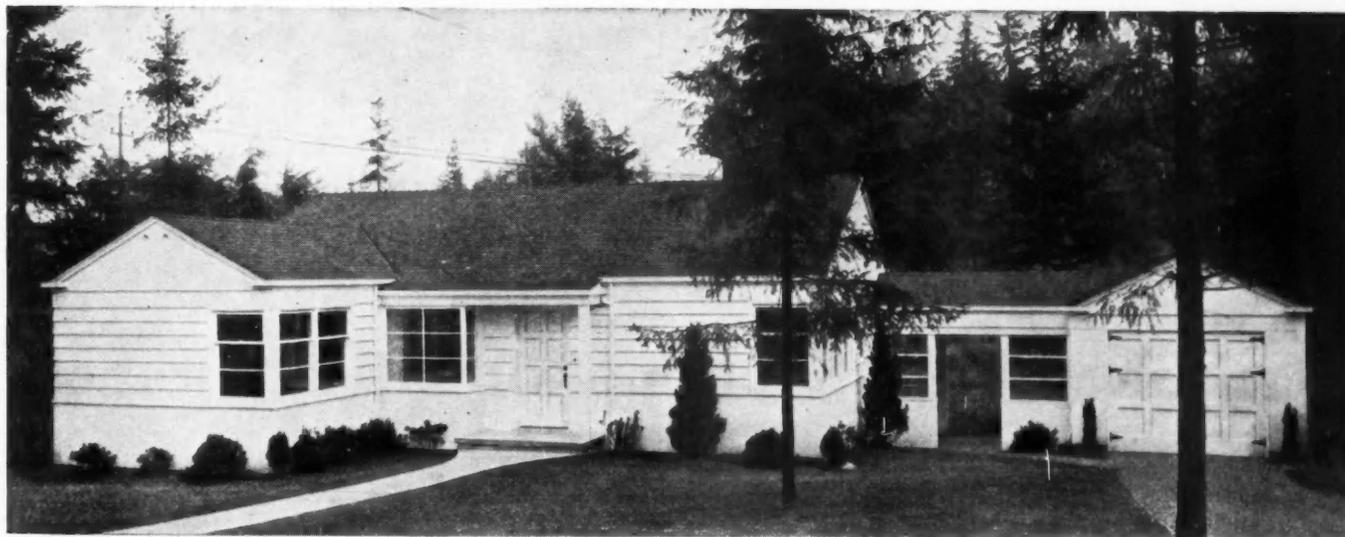
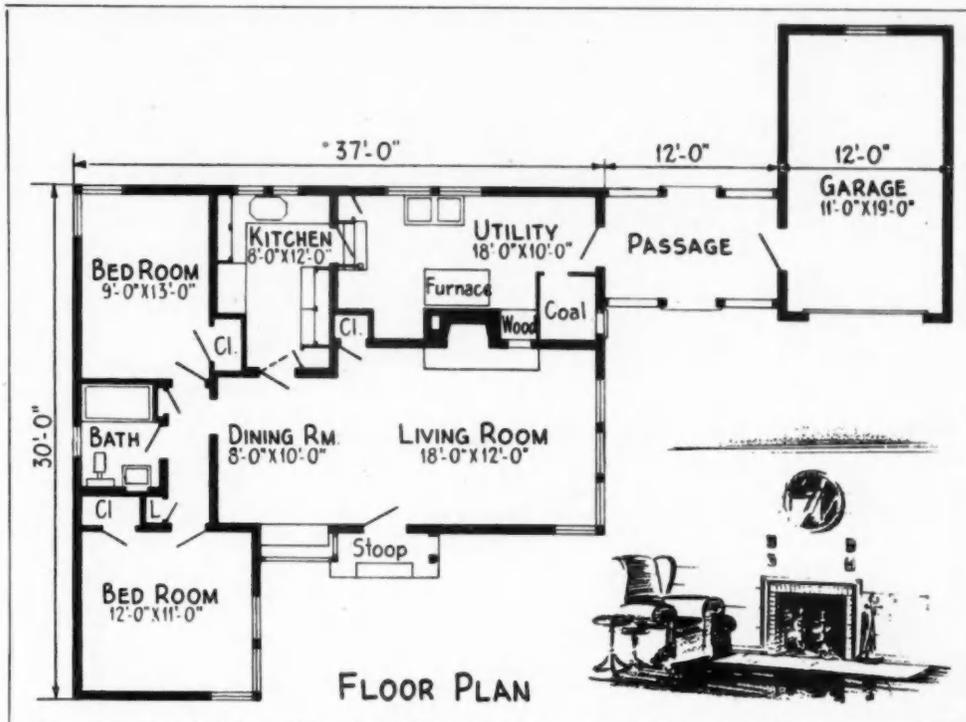
IN the Pacific Northwest around Seattle, Hugh Russell has two community developments—Blue Ridge and Westover—which have claimed national attention. The designs are particularly outstanding from both a layout standpoint and the fine manner in which they are adapted to their sites. The Blue Ridge house illustrated above, with plans below, was designed as this firm's "Economy House"; eight rooms are arranged within an overall of $44\frac{1}{2}$ by $31\frac{1}{2}$ feet, with a minimum of waste space. It also contains a two-car garage in the basement, breakfast nook off the kitchen, first floor lavatory, and two bathrooms. The one off

the master bedroom, however, was left unfinished in this particular house, with the plumbing roughed in; it serves as closet or storage space until finished later.

French doors open onto a porch off the dining room, and since grade level at the rear of the house is at basement floor line, there is a commanding view of the rear garden from it. Likewise the living room is at the rear, with service features near the street. Heater room and laundry are particularly well lighted; a G-E oil-fired air conditioning unit is installed. There are also two storage areas in the basement with ample closet space provided throughout. Contents are 37,000 cubic feet.



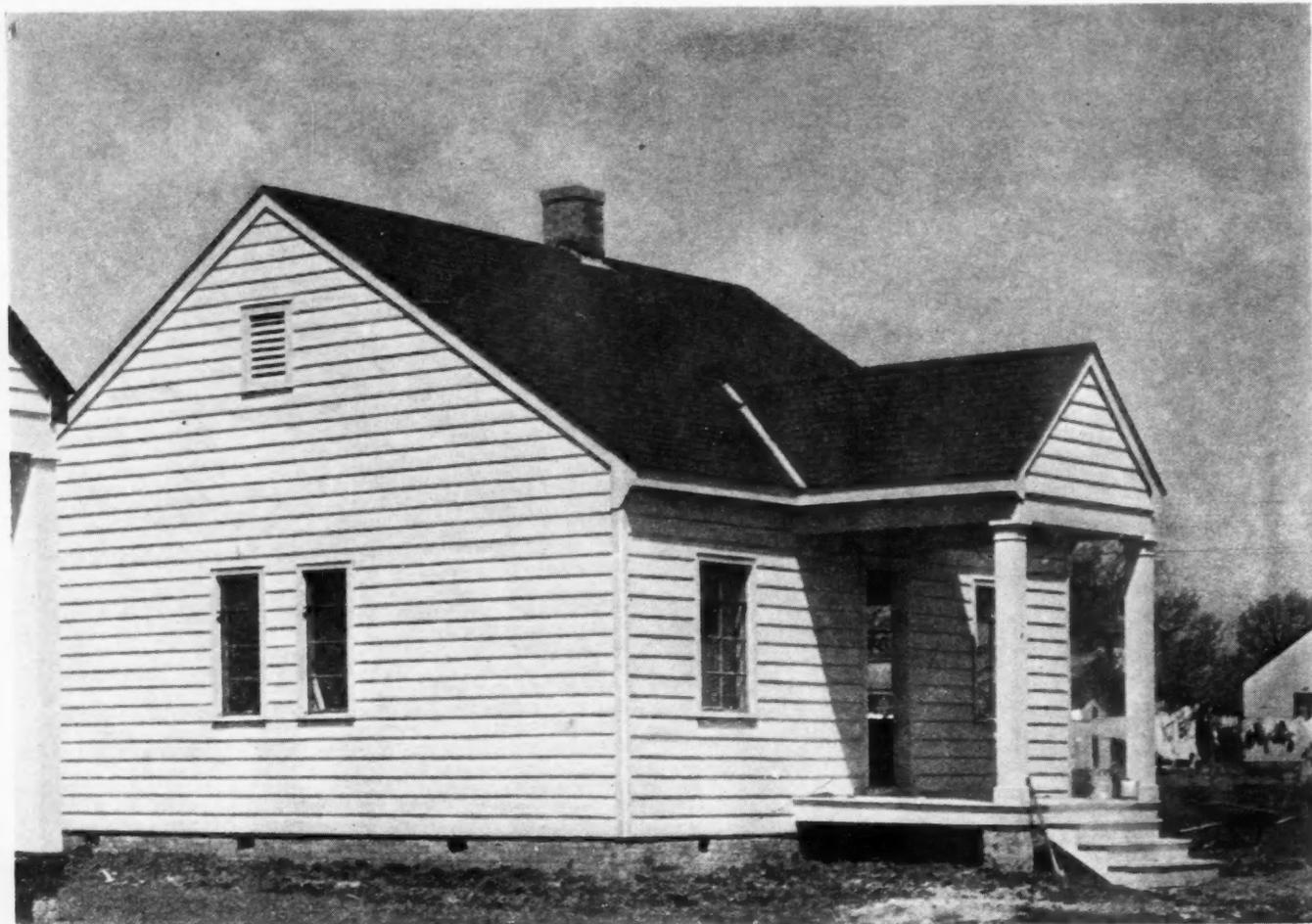
IN contrast to the house on the opposite page, this Hugh Russell home in Westover contains five rooms arranged in a one-story rambling layout with utility room instead of basement, as shown in the plan at right. A covered passageway connects the garage to the house. Smith, Carroll & Johanson were the architects.



IN contrast to the Hugh Russell house in his Blue Ridge development, as shown on the opposite page, the five-room house above is typical of his Westover Addition. Here a smart, modern styling has been given to a small five-room home set on a good sized wooded lot.

The materials and equipment used were selected on a high quality basis, and include Weyerhaeuser 4-Square lumber, Certigrade red cedar shingles and siding, Armco sheet metal work, Pittsburgh glass, Sloane-Blabon linoleum, Standard Sanitary plumbing fixtures, Montag winter air conditioning, Hotpoint water heater, Square D circuit breaker panel box, Russell-Erwin hardware, Pratt & Lambert paint, and Imperial wallpaper.

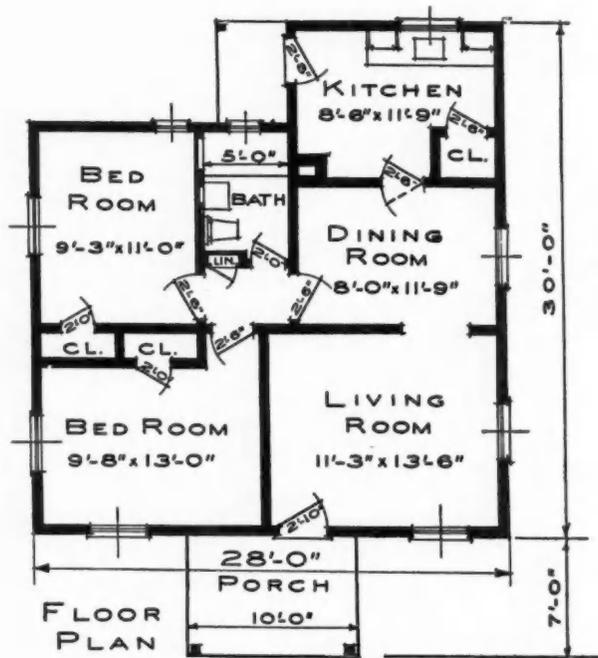
THE three floor plans at the left indicate how a sloping site was utilized to full advantage in the design on opposite page.



TWENTY-FOUR by 28 ft. low-cost cottage built by Richmond Housing Corp., and financed under Title I, Class 3, FHA.

Try Shop-Built Sections for Title I Homes

45 Class 3 Houses Sold Like Hot Cakes at \$2,650 in Richmond, Va.



FLOOR plan provides a small dining room as well as a 13½ by 11 ft. 3 in. living room and 2 bedrooms.

LOW-COST houses financed with Class 3, Title I FHA loans are selling like hot cakes in Richmond, Va. There are several such developments with houses priced at \$2,650, and apparently there is a large public demand for such houses. They are sold on a \$150-down payment and a \$2,500 FHA mortgage which runs for 15 years.

One of the most successful of the Richmond low-cost house developments is conducted by the Richmond Housing Corp., of which A. S. Osbelt is president. This firm is a subsidiary of the La Burnam Realty Corp. which acts as sales agent for the houses.

A. S. Osbelt, when interviewed by *American Builder* early this spring, said that the demand for these houses had been far greater than expected. Several model homes were built early in the year on a tract just outside the city limits. These were sold immediately and orders taken for 45 more. By the middle of April, 19 houses were under construction or completed, and the builders predicted that 100 would be built and sold during the course of the year.

These houses are located on inexpensive land on 60 by 100-foot plots. Septic tanks are provided, and a water



FIVE by 14 ft. roof section about to be set into place, on low-cost house of Richmond Housing Corp.; forty-two sections are used.

system is being installed by the Realty Company. The financing is being handled by the Richmond Morris Plan Bank.

The houses under construction were approximately 28 by 24 feet in size with a 6 by 12-foot projection at rear, and a 7 by 10-foot porch at front. The \$2,650 price did not include a heating unit, as Osbelt reported that most purchasers already had a stove or heater suitable for a house of this type in this climate. He said they were studying the possibility of installing an inexpensive oil burner to be located in the unexcavated area under the house, at a slight additional cost.

The houses include hardwood floors, steel casement windows, 210-lb. asphalt shingle roofs, linoleum bathroom floor, modern bathroom fixtures.

Framing is of No. 2 pine, common, with 2 by 8 floor joists on 16-inch centers, and 2 by 6 rafters.

Floors consist of pine subfloor, building paper and select oak finish floor. These are scraped, sandpapered and finished with 2 coats of shellac and 1 coat of wax.

Exterior siding is $\frac{5}{8}$ by 6 beveled edge.

Inside walls are $\frac{3}{8}$ -inch gypsum board with 2 coats of plaster.

Kitchen cabinets are built in, with panel doors.

Painting specifications call for "best of their several kinds." Interior woodwork has 2 coats flat paint, 1 enamel. Exterior woodwork, 3 coats of paint.

Wiring consists of 20 outlets including receptacles and switches, BX cable, \$20 for light fixtures.

Septic tank is of concrete, 500-gal. capacity with 200-foot 4-in drain tile.

Foundation is of brick with 12 by 12-inch piers.

Try Out Shop-Built Panels

An interesting experiment is being conducted by Richmond Housing Corp. on one of the latest cottages, using shop-built roof, wall and floor sections built of standard lumber materials. When the *American Builder* representative was on the job, a crew of five men was just shoving a 5 by 14-foot roof section into place. Erection of the house had started at nine that morning, and it was fully expected that the house would be completely enclosed and locked by four o'clock in the afternoon.

The experimental house is 24 by 30 feet in size, and a total of 42 sections are used, consisting of 12 roof panels, 12 floor panels, 4 gable sections, 8 front and rear sections and 6 end wall sections. The sections are built of 2 by 4's on 24-inch centers, with standard 1 by 4 sheathing. They are bolted together, using timber connectors made by Timber Engineering Company of Washington, D. C. The roof panels are supported by a simple roof truss arrangement which is also bolted together with Teco Connectors.

The standard wall sections are put together in a nearby shop operated by Virginia Built Homes, Inc. Sections containing doors and windows are delivered with the doors and windows installed, flashed and primed.

Because the sections are scientifically laid out and fastened together with bolts, the house is assembled in a remarkably short time. Once the roof enclosure is completed, the house is finished with standard materials, using a siding exterior and a three-coat plaster interior finish.

This house was in the nature of an experiment to see whether the economies made possible by shop production and quick erection would be as great as estimated.



ALL-MASONRY model home designed by Architect Wilson and Morris, Houston, Tex., has five rooms and attached garage on one floor.

Hollow Brick Wall Design in Houston Home

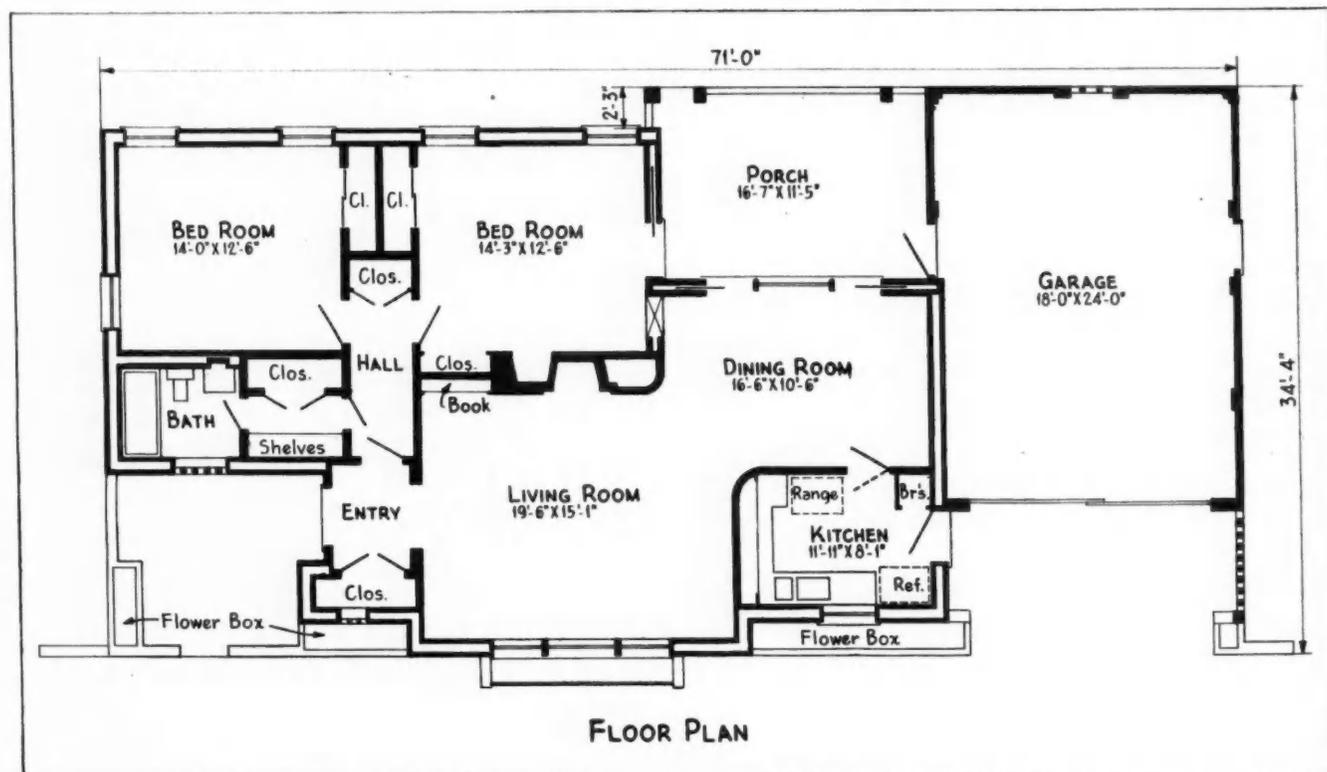
New Styling and Construction Featured in Novel Demonstration Project

HOUSTON, one of the nation's fastest growing cities, acquired a new type of architecture in an all-masonry demonstration home built in Southgate addition. Combining beauty, safety and economy, the structure is weather-proof, rat-proof and vermin-proof; and, due to scientific insulation, is cool in summer and warm in winter.

Especially designed for the Texas climate by Architects Talbot Wilson and Irwin Morris, ample window and door outlets permit the entrance of cooling breezes,

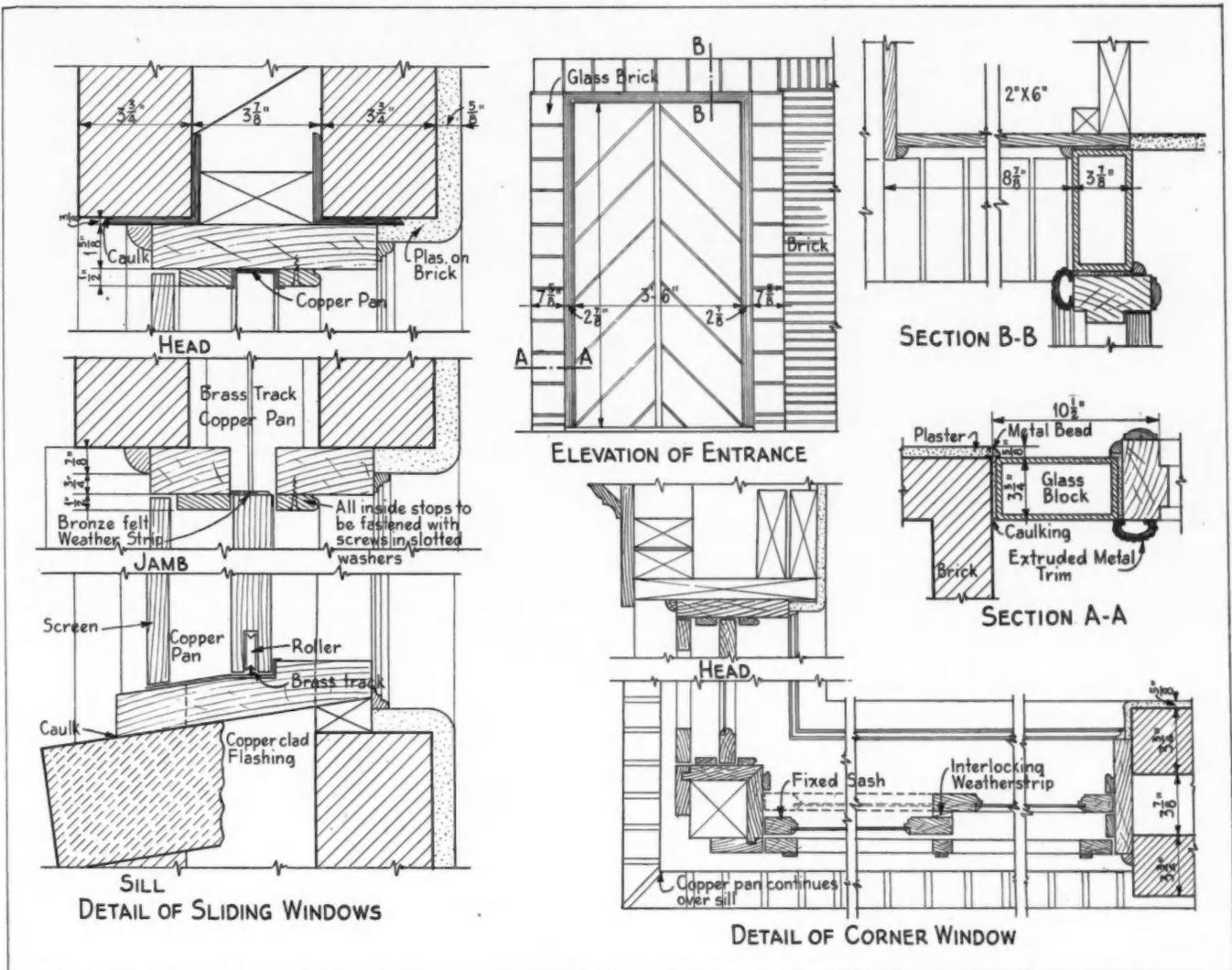
supplemented by attic fan ventilation. The house is of one-story construction, consisting of a living room with dining alcove; a kitchen; a bathroom and two airy bedrooms. Supplementing this is a large enclosed screened porch, serving as an out-of-doors living room. The two-car garage, a unit of the house, provides entrances both to the porch and to the kitchen.

The house is built on a reinforced concrete slab, 73' x 34', and the walls contain approximately 35,000 brick. Two walls are used—an outer brick wall 4" thick, with



FLOOR PLAN

PLAN indicates the use of hollow brick walls with four-inch air space; they are built up on a reinforced concrete floor slab. The large closed-in porch has access from three sides. Note that three of the doors slide into the hollow walls.



THE above details show hollow wall construction carefully flashed around openings; sliding windows run on special track into space between inner and outer walls. The front entrance has a modern treatment with glass block flanking the jams and across the head.

4" air space, and an inner brick wall, 4" thick, the two being tied with galvanized wire ties, especially bent for this purpose.

The windows and doors recess into air space between walls, on copper track, thus giving full opening to all doors and windows.

The roof is the standing seam type, of galvanized iron, treated first with two coats of asphalt, especially prepared and then having a third coat of portland cement driven into the asphalt under spray-gun pressure. The fourth coat consisted of stucco mixed with fiber and likewise driven into the asphalt under spray-gun pressure.

The house is plastered throughout with one inch plaster, and Bruce factory-finished hardwood block flooring is used for all floors.

Both hot and cold water are copper-piped. A Payne floor furnace system is provided for winter heating, while a Day and Night water heater supplies ample hot water for the home. The conduit system was used on all electrical work, and the attic wiring system was installed under the direction of the Westinghouse Electric Company.

There are two fireplaces in the house, located in the center of the building; one opening into the living room and one into the master bedroom. The living room opens into a dining alcove, which in turn provides access to the large porch located in the center of the house. The

kitchen and the master bedroom likewise open onto this central porch.

All closets are floored with hardwood blocks and have double sliding doors which operate on copper track.

The bathroom entry is through a powder room in which is located a full-length mirror with bracket lights on each side; the room also has a large dressing closet with double copper-tracked doors. The bath is of the conventional combination tub and shower type.

The entire interior is attractively finished with cold water paint, one of the bedrooms being done in cream, another bedroom in gray-blue and the living room and dining alcove in gray-green. All woodwork is painted in a matching shade of Pittsburgh oil paint.

Each fireplace has a hearth and is faced with hand-made Roman brick, while the floor of the screened porch is of red brick. An interesting feature is that all brick used in the construction of this house was made from Houston clay and in Houston brick plants.

The all-masonry home has been viewed by more than 5,000 visitors, and numerous requests have been made to have it reproduced, by prospective home builders. Visitors especially appreciate the ultra-modern, compact, convenient kitchen, with its inlaid linoleum drain board and its wealth of built-in closet and storage space.

Other unusual features include built-in bookcases in the living room and a built-in chest of drawers in the master bedroom.—C. A. Loeffler.



TYPICAL 2-family house as detailed opposite, consisting of two 6-room units with attached garage, open porch.

16 Houses on 535' x 138' Plot

Semi-Detached Units Arranged Around Court Solve Problem of Narrow Property in Baltimore. John A. Ahlers, Architect

THE Roland Park Company, well known Baltimore realty organization, was confronted with a problem in connection with a fairly expensive piece of property, the shape of which had been affected by a change in nearby streets. This property was 535 feet long and 138 feet wide. On one side was a narrow lane which the owners felt would provide undesirable frontage for houses of the type suitable to this property.

The solution of this difficulty was worked out by Architect John A. Ahlers of Baltimore by developing a court scheme, with most of the houses facing inside. The structures built consisted of four single-family houses and twelve semi-detached units arranged in two

U-shaped courts back to back. The building was done by the Mueller Construction Company.

The scheme adopted has proved very successful. Two single-family houses are placed at the end of each court facing the main streets. The semi-detached houses are grouped around the court, each with good exposures toward the court and with attached garages having driveways easily accessible from the side lanes.

The semi-detached houses, a typical unit of which is detailed opposite, are well laid out, with large living rooms and dining rooms and three bedrooms. The dimensions of the main part of each unit are only 30 by 29½ feet. Houses are substantially built and include in the specifications stone foundations, solid brick walls, slate roof, hot water heat, National boilers and convectors with an oil burner, wood-burning fireplaces, basement club room, mineral wool insulation. The entire project is a sound and intelligent solution of a difficult problem of land development.

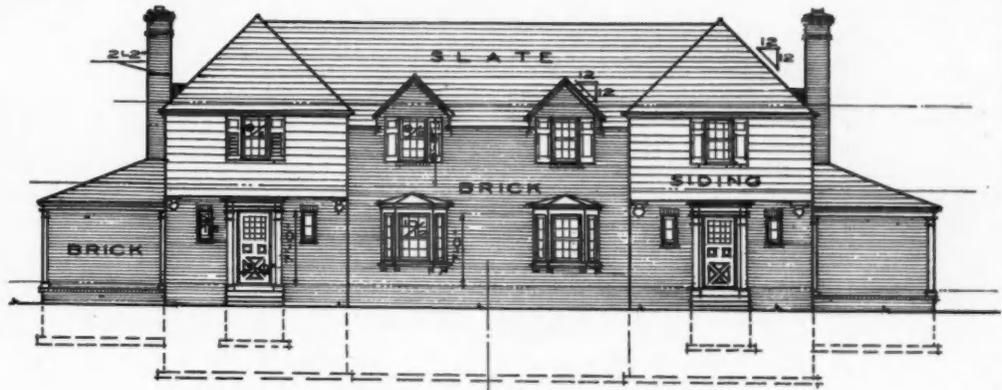


No Land Waste

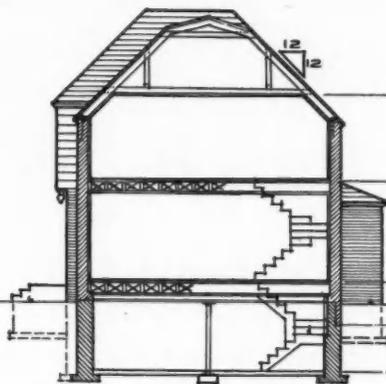
VIEW of court from Underwood Road, showing 2 single-family houses facing street, and semi-detached units around attractive well-landscaped court.

Economical Subdivision of a Difficult Site

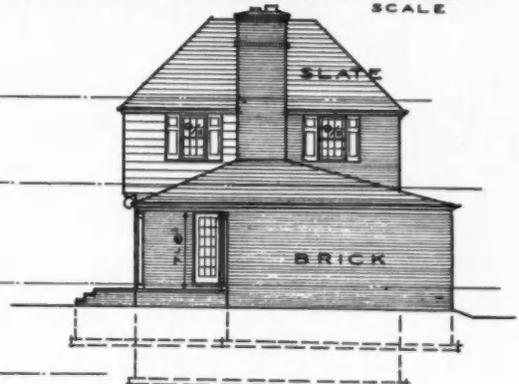
HOW 4 single-family houses and 12 semi-detached units were grouped around a very long and narrow property is shown in the plot plan below. There are 2 U-shaped courts facing in opposite directions. DETAILS of the semi-detached houses, at right, by Architect John A. Ahlers of Baltimore, show how skillfully they are arranged to fit the site with each unit opening on an attractive court and with an attached garage leading to wide streets.



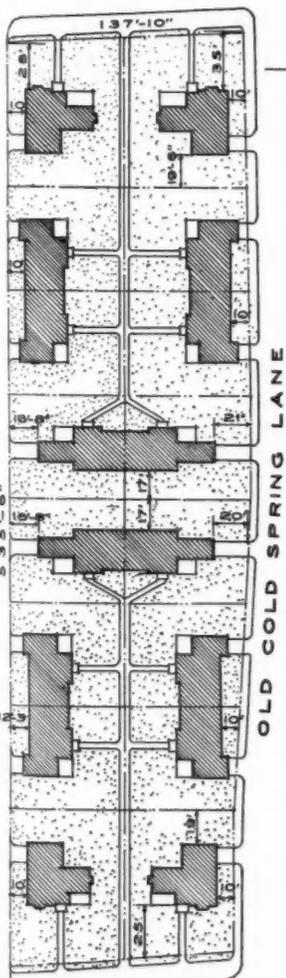
FRONT ELEVATION



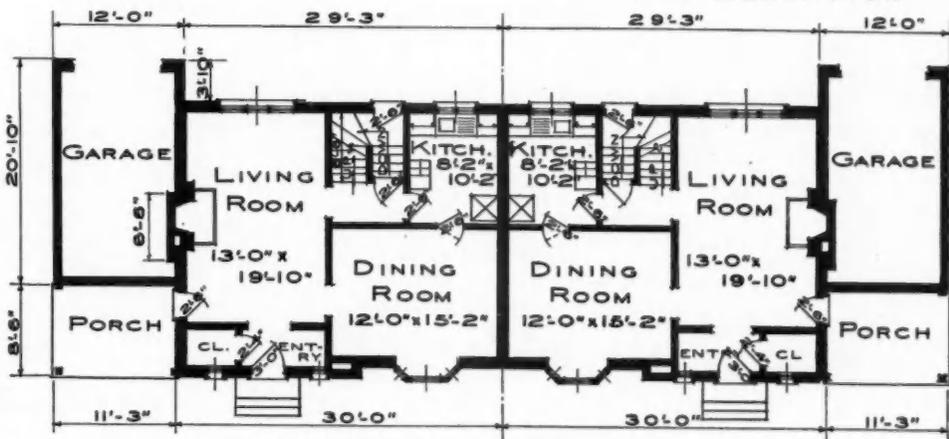
SECTION



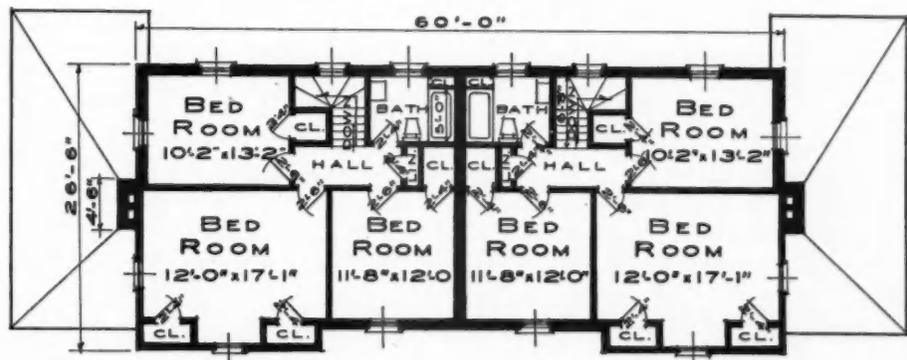
SIDE ELEVATION



UNDERWOOD ROAD
PLOT PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN

COMPLETE details of a skillfully planned 16-house development which successfully restored value to a property affected by street changes.



ABOVE: Six of the buildings along one side of the court in Green Motor Lodge, Montgomery, Ala.

Comfort Replaces Novelty in Tourist Lodges

AN example of what the modern tourist camp should offer is afforded in the Green Motor Lodge in Montgomery, Ala. Carl B. Cooper was the architect; the Cramton Lumber Company was the builder. This lodge, located some 3 miles from the city on the Atlanta highway, was designed with as much functional care as a modern hotel or home. In fact, Architect Cooper has pointed out that a lodge of this type is the answer to a small town's need for a hotel, in addition to the need that may exist for such structures in and near the larger cities.

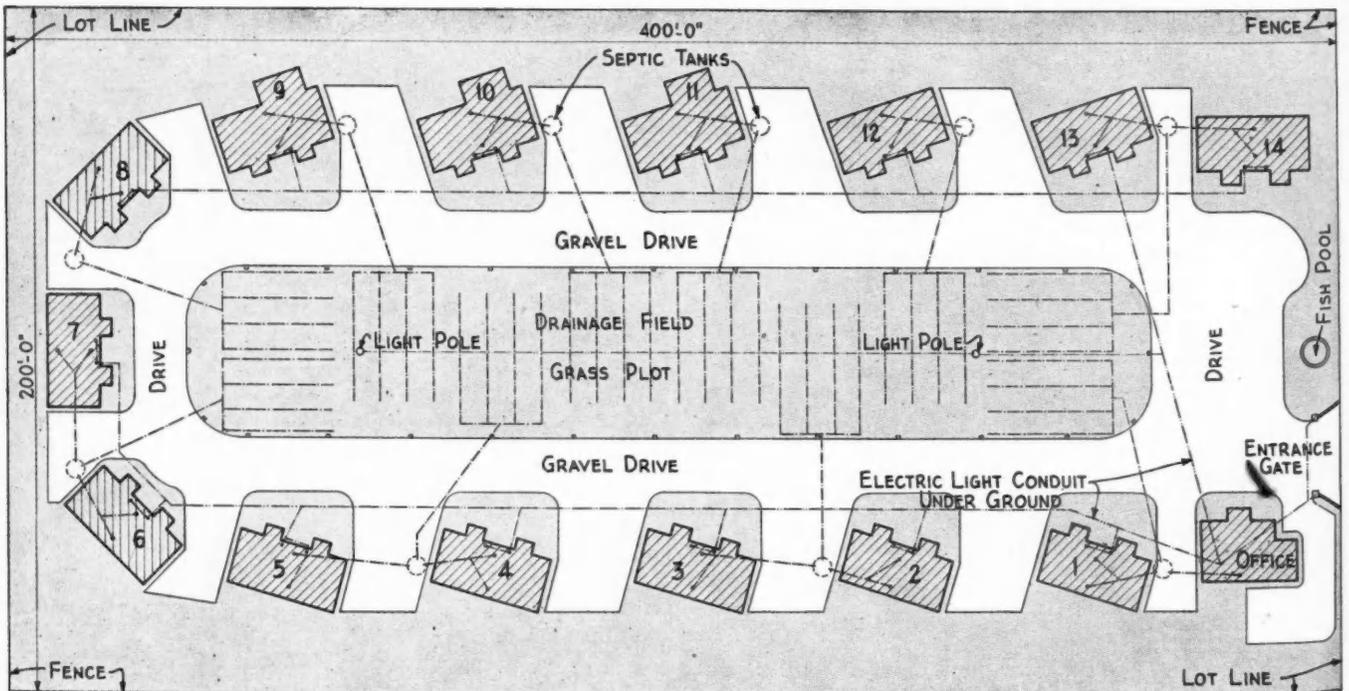
It consists of 11 completed brick veneer buildings with green roofs and white trim, located on a tract of land 200 by 400 feet. One of the cottages located at the entrance is the office. The other buildings spaced 25 feet apart on either side of a terraced and landscaped court have two rooms each and are equipped to accommodate from one to seven or more persons. Three of the lodges are equipped for light housekeeping. The spacing of the buildings with a slant toward the front entrance assures privacy, ventilation and fire protection.

Every detail was planned by the architect, even including the surrounding fence, the highway sign and the ornamental lamp post in the court. Equipment for each room is just as complete. It includes a tiled bath and shower for each, automatic hot water heating and house heating by means of a butane gas system with recessed wall heaters in each room.

Other equipment includes an annunciator system for communication with the office, built-in writing desk, inner-spring mattresses, bed reading lights of an improved type, plenty of closet space, luggage racks, curtains and Venetian blinds, leather and chrome chairs, electric razor sockets, porch lights and waste baskets.

The apartments with kitchenettes are completely equipped with cooking utensils including three-burner and oven gas stoves, ice boxes and enamel top tables.

The Green Motor Lodge, of which H. H. Green is proprietor, is affiliated with the American Automobile Association and United Motor Courts, the latter having as its slogan, "Cleanliness, Comfort, Convenience and Courtesy." Green has operated tourist camps for several years



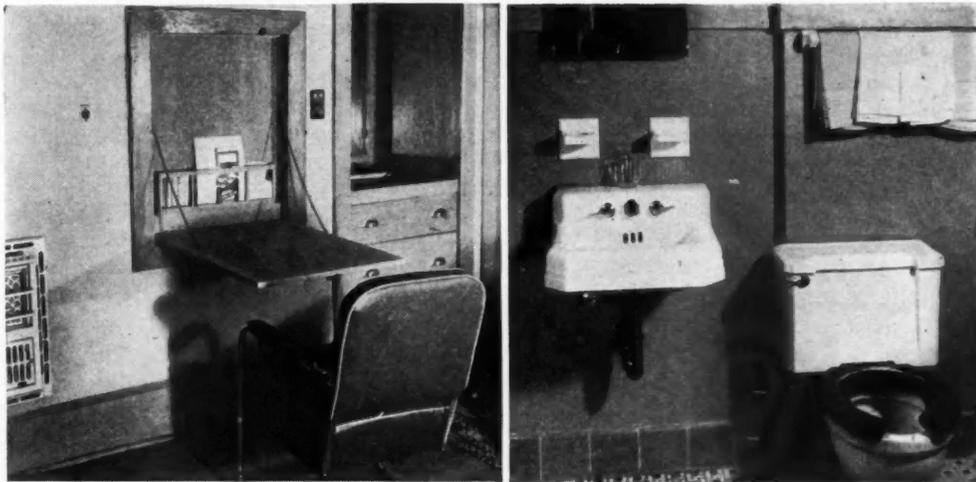
PLOT plan of Alabama tourist lodge showing septic tank drainage fields arranged under center court.

and a number of his ideas were incorporated by the architect in the building of what they both considered a model.

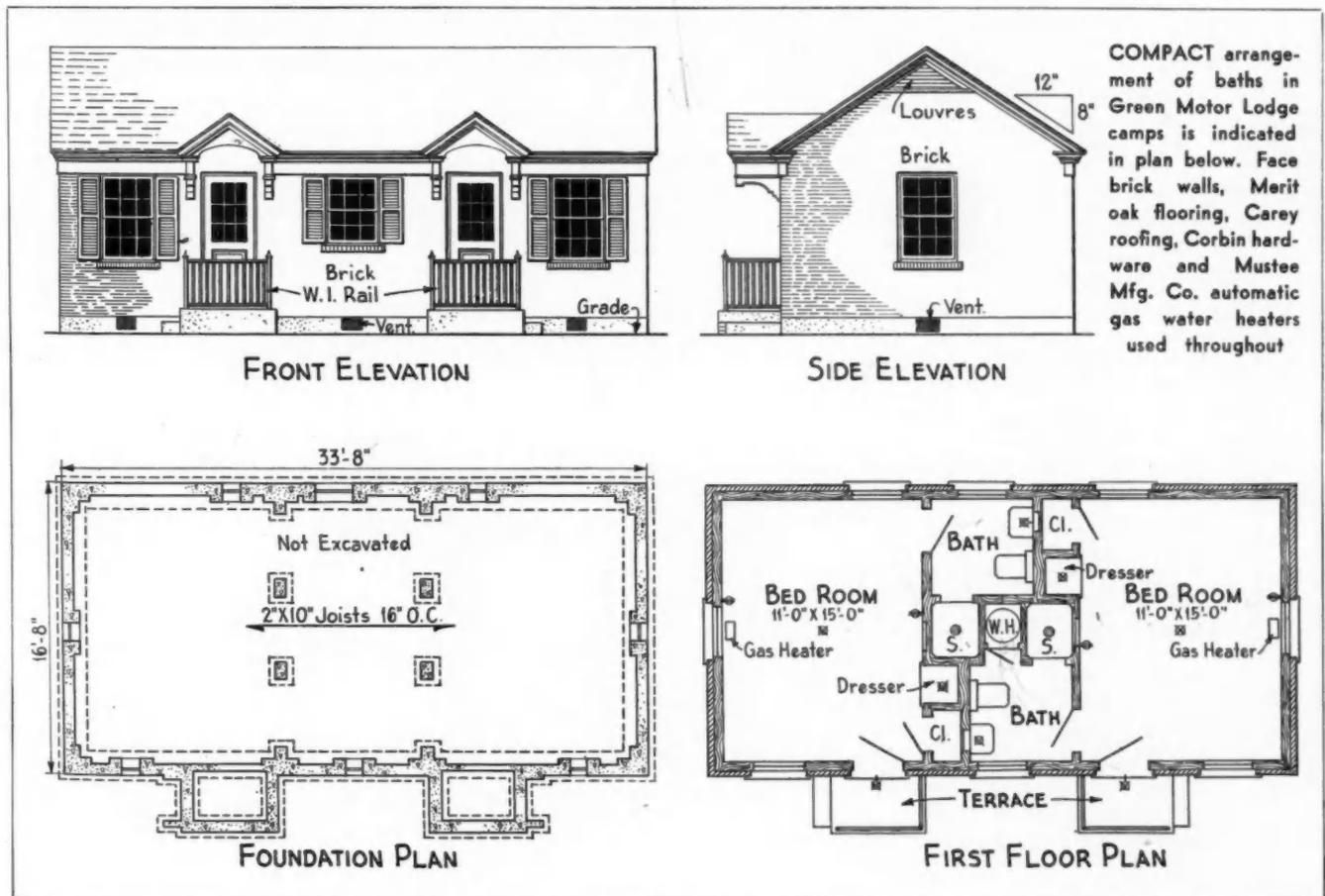
"The tourist camp represents part of a great change in American customs," said Carl B. Cooper, architect. "Long ago man traveled by horse-drawn conveyance and when he stopped at an inn there were facilities to take care of his animal. Then man began to travel largely by train and hotels found it unnecessary to provide lodging for his beast. Then the automobile came along until today the parking problem has become a downtown problem. Many hotels have gone to great expense to provide parking lots for their guests, but space is naturally limited downtown. The tourist lodge solves this problem by building on the outskirts where land values are not so high.

"According to our experience it costs about \$2,500 to

build a hotel room, whereas a tourist lodge room can be built for \$1,000 to \$1,200, or less than half as much. This explains one reason for the growth of this new idea. It seems to me that the tourist camp offers the answer to the small town's need for a hotel. The traveler need no longer plan his trip so as to make the larger cities for lodging, he can find conveniences along the way in the modern tourist camps which have been erected. It is true that many of the places are not up to even average standards of design and construction. But neither were many of the first hotels and inns, which had to give way to more modern ones. We designed the Green Motor Lodge with infinite attention to details and we feel that as more of this type are constructed the make-believes along the way will have to give way to those of more modern conception of planning and construction."



BUILT-IN dressers, folding desks and recessed gas wall heaters in bedrooms and tile floors and Humphrey fixtures in baths are some of equipment items.



COMPACT arrangement of baths in Green Motor Lodge camps is indicated in plan below. Face brick walls, Merit oak flooring, Carey roofing, Corbin hardware and Mustee Mfg. Co. automatic gas water heaters used throughout

Cold Storage Locker Plants Spread

Increasing Demand for Cold Lockers Throughout the Country Opens New Field to Builders; Construction Data Given Here

A NEW and profitable job for many contractors in the past few years has been the construction of a cold storage locker plant for the preservation of meat, fruit and vegetables. Plants have been built in all sections of the country—and of a wide variety of designs and floor plan arrangements. It is estimated that there are about 1,000,000 lockers now in service in both cities and rural sections. Out of this wealth of experience in building and then operating the locker plants, it is now possible to select and describe certain of the more important design and construction factors. A study of these factors should prove especially valuable to locker plant builders. Builders of other kinds of refrigerated storages may also find much of interest in this information, since some of the principles of construction are adaptable to any cold storage structure.

The floor plan arrangement which has proved practical and efficient is shown in Fig. 1 and described briefly below.

Facilities shown are for plants which provide rather

complete service in processing meat, fruit and vegetables.

The Receiving Room, as the name indicates, is the room where carcasses of meat are received into the plant. This room is kept at normal room temperature and here the carcasses are given final cleaning, weighed, then transported on overhead roller track to the chill room. Sometimes provisions are made in the receiving room for rendering lard and other processing work. Receiving room sizes shown in the plans are considered the minimum practical.

The Chill Room is a refrigerated room maintained at a temperature of approximately 35 deg. F. Here meat is chilled to remove body heat before being cut and frozen. After body heat has been removed, the carcass is transported to the aging room.

The Aging Room is also held at about 35 deg. F. and for all practical purposes is merely an extension of the chill room. A partition is provided between the two rooms, however, to prevent "steam" from warm carcasses condensing on the cold carcasses being aged. This might cause them to become slimy and possibly develop off flavors in the meat. Poultry, undrawn, is usually chilled or aged about 24 hours; pork, 2 to 3 days; lean beef about 3 days to a week; fat beef, 3 to 4 weeks. After proper aging, the poultry and carcasses of meat are taken to the cutting room. The combined floor area of the chill and aging room should not be less than one-third the area of the locker room.

The Cutting Room is not a refrigerated room

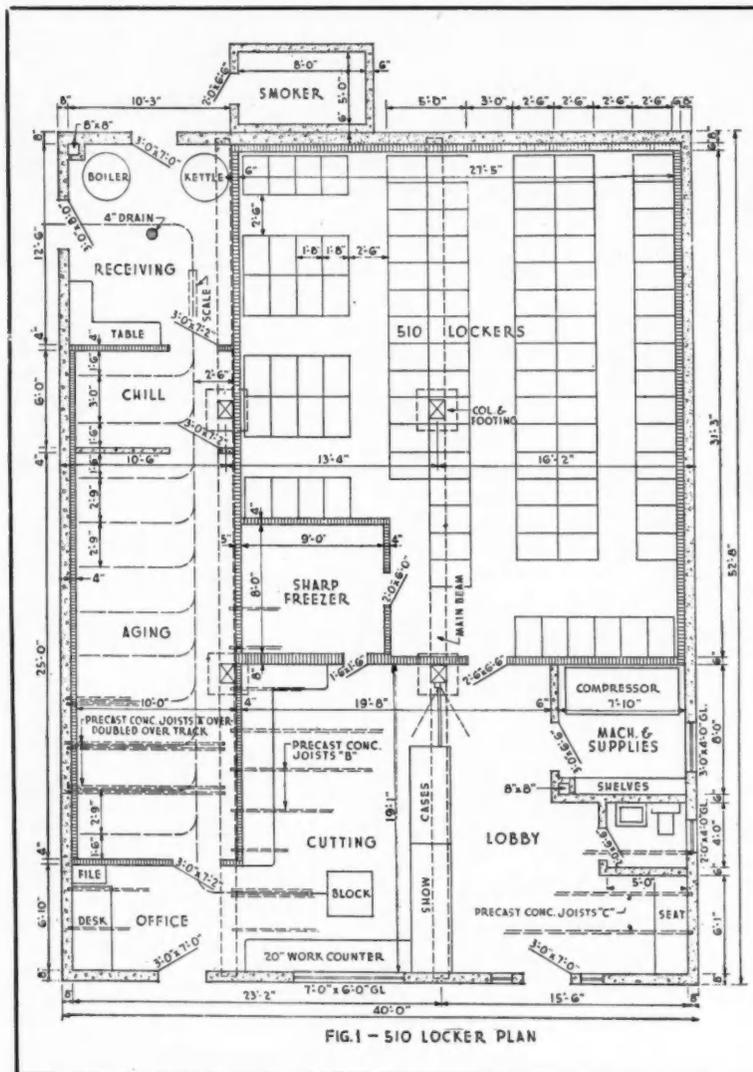


FIG. 1 - 510 LOCKER PLAN

FIGS. 1 and 2 at left and below show a typical floor plan arrangement for a 510-locker plant and a section indicating construction and method of insulation.

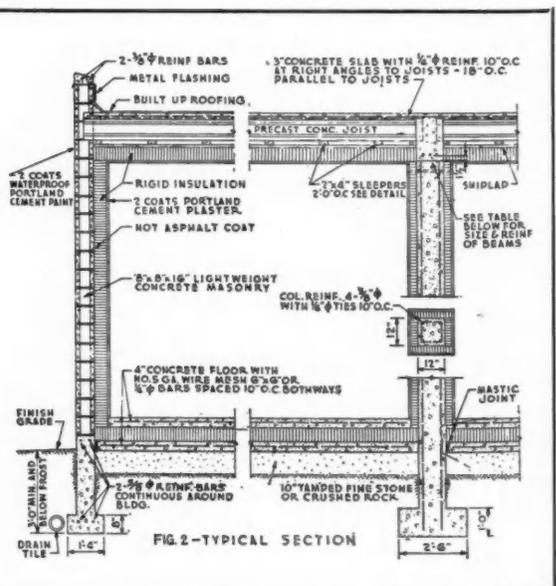
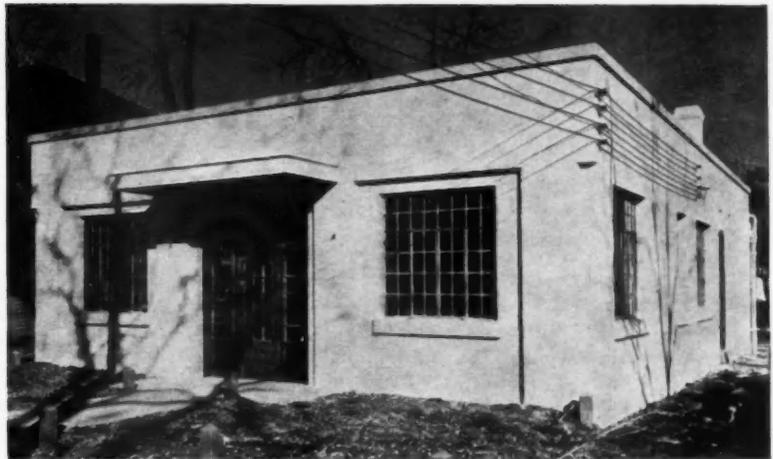


FIG. 2 - TYPICAL SECTION

RIGHT: At top, typical cold storage locker plant of Jasper County, at Rensselaer, Ind. Center, cutting and wrapping meat for storage in Cooperative Locker Service of Champaign County, Ill. Bottom, typical section indicating insulation procedure of various rooms.



but is maintained at usual room temperatures. Here the meat and other foods are prepared for freezing. Carcasses are cut into steaks, roasts, chops, hams, etc., and these cuts are wrapped in moisture-proof paper, then properly labeled for easy identification.

In small plants carcasses are sometimes received directly into the cutting room, but in the larger plants this is not usually considered a desirable practice. After proper processing and wrapping, the meat or other food is placed in the sharp freezer. Where food display cases are used in merchandising meat and frozen food the partition between the cutting room and lobby is usually omitted.

The Sharp Freezer is held at a temperature of about 10 deg. below zero and here the food is quickly frozen solid. For convenience of the operator and for greatest economy in refrigeration it is important that the sharp freezer have a small passing door which opens directly into the cutting room, as well as a larger door opening directly into the locker room.

The Locker Room is usually maintained at about 10 deg. above zero, but this room should be planned so that a temperature of 0 deg. F. can be maintained, since pork and freshly frozen fruits and vegetables are better preserved at the colder temperature. The locker room accommodates rows of metal lockers usually in tiers five lockers high. It is important that this room be large enough so that aisles will be at least 2 ft. 6 in. wide; main aisles should preferably be a minimum of 3 ft. wide.

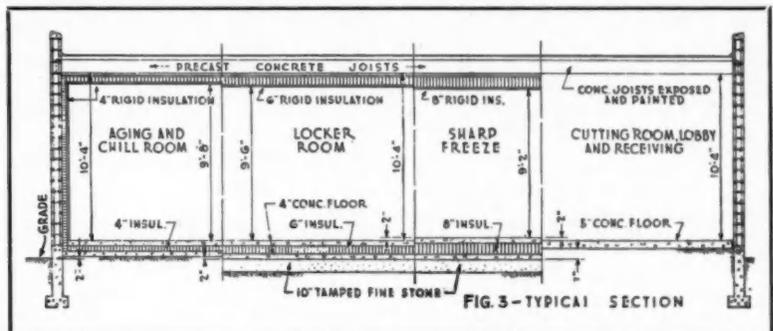
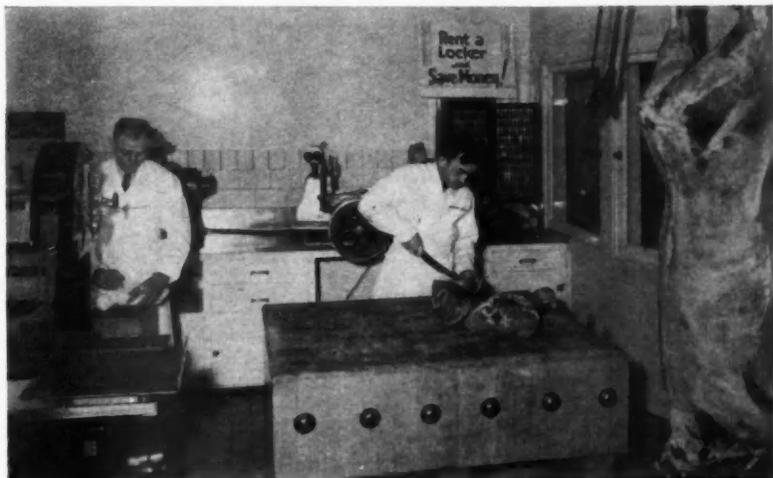
Other rooms necessary are: A small lobby, a small room for machinery and supplies, a toilet and washroom and a small office space. In the smaller plants particularly, it is common to have the office space in one part of the cutting room for greater convenience of the plant operator. Some plants also have a small room for smoking meat. Occasionally a room for butchering is provided as a part of the plant.

Room heights depend on type of lockers and refrigerating equipment selected, but should be as low as possible so that costs of insulation and refrigeration are kept at a minimum. Representative room heights are shown in the drawing, Fig. 3.

Insulation Requirements

Proper insulation is a basic requirement for the cold storage locker plant because constant and adequate cold temperatures must be maintained to prevent food spoilage. Then, too, the correct amount of insulation, properly installed, reduces costs of electric power and permits most economical and successful management of the plant.

Amounts of rigid insulation commonly used in the various rooms are as follows*: In the chill room and aging



room, floors, walls and ceilings, 4 in. of insulation; in the locker room 6 in. of insulation in floor, walls and ceilings; in the sharp freezer, 8 in. in the floor and ceiling, 8 in. in walls facing a room which is held at normal room temperatures and 4 in. in walls facing a refrigerated room such as the locker room. Sharp freezer walls facing the chill room or aging room are usually built with 5 in. of insulation.

Since insulating materials lose much of their insulating value when moist, it is especially important to keep the insulation dry. This is accomplished by providing best possible moisture-proof and vapor-proof seals on the warm side of all insulated walls. Common practice is to set rigid insulation in a seal coat or mopping of tar or asphalt according to manufacturer's instructions.

Foundation and Floor Construction

The concrete foundation wall is usually 8 in. or 10 in. thick, supported on a footing 16 in. to 20 in. wide and
(Continued to page 102)

*Thickness of insulation are in terms of materials having a conductivity value (k) of about 0.30 as listed in the most recent GUIDE of the American Society of Heating and Ventilating Engineers.



SMART styling not usually found in buildings of this type is illustrated in the above view of this Seattle, Wash., design.

Small Commercial Structure in Seattle Is Designed for All-Wood Construction

Modern Treatment of Sales and Warehouse Building by Graham & Painter, Architects, Is Outstanding; Henrickson & Alstrom Construction Co., Builder

IN this sales and service building of the American Laundry Machinery Company, Seattle, Wash., the extreme versatility of wood is shown both as a structural material and a medium in which to reproduce clean-cut, modern design. The attractive exterior, particularly the detailing around the entrance, is the work of Graham & Painter, Seattle architects; Henrickson & Alstrom Construction Company did the building.

This building is 89 feet wide, the main unit having a depth of 64 feet, and has an overall depth of 89 feet. It is designed on two levels, having a loading space at the rear with wood Overhead door in order to utilize the adjacent railroad tracks. Reinforced concrete foundation has 4'6" by 5'6" footings designed for soft filled-in ground. Weyerhaeuser Douglas fir boarding in various widths applied horizontally is the principal exterior finish material.

Interesting Details in Wood Construction

The entrance is framed with Douglas fir 2 x 6, 16 in. o.c. with 1 x 6 fir sheathing and 1 in. flush T & G boards laid vertically, as shown in detail opposite.

Marquee is constructed of 2 x 6 structural boards covered with galvanized iron finished in the soffit with 1/4 in. 3-ply plywood with moulded wood facing painted to resemble concrete.

The upper portion of the entrance is finished with 1 in. fir flush boards and the portion directly over the entrance is treated with 1 x 2 fir strips. The coping over the whole entrance is covered with galvanized iron, and the entire appearance of the unit is dignified and substantial at the same time.

Trimming details of the exterior include horizontal

moulded bands of wood superimposed in 14 in. and 16 in. widths, fluted corner, and 10 in. wide moulded finish on the 5 ft. wide marquee.

No. 1 Douglas fir beams, size 10 x 16 and 8 x 10 posts, are used with two 3 x 6 knee braces at corners bolted securely to beam and post shown in Section B. Beams are fastened into posts with dowel pins. Beam spans are approximately 22 ft. long. The second floor is carried on 3 x 10 joists over 8 x 10 beam resting on 8 x 8 posts.

Horizontal Flash Boards on Exterior

Exterior walls are constructed of 2 x 6 studs laid 16 in. o.c. and covered with 1 x 6 T&G fir sheathing covered with 2-ply waterproof building paper and 1 in. T&G flush boarding laid horizontally.

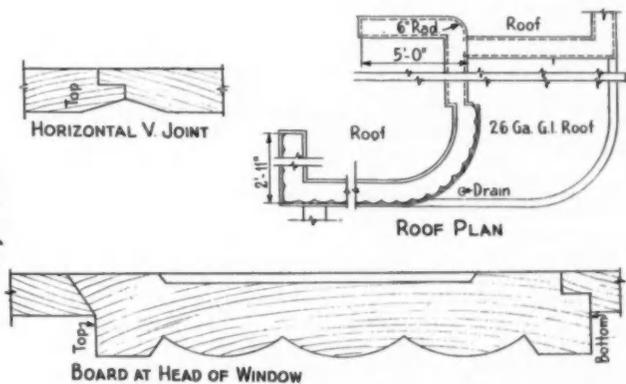
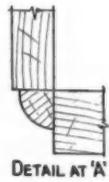
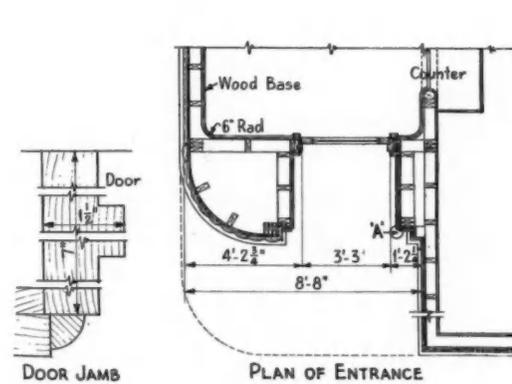
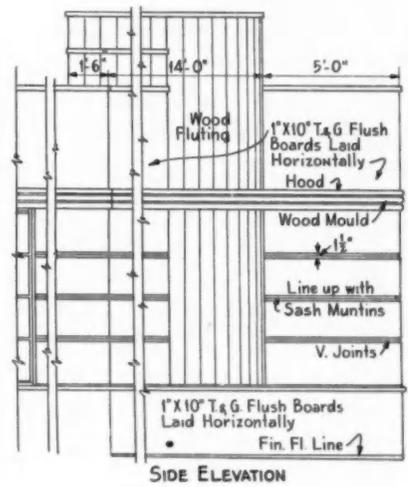
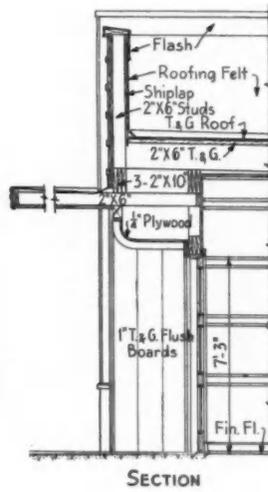
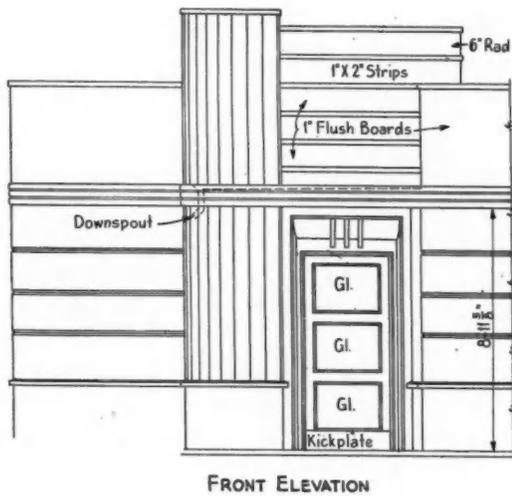
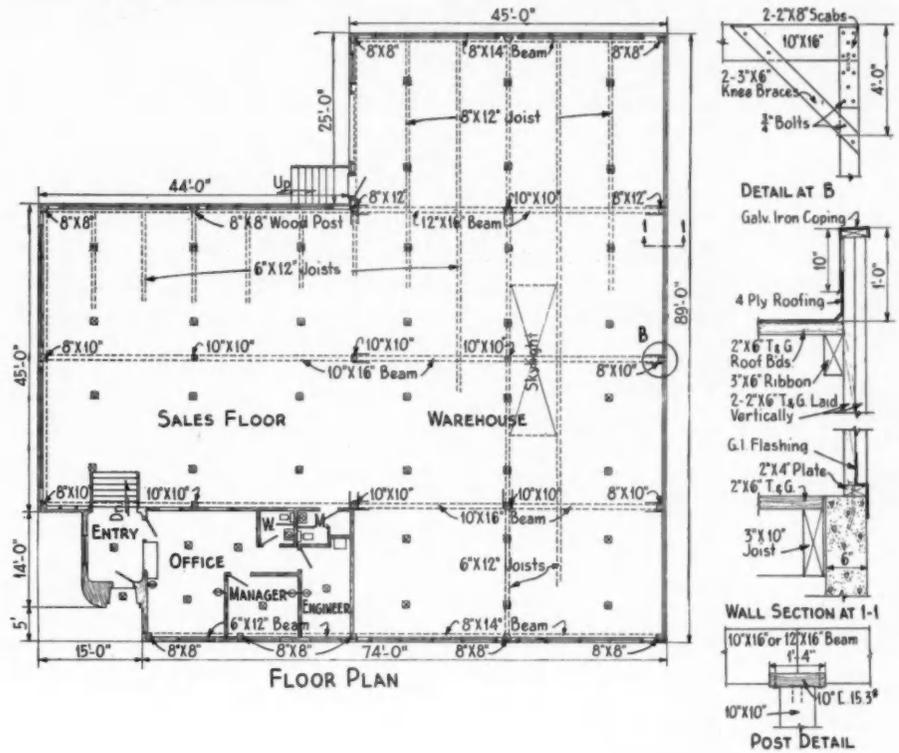
Portions between windows are covered with 1 in. T&G flush boarding with V joints. All fenestration is of Truscon steel sash. Libbey-Owens-Ford glass is used throughout.

Construction, as detailed in wall section 1-1, is the acceptable fire wall construction that is used between buildings for fireproof purposes. It consists of two thicknesses of 2 x 6 T&G laid vertically with the joints broken and resting directly upon the concrete wall. It varies in an unbroken mass through the roof and above the roof to a height of 12 in. where it is covered by a galvanized iron coping. The lumber here is No. 2 grade painted with two coats of lead and oil, and presents an unbroken mass of wall. The roof is of joist construction covered with 4-ply built-up roofing and has galvanized iron skylights filled in with wire glass. An ornamental iron railing, chrome plated, is used from the office to the sales area.

Interior partitions of 2 x 4 studs laid 16 in. o.c. are

FLOOR plan and details at the right for this sales office and warehouse of the American Laundry Machinery Co., Seattle, Wash., show all-wood framing and construction.

BELOW, the details of the entrance indicate method of framing and use of vertical wood fluting, horizontal moulded wood banding, V-jointed boarding, and cut-out trim pieces.



covered with metal lath and plaster. Salesroom walls are finished with 1/4 in. 3-ply plywood, and walls in the office are finished with scored plaster and oil painted in flat tones of cream and gray. Except in the office, where Tile-Text asphalt tile flooring is used, all floors are finished with 2 x 6 T&G fir, sanded.

All electrical work is of the conduit type with modern fixtures in the office and salesroom, and large drop fixtures in the warehouse. Cast iron piping is used for all plumbing. Heat is supplied by Humphrey gas unit heaters, and the office is equipped with Reznor automatic winter air conditioning.

Portfolio of Architectural Plates of DOUGLAS FIR PLYWOOD PANELING

PREPARED BY CARL F. GOULD, F.A.I.A.

Another of a series, intended as suggestions to the builder and architect as possible ways of using Douglas Fir Plywood for the interior finish in a residential hobby room.

A SIMPLE informal treatment for a hobby room, employing large panels of Douglas fir plywood, is exhibited on these two pages. A paneled effect is created by the use of wide stiles and rails. Structural beams are shown boxed with plywood, with simple moulds at salient edges.

The tops and panels of the wood chest and desk can also be constructed of Douglas fir plywood, with machine-carved or stock mouldings. Panels are enriched by means of sand-blasted or cut-out designs giving an interesting

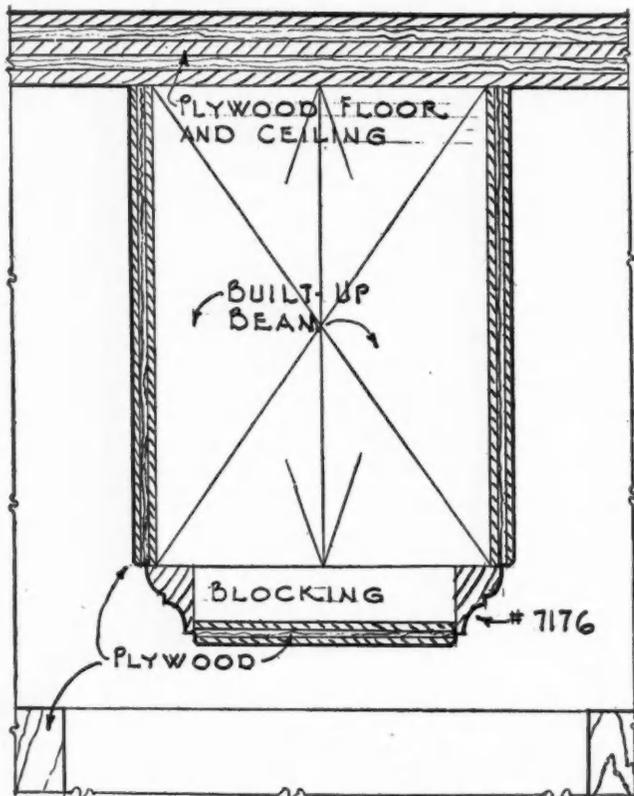
decorative effect. This room offers opportunities for various individual finishes.

MATERIALS: Wall panels and beam boxing are of 1/4" wallboard grade of Douglas fir plywood.

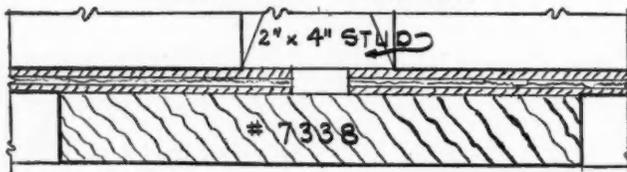
Sub-flooring above may be of 5/8" sheathing grade or of sound 2-sides grade. With beams 24" on centers these 5/8" panels of plywood will carry a load of 65 lbs. per sq. ft. with a deflection of only 1/12" (1/270 of span). Panels are secured with 4d finishing or casing nails.

DETAILS

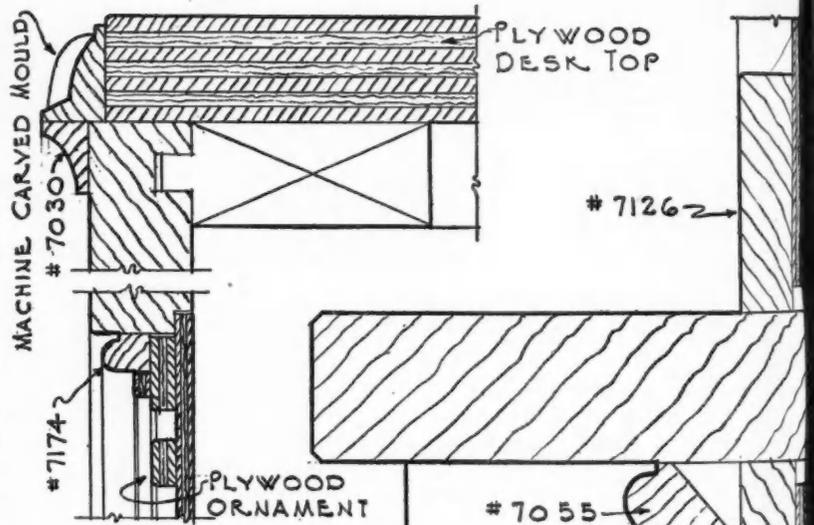
SCALE 1/2 FULL SIZE



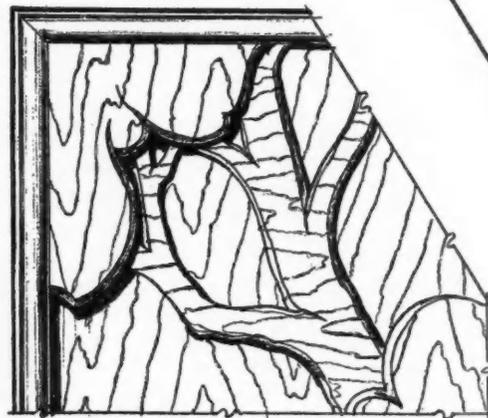
SECTION THROUGH CEILING BEAM



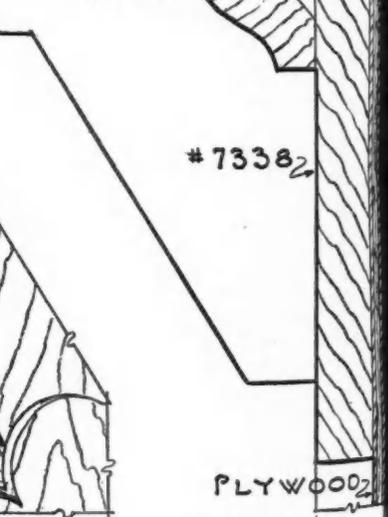
SECTION THROUGH PANELLING



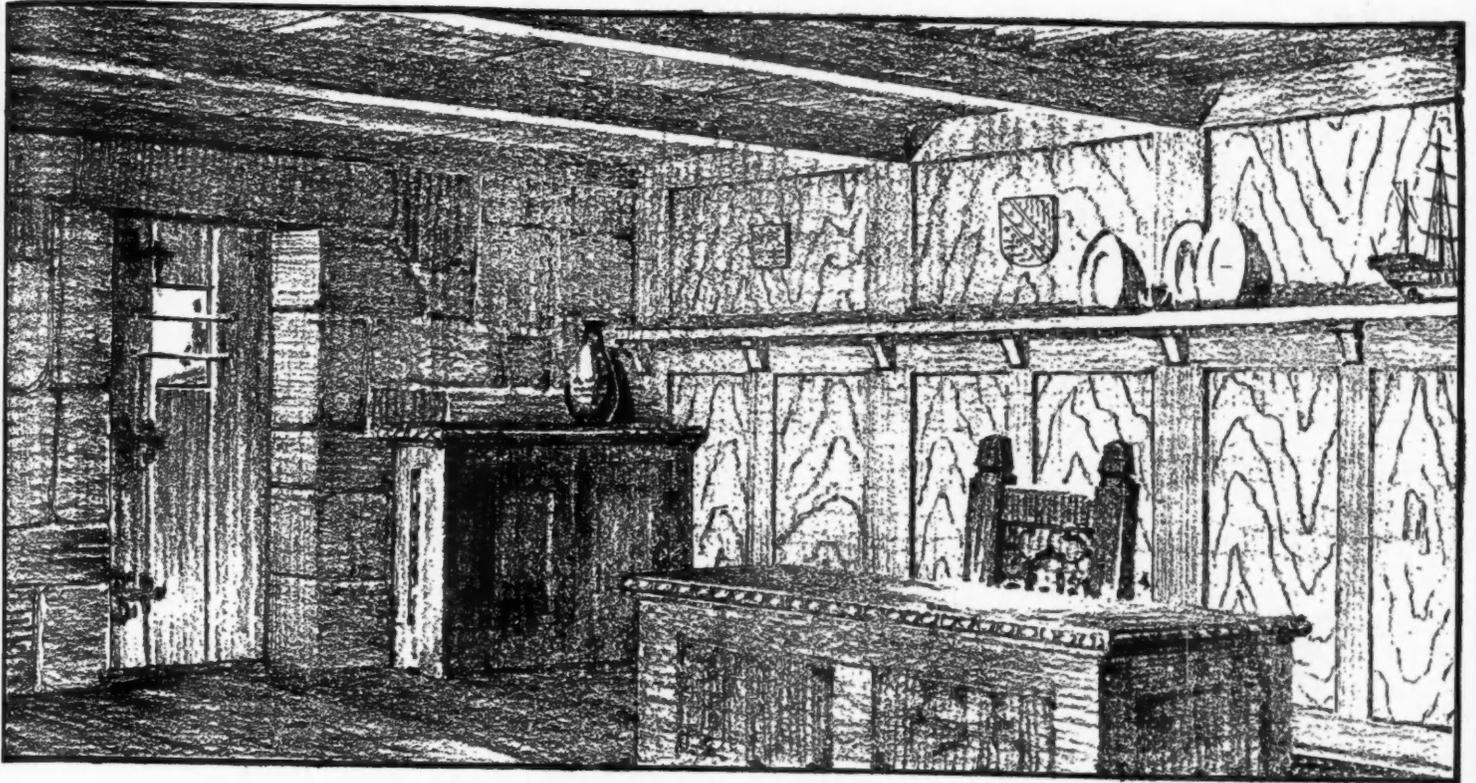
SECTION 'A-A'



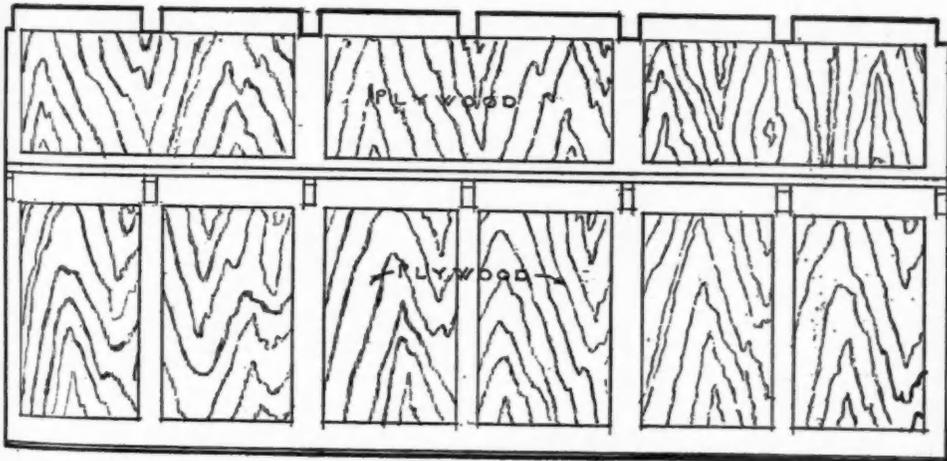
ELEV. OF ORNAMENT



SECTION THROUGH SHELF

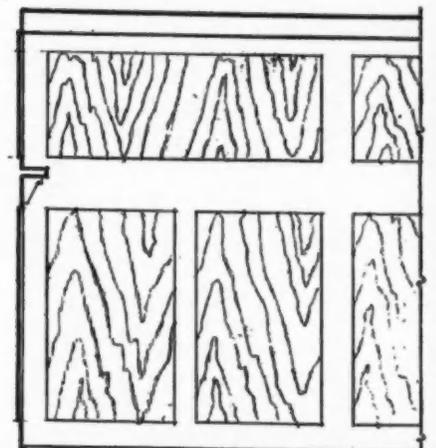


HOBBY ROOM



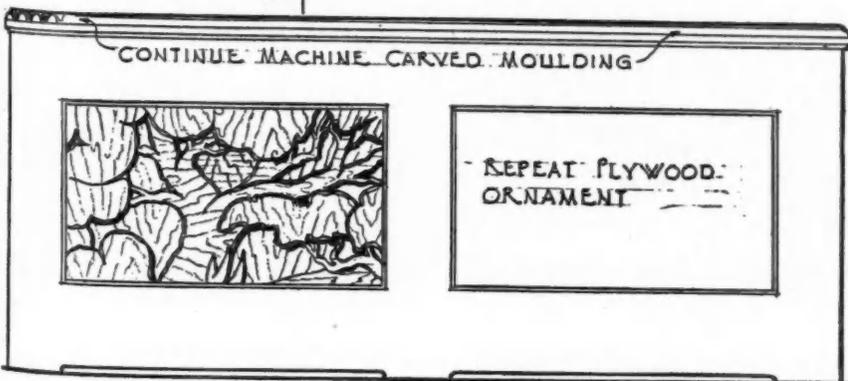
SIDE ELEVATION

SCALE 1/4" = 1'-0"



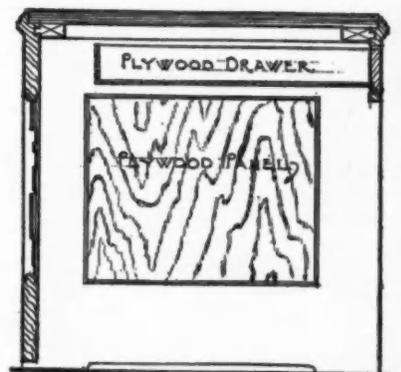
END ELEVATION

SCALE 1/4" = 1'-0"



ELEVATION OF DESK

SCALE 3/4" = 1'-0"



SECTION 'A-A'

SCALE 3/4" = 1'-0"

Hip Rafter Problems Solved by Means of THE STEEL SQUARE

Laying Out Hip Rafters with the Help of the Steel Square Is Discussed in This Article of the Current Series

By Gilbert Townsend

THE May instalment in this series of articles dealing with the Steel Square explained the uses of the tool in connection with the comparatively easy job of laying out the common rafters in the frame for an ordinary pitch or gable roof. If all roofs were of this type, the carpenter's roof framing problems would be few and easily solved, especially when the steel square is used. Unfortunately, for the craftsman, an architect or builder in search of something different long ago invented the "hip" roof and thereby created "hip" rafters and at the same time introduced that other pest, which has been well named the "hip jack" rafter. In a later article, the application of the square to jack rafter problems will be explained. The present article will deal with hip rafters.

Hipped Roofs of Equal Pitch

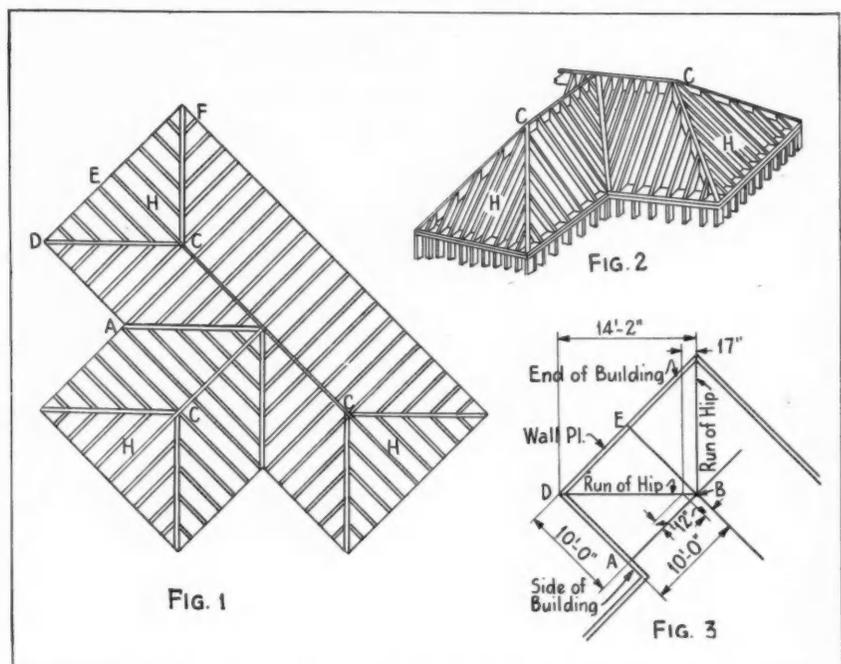
Fig. 1 shows the framing plan for a "hip and valley" roof, while Fig. 2 shows an isometric view of the roof framing from the wall plates up to the ridge. In these figures the hip rafters are easily recognized as being the heavy members sloping up diagonally from each corner of the building to the ridge. This is a "hip roof of equal pitch," that is, the hipped part marked H in Fig. 1 and Fig. 2 has exactly the same slope or pitch as the pitch of the main part of the roof. This is usually found to be the case with hipped roofs, but of course it is not necessarily always so, as the hipped part of the roof may have any slope or pitch and if this is different from the pitch of the main roof, then the roof is called a roof of *unequal pitch*. In roofs of equal pitch the point C (Fig. 1) where the hip rafters F-C and D-C frame into the ridge board is so located that it is just as far from the end eave line D-F of the hipped end of the roof as it is from the side eave line D-A of the main part of the roof. Of course the rafters do not lie flat as they appear to do in the plan view (Fig. 1), but actually slope upward from the eaves to the ridge as shown in Fig. 2. In Fig. 1 you are looking directly down on the rafters from above them as, for instance, from an airplane, but if you can imagine yourself to be in the attic of the building below the rafters and looking down on the runs of the hip rafters marked out on the attic floor as illustrated in Fig. 3, the point where the runs of the two hip rafters meet can be called the point B, and this

point will (for a roof of *equal pitch*), be so located that the distance E-B (representing the *run* of the longest common rafter in the hipped part of the roof) will be exactly equal to the distance A-B (representing the *run* of the common rafters in the main roof). The distance D-B in Fig. 3 will represent the *run* of the hip rafter D-C (Fig. 1) and this line will form the diagonal of a square two sides of which are formed by the runs of the two common rafters E-B and A-B (Fig. 3), while the other two sides are formed by the lines of the outside upper corners of the wall plates on the side and end walls of the building D-E and D-A (Fig. 3). This square is D E B A in Fig. 3 and the run of the hip rafter D-B is the hypotenuse of the right angled triangle D A B in which the side D-A is equal to the side A-B.

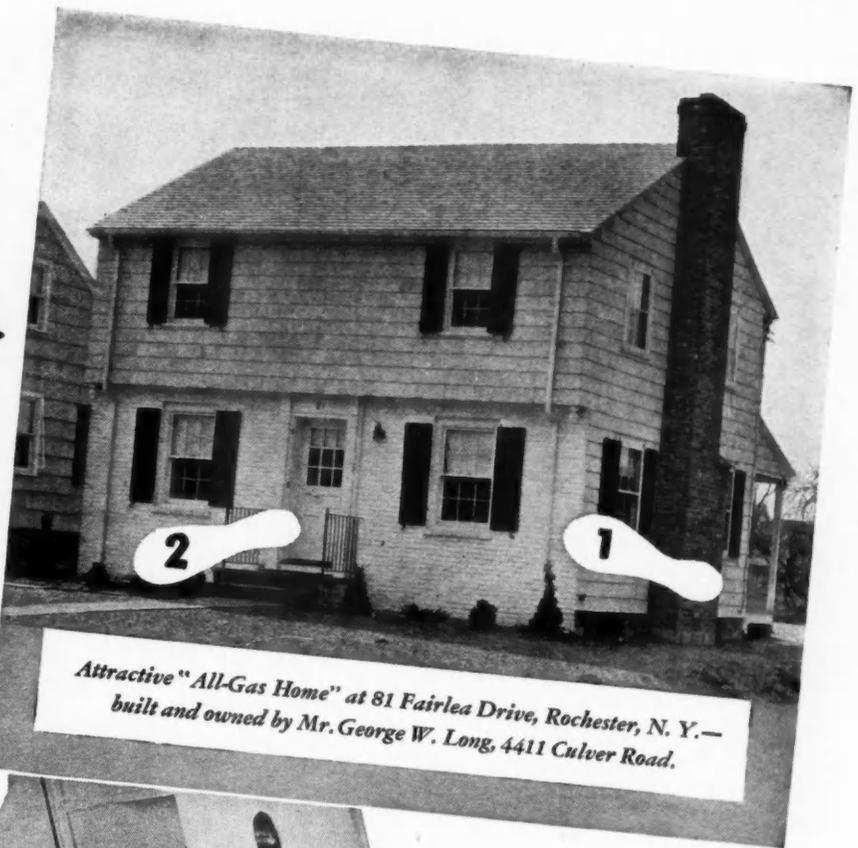
The 12-12-17 RULE: Take your steel square and lay it down flat on a wide, smooth surface, such as a big piece of paper, or a table top, and mark off 12 inches on the outside edge of the blade or body and 12 inches on the outside edge of the tongue. Now measure off the diagonal distance between these two points on the square as shown in Fig. 4 by distance A-B and you will find that the distance is almost seventeen inches. This shows that for every twelve inches of run along the sides of a right angled triangle with equal sides, there is a run of 17 inches along the hypotenuse. It also shows that in any hipped roof of equal pitch, for every foot of *run* of the common rafter, the hip rafter has a *run* of 17 inches. The *total run* of the hip rafter is $\frac{17}{12}$ times the *total run* of the common rafter.

The point B in Fig. 3 is on the same level as the top surfaces of the wall plates and the point C (Figs. 1 and 2), which is on the ridge line is directly above point B and at a distance above point B equal to the "rise" of the roof. The distance B-C (Fig. 5) is therefore the *rise* of the common rafters and is at the same time the *rise* of the

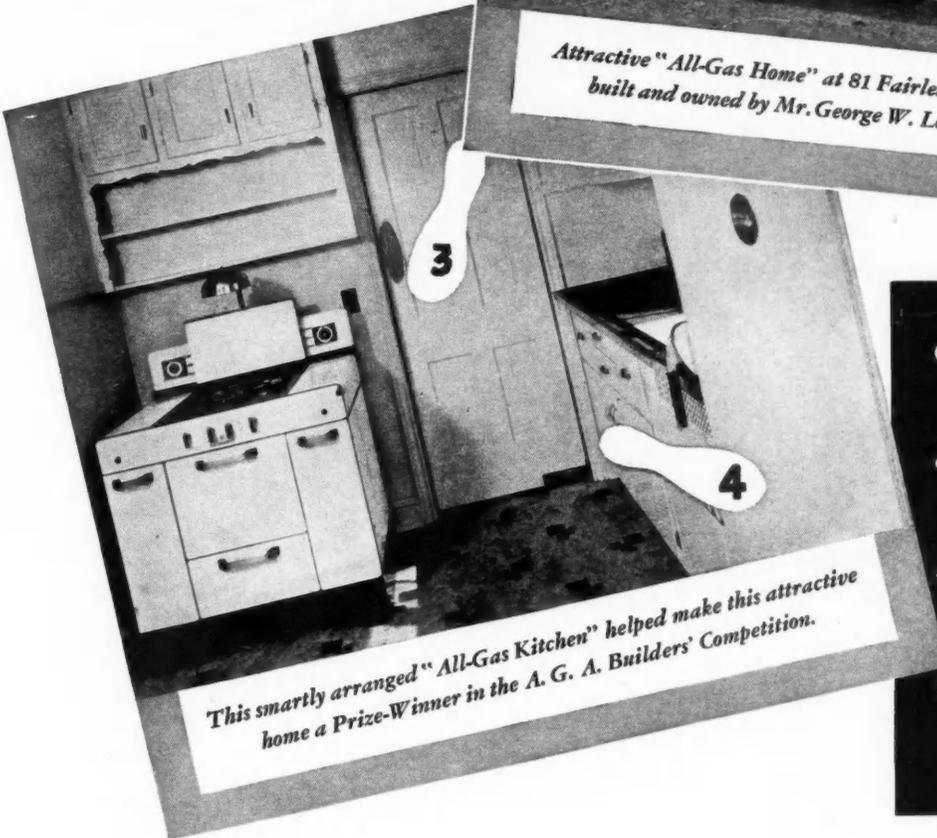
(Continued to page 92)



FOUR STEPS TO CLOSING A SALE



Attractive "All-Gas Home" at 81 Fairlea Drive, Rochester, N. Y.—
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This smartly arranged "All-Gas Kitchen" helped make this attractive
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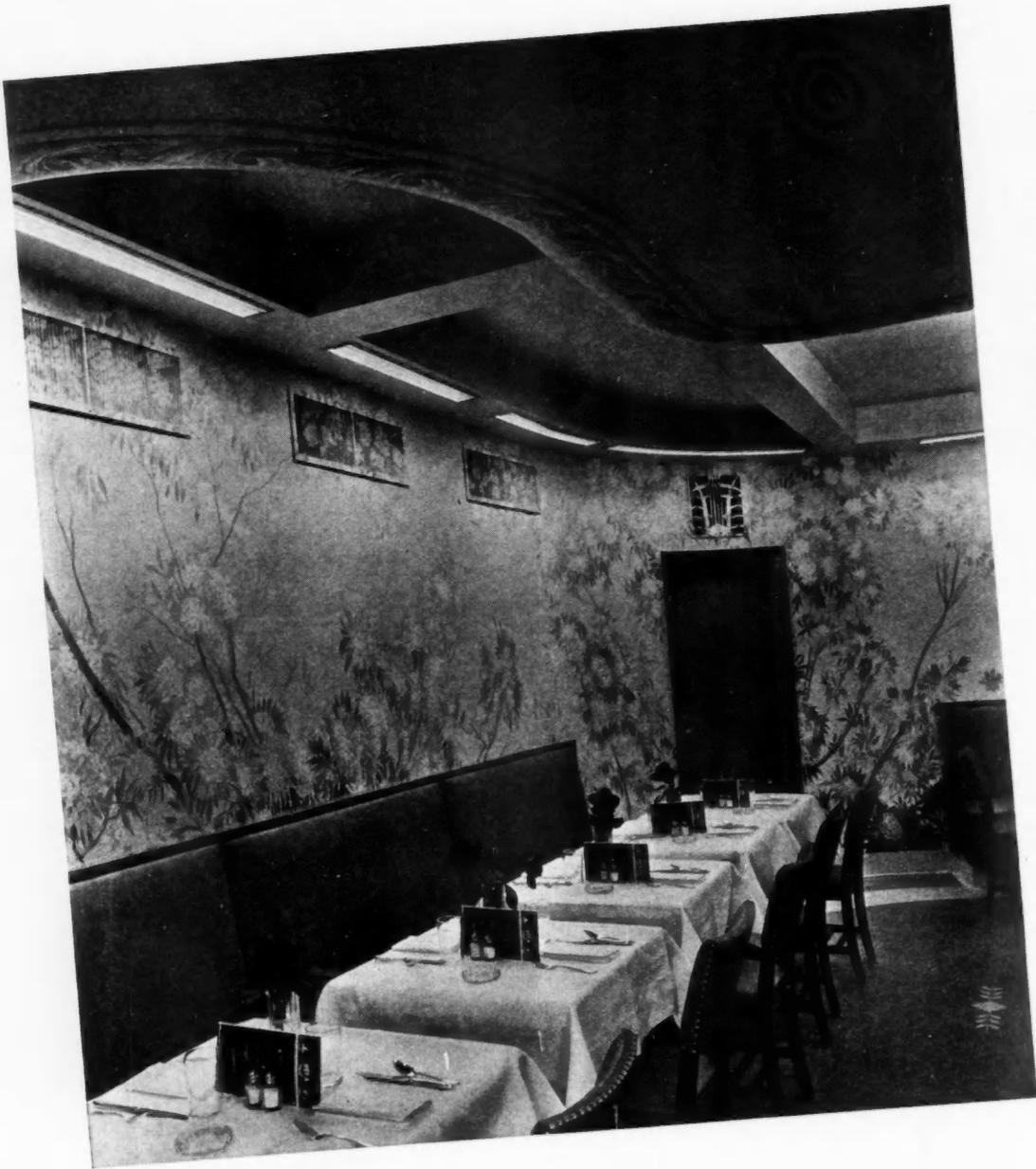
Gas appliances, by providing both looks and efficiency, doubly insure a speedy sale and a larger profit . . . Ask your local gas company for facts and figures!

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ACOUSTICAL ceiling, air conditioning and indirect lighting are important features in dining room of newest Schrafft's restaurant in New York City.

For Quiet Dining

THE rapid sweep of scientific progress in construction is nowhere better illustrated than in the restaurant and shop field. Architects and builders throughout the country are finding the modernizing and rebuilding of shops and stores a growing market forced by the public demand for technological improvements.

Unlike home modernizing, work in the restaurant and store field can be shown to more than pay its way through increased business resulting from the proposed improvements.

The illustration above compresses a whole story of modern development in this field into one picture. It is the latest dining room, at 1221 Madison Avenue, New York City, of one of the famous chain of Schrafft restaurants operated by the Frank G. Shattuck Company. It is replete with modern scientific improvements for the comfort and convenience of the customer.

Of outstanding interest is the use of $\frac{3}{4}$ -inch ivory-colored acoustical tile to deaden noise and provide a quiet yet attractive room. The tile are 12 by 12 inches in size,

with an interesting variegated texture produced by glass wool. A beautifully designed ornamental plaster border by Walter Hesse adds to the attractiveness.

The same type of acoustical ceiling has also been used in several of the recent Schrafft's bars and cocktail lounges and has demonstrated its value as a noise deadener.

Complete air conditioning and cooling is another important development affecting the restaurant field, and an interesting feature affecting the Schrafft's dining room is the manner in which the wall decorations have been carried over the grille. The mural decorations were done by George Stonehill and carry out a theme of mountain laurel in spring bloom.

Robert Johnson, Inc., was the builder and Bloch & Hesse architects. Interesting structural details involve the curved walls and the furring down of the ceiling for the built-in lighting. Leather seats along the wall are also built in. These rest on concrete bases, carried out in harmony with the vari-colored terrazzo floors.

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Temseal Sheathing on the residence of Dr. McConnell, Youngstown, Ohio, was sold by Heller-Murray Company of Canfield and installed by George C. Stark. Interstate Sash & Door Company, Canton, was the wholesaler.

HOME buyers want insulation which *lasts*. They want assurance that fuel bills will *stay* lower—that summer comfort will be theirs for years to come. That's why a house will sell more quickly when you tell prospects: "This house is sheathed with Armstrong's Temseal for long-lasting, efficient insulation!"

Temseal is twice sealed at the factory—first with flexible, non-cracking asphalt, and then with tough kraft paper. Air and moisture can't penetrate this insulation and lessen its efficiency. It goes right on saving fuel and promoting solid comfort year after year!

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Better Values from Improved Building Products

Room Size Fabric-Faced Plywood Panels

THE Speedwall Company, Seattle, Wash., is producing a composite plywood panel in room sizes up to 8 by 20 feet and faced with fabric. Because its giant size does away with making joints, and because its surface provides a base for easy and quick decoration on which checking and cracking are minimized, it is claimed that this Jumbo Speedwall is a final solution to the dry walls built with plywood method of construction.

Jumbo Speedwall is made up of standard grade, water resistant, Douglas fir plywood panels, hot press "welded" together with synthetic resin glues. Surfaces to be decorated are sealed and "dressed" with a strong woven cotton fabric, such as is often applied by fine decorators over many different types of surface. The special adhesive with which this fabric is applied also provides fire resistance and a moisture barrier for the wall when it is used.

In common with all dry walls built with plywood construction, Jumbo Speedwall also provides extra strength, rigidity, high insulation value, light weight and easy workability as features of these panels.

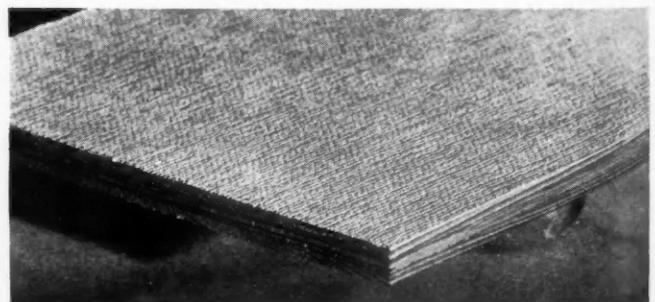
Jumbo Speedwall is applied to standard construction studding and the carpenters can proceed with their work without the delays which are common when lath and plaster is applied. Doors and windows and other openings are cut out on the job; the panels are nailed or glued in place, and the decorating can proceed at once without delay. Ordinarily one board makes a room wall; four boards make a whole room.

Builders who have used Jumbo Speedwall see in it many immediate advantages to them: It saves weeks of time in erection, it eliminates joint making on the job and the possibility of vexatious cracks developing later on. Owners enjoy the satisfaction of sound construction with a minimum of checks and cracks, and the savings represented in the economy of Jumbo Speedwall construction, plus the low maintenance costs and the lowered fuel bills.

Jumbo Speedwall is now being sold in the trading area immediately adjacent to the Speedwall Co. factory in Seattle, but the management states that an announcement will shortly be made on merchandising plans that will make the new giant board available in all parts of the country.



RIGHT: Workmen taking room-size panel into job through unfinished entrance. Below, close-up of fabric-faced plywood.



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NEW LIGHT MACKS INHERIT FAMOUS BULLDOG STRENGTH
"Heavy-duty" performance—even in a 1-ton truck! That's the service you get with the new light Macks.

Prices on these new Macks begin at \$675.00 for standard chassis f.o.b. factory. (Cab, body and taxes extra.) See them before you buy any truck at any price.

MACK TRUCKS, INC., NEW YORK, N. Y.



ANOTHER ENTHUSIASTIC MACK OWNER! "Very happy with the truck's handling and performance, we are primarily astounded that this bigger and heavier truck can be operated more economically and with much less consumption of gas than the equipment it replaced." . . . **DUNGAN & FRY, Allentown, Pa.**



New...

A LOW-COST FLOOR THAT'S READY FOR USE The Instant It's Laid!

YOU know how anxious an owner is to move into his new home a week earlier. Bruce STREAMLINE Flooring comes factory finished . . . saves time of sanding, finishing, waxing and polishing. You save money, too, for this 25/32" x 3 1/4" flooring usually costs less than the ordinary 2 1/4" strip flooring finished on the job.

Bruce STREAMLINE Flooring has beveled ends and edges. Available in oak, beech, or maple. Gives a distinctive "patterned" effect that's bound to please the owner. And the factory-applied finish penetrates the wood. Provides a tough, lustrous finish that resists scratching . . . won't chip or peel.

Use Bruce STREAMLINE Flooring on your next job. Send coupon for details and scratch test panel.



E. L. BRUCE CO.

1420 Thomas Street
Memphis, Tenn.

E. L. BRUCE CO., 1420 Thomas Street, Memphis, Tenn.

Gentlemen: Please send fully illustrated literature all about the new Bruce factory-finished STREAMLINE Flooring. Also a Scratch Test Panel.

Name.....
Street.....
City..... State.....

MAKE THIS SCRATCH TEST



"Bruce-Way" | Surface Finish

Send for this scratch test panel. Half is finished the new "Bruce-Way" used on STREAMLINE Flooring—other half finished the ordinary surface way. Scrape a coin across both finishes. See how the ordinary surface finish scratches and chips away, while the "Bruce-Way" finish is unharmed.

(Continued from page 84)

in better shape and prevent slipping.

The three-tier and two-tier shoe racks are now hinged so that the carton size can be reduced by about one-half, facilitating shipment and saving space in retailers' stocks.

Reciprocating Action Portable Sander

THE new 1940 "Easy" all-electric portable sander is now being manufactured by The Detroit Surfacing Machine Company, Detroit, Mich. This machine is extremely flexible and replaces slow, tedious, expensive hand sanding or rubbing operations on flat, curved or irregular surfaces. It is adaptable to practically every new or maintenance abrasive application—on whitewood metal, bakelite, slate, leather, plastics, or composition material; sanding or rubbing primer surfacer or sealer coats, shellac, varnish, lacquer, enamel and other finishes.

The Easy may be operated from any A.C. or D.C. light socket. Ample power is furnished by a sturdy ball bearing, Universal motor available in 110 and 220 volt models. A large fan provides adequate forced ventilation for cooling, while a filter removes injurious dust and grit from air before entering motor.

One-third of a standard size sheet of abrasive (any grit) fits the Easy without waste. A new improved type of abrasive holder has been developed which holds the abrasive paper tightly on the sanding pad, thus eliminating loss of cutting action commonly experienced when abrasive paper is loose on pad. From one to several pieces of paper can be quickly and securely attached at one time.



PORTABLE electric sander has back and forth action similar to that of hand sanding.

Patterned Floor Receptor for Shower

THE Henry Weis Mfg. Co., Inc., Elkhart, Ind., has announced that its Foot-Grip, No-Slip receptor floor surface, an exclusive safety feature of the Weisway cabinet shower line, is now presented with the foot-gripping particles formed into a pleasing "Seashell Pattern." Beauty in keeping with the modern bathroom is thus achieved without sacrificing utility. The Foot-Grip, No-Slip surface is part of the vitreous-porcelain enameled lifetime finish. The receptor used on cabinet showers is furnished only in textured-green on jet-black; but the Vitreceptor for stall showers can be furnished in a variety of color combinations. Neutral-tone on white is the standard finish.

The design is in keeping with the general spirit of bathroom decoration and has been simply and tastefully executed to keep in harmony with the most modest or with the most perfectly appointed bathrooms in all classes of homes and buildings.



SHOWER receptor has new decorative patterned finish.

Stoker-Fired Winter Air Conditioner

THE Moncrief stoker-fired winter air conditioner, a product of The Henry Furnace & Foundry Company, Cleveland, Ohio, is a complete unit comprising combustion drum with radiator, slow-speed squirrel cage blower, driven by motor mounted on top of

(Continued to page 88)



“What a cute horse.
Does he help you
build houses?”

BUILDER: Well, not exactly—but he certainly helps me *sell* building materials. His name's Certain-teed.

MR. NEWHOUSE: Did you say Certain-*steed*? With that name he can't lose.

BUILDER: The fact is Certain-teed never lost a single housing handicap in which I specified him. Actually this little horse is just an amusing souvenir of a big building company, Certain-teed Products Corporation. I keep him on my desk as a reminder of the fine public service his company is rendering.

MRS. NEWHOUSE: Public service? To whom?

BUILDER: To the nation—and to the building industry. You see, the Certain-teed Company has an idea that home owners are the very soul of our democracy. They believe America can build its way back to prosperity—so they've unselfishly set out to sell my industry and my services—even ahead of promoting their own products.

MR. NEWHOUSE: Certain-teed—s-a-y! Why that's the outfit who published that message by an American Father. Remember “Look Homeward, America” Helen?

MRS. NEWHOUSE: I'll say I do! I even sent in to Certain-teed for that lovely painting. And you wouldn't

even discuss the house with me until you read that ad, Homer. It made you look homeward, all right.

BUILDER: Well, Mrs. Newhouse, that means we can both thank Certain-teed for convincing the man of the house. It also illustrates exactly what I mean about Certain-teed serving the building industry and America.

MR. NEWHOUSE: But how about Certain-teed products? Are they any good?

BUILDER: They're already certified by ten million home owners. And I'm recommending Certain-teed products throughout your new home Mr. Newhouse, because I know you want to make every dollar count.

MR. NEWHOUSE: So it pays to be Certain-teed, eh?

MRS. NEWHOUSE: I'm so glad. I just knew that cute horse stood for something important.

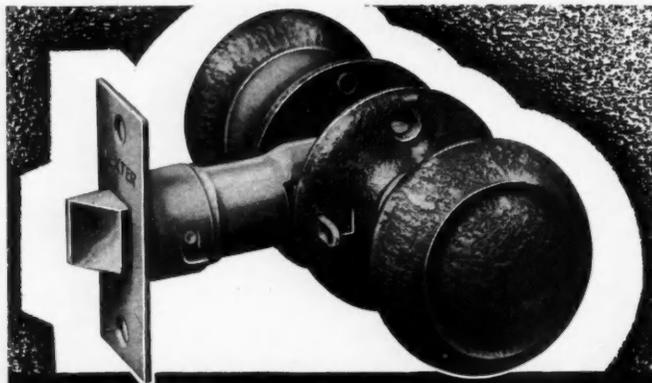


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100 EAST 42nd STREET, NEW YORK CITY

ONE OF THE WORLD'S LARGEST MANUFACTURERS OF:

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



DEXTER-TUBULAR *Lifetime*
LOCKS and LATCHES **WARRANTY**
PACKED IN EVERY BOX

GENUINE
DEXTER-TUBULAR LOCKS & LATCHES
WARRANTY

NATIONAL BRASS COMPANY - GRAND RAPIDS, MICHIGAN

EFFECTIVE JULY 1, 1940: DEXTER-TUBULAR LOCKS & LATCHES ARE LIFE-TIME WARRANTED! CERTIFICATE MOUNTED ON FACE OF EVERY BOX GUARANTEES SATISFACTORY SERVICE FOR THE ENTIRE LIFE OF THE BUILDING IN WHICH THEY ARE INSTALLED. WRITE FOR COPY OF WARRANTY AND COMPLETE INFORMATION. NO OBLIGATION.

Learn what this certificate means to selling. The value of the Original Tubular—*tested by time!* The value of "Drill-Hole" installation—used with the handy Bit-Guide—requires no mortising, no measuring, no squaring. Write for complete information.



HOW TO DEMONSTRATE and CLINCH SALES . . . DEXTER-TUBULAR LOCKS AND LATCHES FREE

Dealers: Here's FACTS Book. Tells "What to Say in Selling." "Why Dexter is the Greatest Name in Tubular." "How to show Dexter-Tubular Features." Savings of "Drill-Hole" installation. 8 illustrated pages of sound selling suggestions. Send for your copy—no obligation.

"Crystal-Crome" "Color-toned"

NEW—Just Published—Handy Reference to Cabinet Hardware. All the NEW items. Illustrated full color. No Obligation. Your copy free.

National Brass Company, Mfrs.
GRAND RAPIDS, MICHIGAN
Certified Builders Hardware
Cabinet Hardware
Screen Door Hardware

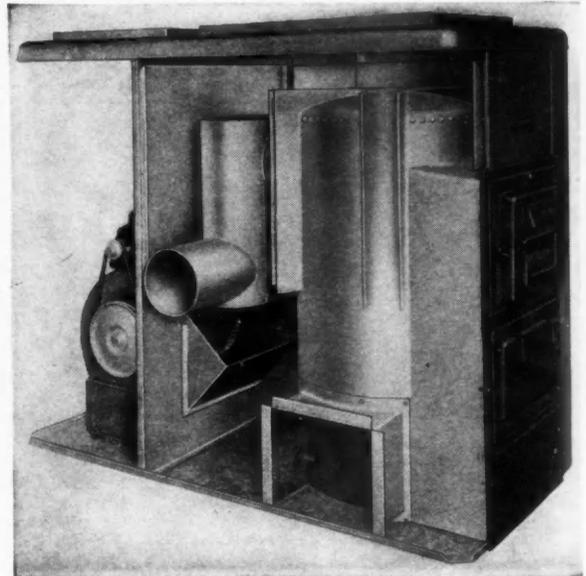
(Continued from page 86)

housing, four replaceable type filters, and Thermo-Drip automatic humidifier. It provides the four essentials of winter air conditioning—warming, cleaning, humidifying and circulating the air.

Overall dimensions are held to a minimum—68 inches long, 60 inches high, 34 inches wide—so as to occupy as little floor space as possible. Combustion drum is made of 3/16 inch O.H. steel, electric welded, with head riveted as well as welded.

Radiator and combustion drum are joined by flanges electrically welded to each—no cast iron flanges bolted. A heavy asbestos gasket between the faces of the flanges makes a permanently gas-tight joint. A cast iron ring to support firebrick is set on lugs welded to the interior of the combustion drum; there are no bolt holes through the drum at any point. The cabinet is made of 22-gauge iron attractively finished in smooth gray crater enamel; the front is cast iron, black crackle finish.

The inner lining forms a dead air space which acts as an effective insulator. A metal floor seals the bottom of the cabinet, making it air-tight, thus maintaining interior air pressure and keeping dust and dirt out.



CUTAWAY view of coal-fired winter conditioning unit.

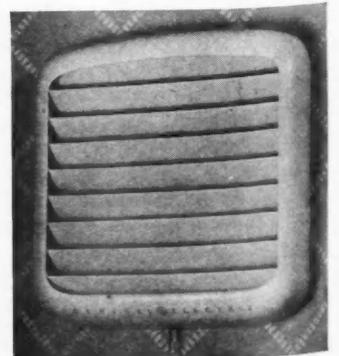
Kitchen Ventilating Fan

THE General Electric appliance and merchandise department, Bridgeport, Conn., has added to its line of fans a new kitchen ventilating unit in which the blades and motor assembly are completely concealed by an attractive plastic grille which may readily be removed for cleaning purposes. The inside wall plate, or grille, is of white plastic which will harmonize with almost any wall finish; the outside wall plate and door are finished in gray baked enamel.

Permanently installed, the new unit will remove cooking odors, fumes and smoke quickly and quietly. Its single-speed switch is operated by means of a convenient pendant chain; when the chain is released, the motor is turned on and the outside door opened. In winter weather, should the outside door be frozen in a closed position, the fan will continue to operate until the door is freed by the heated kitchen air. When the chain is pulled downward, the fan is turned off and the door closed.

The air delivery, of 800 cubic feet per minute by the free air test method, is sufficient to renew completely the air in an average kitchen in two to three minutes.

VENTILATING fan is adjustable to fit walls ranging in thickness from 5/2 to 11 inches.

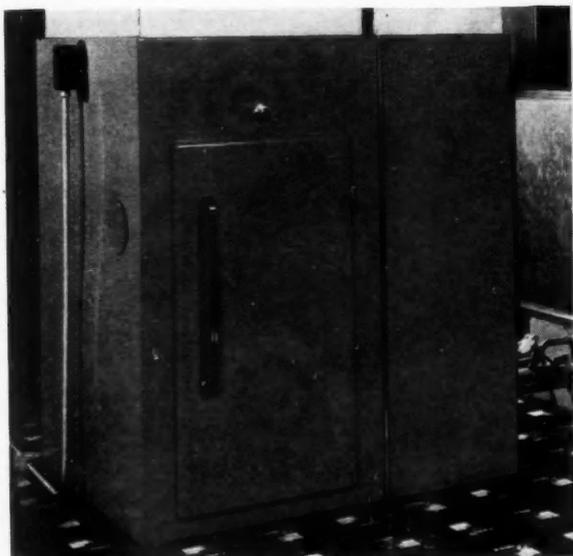


Self-Firing Winter Air Conditioner

THE first bin-feed winter air conditioner has been introduced by the Iron Fireman Mfg. Company, Portland, Ore., which is self-contained, complete with furnace, stoker, humidifier, circulator and air filters. By means of a screw conveyor which fits into a nearby fuel bin, the new unit feeds itself with coal. The unit can be used as a central warm air conditioning system for homes, for commercial establishments, and for industrial applications.

The heater is made of heavy, die-formed, steel plates electrically welded to form a gas-tight, one-piece unit. The combustion chamber is sized and proportioned to the fuel burning rate. A liberal amount of heating surface and three flue-gas passes permit a maximum transfer of heat to the circulating air. The heater sections are tapered toward the top to allow a free flow of the expanding warm air as it is circulated upward through the unit.

Models are available for firing with either bituminous or anthracite coal.



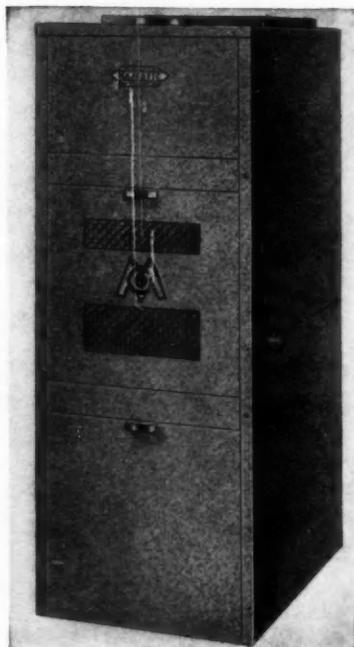
NEW conditioning unit is automatically stoker-fired with bin feed.

Automatic Forced Air Heating Unit

THE Majestic Company, Huntington, Ind., has announced a new automatic heating unit, No. 306, for oil or gas. It is completely assembled at the factory, and needs only to be connected.

The unit is designed especially for small homes with or without basements, offices, store-rooms and service stations. It occupies a small amount of space, the 75,000 B.t.u. capacity having a casing size of 34 by 36 inches. In the 306, the blower is in a compartment under the heating element. Circulation is from the powerful blower through the heating unit from where it is forced to every part of the building.

Heavy gauge furnace steel is used throughout; frame is braced and trussed. Adequate insulation is provided under the casing.



EITHER oil or gas can be used as fuel for new compact heating unit.

IT PAYS ME TO USE

SISALKRAFT

Reg. U. S. Pat. Off.

ON EVERY JOB

THERE ARE *Many* REASONS

It's good construction. Sisalkraft over-all sheathing makes a tight job—sealed against moisture, air and dust. There won't be complaints and adjustments caused by construction cracks.

And as to cost — when you figure *the low application cost* of Sisalkraft, it's right on a level with even the flimsiest building papers. It should be used on *every* job.

Sisalkraft is a tough, flexible sheet — two layers of kraft, bonded with asphalt and reenforced with interlacing sisal fibre. It has a multitude of uses on the job — curing concrete, temporary closures, covering materials and a host more.

Send for demonstration samples of Sisalkraft, and details of its practical uses. For sale by good lumber dealers everywhere.

The SISALKRAFT Co.
 205 W. WACKER DRIVE CHICAGO, ILL.
 New York • • San Francisco





We own our house . .



and here's one reason why!

"John and I liked the site, the design and a good many things about the house, but the final decision wasn't made till I saw the completely modern bathroom!"

There's no doubt that a well-planned bathroom is a big selling asset. And Formed Iron Plumbing Ware gives you just this. The high-luster porcelain enamel comes in attractive colors and color combinations. It is acid-resisting at no extra cost, and exceptionally easy to clean. And when it's porcelain enameled on ARMCO Ingot Iron, and bears the famous ARMCO label, you may be sure of basic metal quality. . . . For that next house, install Formed Iron Plumbing Ware. It will help turn prospects into home owners.

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 genuine ARMCO Ingot Iron. No more leaks and rusty water. For more information, write to The American Rolling Mill Co., 1571 Curtis Street, Middletown, Ohio.

News of the Month

Building Activities and Meetings

Government Agencies to Push Home Building in Rural Communities

PLANS have been announced in Washington by M. L. Wilson, director of the Extension Service in the Department of Agriculture and chairman of the Central Housing Committee on rural housing for a renewed national program of education relative to how existing facilities of governmental financing agencies may be used to promote the building of low-cost homes in rural communities and for farm building repairs and improvements. Important interests in the industry are co-operating with this program, Mr. Wilson states.

Under this program an effort will be made to get a widespread understanding of the methods of operation of the existing housing agencies, so that those who are anticipating building new low-cost homes in small towns and rural areas and on farms will more readily understand how to use existing agencies in this field. The federal agencies, including the Farm Credit Administration, Federal Home Loan Bank Board, Federal Housing Administration, Federal National Mortgage Association, and the R. F. C. Mortgage Company, are anxious that their services may be used in small town and rural areas. Many types of needed low-cost village homes, farm subsistence homes, farm houses and productive farm buildings can be financed through the existing agencies in these localities or adjacent thereto.

Co-operating with this joint governmental program, the building industry has set up the National Homes Foundation, representing manufacturers, local building material dealers and trade associations in the building and allied fields. This Foundation, membership in which is open to all elements of the building industry interested in the rural building market, with headquarters in Washington, D.C., through its technical and educational committees, is recommending techniques to improve building design and construction and at the same time make for lower costs. Through this program the building industries interested in the farm and rural markets are ready with a co-operative merchandising, educational and promotional program to stimulate building and modernization and repair activity in these areas.

Service to the home building field under this program will be through existing facilities in the rural communities and centered around the local financial institutions and service institutions, such as the retail lumber and supply dealers and local building mechanics and contractors. It is expected, Mr. Wilson states, that widespread additional employment and the sound investment of private funds for needed homes and farm building improvements will result from this program.

With PCA for 25 Years

HARRY B. TURNER, veteran purchasing agent for the Portland Cement Association, Chicago, was recently presented with a silver coffee service by the Association in appreciation of his 25 years of continuous service.

Mr. Turner came to the Portland Cement Association in 1915 when its headquarters were in Philadelphia, and moved to Chicago when the general office was established there a year later.

HARRY B. TURNER



April Residential Volume Exceeds Any Month Since August 1929

RESIDENTIAL contract awards in 37 eastern states for April, as reported by F. W. Dodge, totaled \$135,420,000, exceeding any month since August, 1929. Total residential construction volume for the first four months of this year have exceeded the same period of 1939 by almost 3 per cent. While backward spring weather hampered early building, the April record shows that volume home building is now under way.

Dodge residential contract figures for the first half of May show further progress in the current upturn in home building—\$73,318,-

000 against \$65,312,000 last year, a 12 per cent increase in money value but a 23.6 per cent increase in the number of homes built, which were 11,181, against 9,044 for the first 15 days of May 1939.

Statistics for the four classes of construction are as follows:

	May 1-15, '40	May 1-15, '39	April 1940
Residential	\$ 73,318,000	\$ 65,312,000	\$135,420,000
Non-Residential	38,470,000	38,582,000	88,821,000
Public Works.....	36,313,000	29,533,000	62,881,000
Utilities	8,966,000	13,152,000	13,382,000
Total	\$157,067,000	\$146,579,000	\$300,504,000

Size of Building Operations in Residential Construction

IT IS commonplace that residential construction is typically a small-scale operation. Preliminary findings of the Bureau of Labor Statistics* indicate how small the scale of operations is in the building of 1-family houses. Sixty per cent of the builders in 30 cities took out building permits for only 1 house in 1938.† A builder who took out permits for as many as 10 houses in a year was a relatively large-scale operator; only 6 per cent of all builders covered were in this class. The small builders include subcontractors and craftsmen who build 1 or 2 houses, as a speculation, between jobs or after hours. They also include owners acting as contractors on their own homes. The latter class is very important in some of the smaller cities.

Builders taking out a single permit constructed about as many houses as those taking out permits for 2 to 4 houses, for 5 to 9, or for 10 to 24. Less than 10 per cent of the houses were erected by the largest builders, i.e., those taking out permits for 100 or more houses a year. Nearly half (46 per cent) of the houses, however, were constructed by 6 per cent of the builders.

TABLE 1.—DISTRIBUTION OF BUILDERS AND OF HOUSES IN 30 CITIES, BY NUMBER OF 1-FAMILY HOUSES ERECTED IN 1938

Number of houses per builder	Builders		Houses constructed	
	Number	Percent of total	Number	Percent of total
Total	2,891	100.0	9,697	100.0
1 house	1,735	60.0	1,735	17.9
2 to 4 houses	731	25.3	1,910	19.7
5 to 9 houses	250	8.6	1,610	16.6
10 to 24 houses	122	4.3	1,703	17.6
25 to 49 houses	34	1.1	1,129	11.6
50 to 99 houses	12	.5	783	8.1
100 houses or more	7	.2	827	8.5

The small builders are relatively more important in the smaller cities than they are in the larger places (table 2). In 12 cities of less than 100,000 population, 36 per cent of the homes were erected by builders taking out only 1 permit during the year. Sixty-eight per cent of all builders constructed only one house in these cities. In 5 cities having 500,000 or more population, only 11 per cent of the houses were constructed by this group. Over half of the builders, however, built only one house, even in these large cities. On the other hand, less than 1 per cent of the builders, each of whom took out permits for 100 or more houses during the period, accounted for more than 20 per cent of the new houses.

It should be noted that the cities under 100,000 population included in these preliminary tabulations are middle-sized, rather than small. Only one of them, Stratford, Conn., had fewer than 25,000 inhabitants in 1930.‡

TABLE 2.—CUMULATIVE PERCENTAGE OF BUILDERS AND OF HOUSES, BY NUMBER OF 1-FAMILY HOUSES FOR BUILDERS AND BY SIZE OF CITY, 1938

Number of houses per builder	All 30 cities		5 cities of over 500,000 population		13 cities of 100,000 to 500,000 population		12 cities of less than 100,000 population	
	Builders	Houses	Builders	Houses	Builders	Houses	Builders	Houses
1 house	60.0	17.9	56.4	10.6	58.5	18.8	67.9	35.9
2 to 4 houses	85.3	37.6	80.1	22.5	84.6	40.8	92.6	69.8
5 to 9 houses	93.9	54.2	89.5	33.5	94.1	60.7	98.4	89.5
10 to 24 houses	98.2	71.8	95.5	49.6	98.6	81.0	100.0	100.0
25 to 49 houses	99.3	83.4	97.8	63.7	99.7	93.6
50 to 99 houses	99.8	91.5	99.1	79.7	99.9	97.9
100 houses or more	100.0	100.0	100.0	100.0	100.0	100.0

*In the Building Permit Survey, a Federal Works Project, being made by the Division of Construction and Public Employment.

†Houses erected outside of city limits, where permits are not required, are not included.

‡The cities included are: 500,000 and over, Boston, Mass., Cleveland, Ohio, Cleveland Suburbs, Ohio, Philadelphia, Pa., and San Francisco, Calif.; 100,000 to 500,000, Atlanta, Ga., Bridgeport, Conn., Dallas, Tex., Dayton, Ohio, Fort Wayne, Ind., Indianapolis, Ind., Louisville, Ky., New Orleans, La., Richmond, Va., South Bend, Ind., Toledo, Ohio, Washington, D.C., and Youngstown, Ohio; under 100,000, Amarillo, Tex., Asheville, N.C., Little Rock, Ark., Mansfield, Ohio, Marion, Ohio, Norwalk, Conn., St. Joseph, Mo., Sioux City, Iowa, Stamford, Conn., Stratford, Conn., Warren, Ohio, and Wheeling, W. Va.



BUILDING TO Sell FASTER

USE WOLMANIZED LUMBER* to help you sell the houses you build.

It gives you a substantial selling point. You can say to prospective buyers, "This house is protected against the expensive damage which decay and termites can cause. Wolmanized Lumber is used at points where the damage starts."

That statement shows your prospect how the house you are offering is built to last. Yet the cost of protection with Wolmanized Lumber is small—it adds less than 2% to the total cost of the average house. And it is the one material of its kind which is clean, pressure-treated according to one standard set of specifications, and sold under one brand throughout the country.

Wolmanized Lumber is sold by lumber dealers. For your use we have prepared folders which help you sell houses in which Wolmanized Lumber is used. Ask us to send you samples. AMERICAN LUMBER & TREATING COMPANY, 1406 McCormick Building, Chicago.



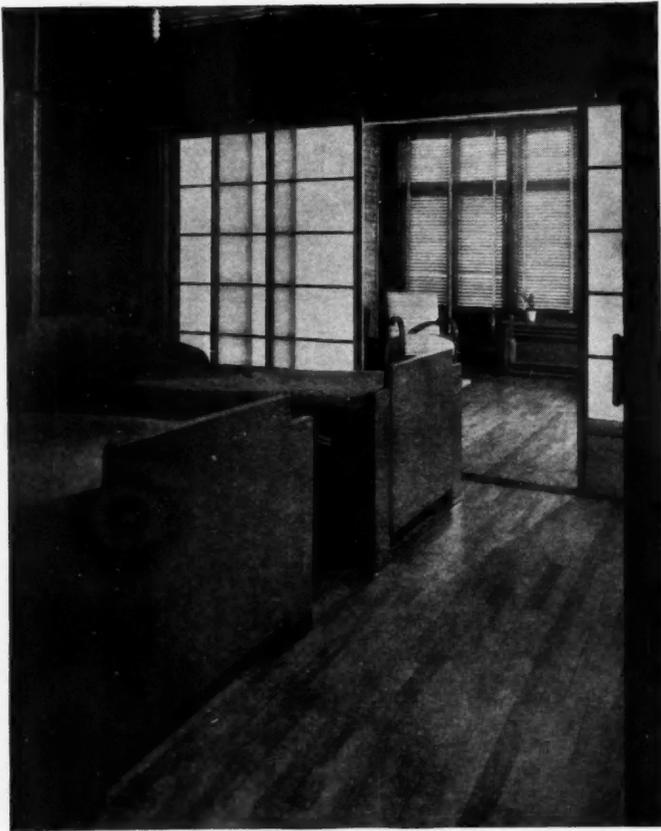
THE LOW COST METHOD

Used at danger points, for joists, sills, and subfloors, Wolmanized Lumber gives reliable protection to the whole structure, yet adds less than 2% to total cost. Banks and financing agencies approve its use.

*Registered Trade-mark



WOLMANIZED LUMBER



The New Idea in flooring Homes

MEANS MORE PROFIT FOR YOU!

Harmonize floor with furniture . . . that's the modern idea for homes! . . . In the bedroom above, note how the absence of heavy graining in the floor makes for pleasing harmony with the smooth and simple modern furniture. Modern furniture is *fine-grained* . . . so is Maple . . . and the two live peacefully with each other. Not only Blonde Maple, but other modern furniture looks at home on smooth floors of Maple.

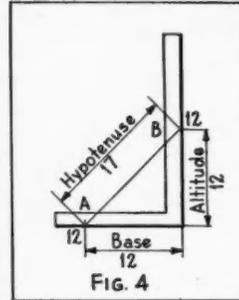
Home-owners—the *whole family*—will thank you for recommending Hard Maple. It's the longest-wearing comfortable floor and the most ideally suited for modern homes. Lay it in strips or blocks, natural or color-finished; by specifying trademarked **MFMA** Maple, you insure association grading and all Northern Hard Maple.

MAPLE FLOORING MANUFACTURERS ASSOCIATION
1781 McCormick Building, Chicago, Illinois

See our catalog data in Sweet's, Sec. 11/78.
Write for folder on floor finishes suitable for homes.

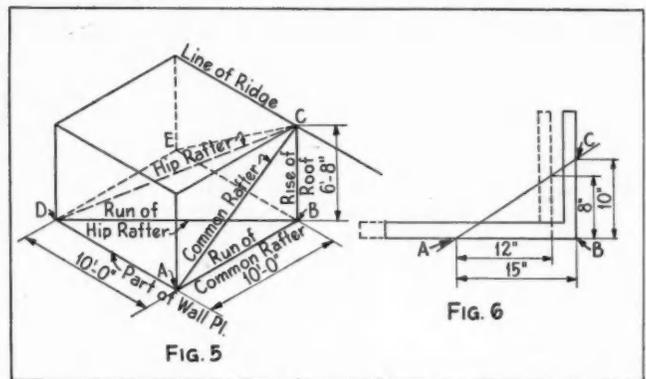
Floor with
MFMA Maple
REG. U. S. PAT. OFF.
(NORTHERN HARD)

The STEEL SQUARE—(Continued from page 78)



hip rafter. But the run of the hip rafter is $\frac{17}{12}$ times the run of the common rafter and therefore it can be said that the rise per 17 inch run of the hip rafter is always the same as the rise-per-foot-run of the common rafters for roofs of equal pitch. If the rise of the common rafter per foot-of-run is eight inches, then the rise of the hip rafter for each 17 inches of run is eight inches. If the rise-per-foot-run of the common rafter is six inches, then the rise of the hip rafter for each 17 inches of run is six inches. If the rise-per-foot-run of the common rafter is nine inches, then the rise of the hip rafter for each 17 inches of run is nine inches. This can be seen from a study of Fig. 8.

If a carpenter is called upon to lay out a hip rafter in a roof frame, one of the first things he must find out is the "length" of the rafter from the upper outside corner of the wall plate to the center of the ridge board. He generally knows the *span* of the roof out to out of walls and the rise-per-foot-of-run for the common or "main" rafters, that is, whether the slope of the roof is 8 in 12 or 6 in 12 or 9 in 12 or whatever it is. If he is working



from an Architect's drawings, he can measure off from the sectional or elevation drawings to scale the *span* of the roof and the *rise* of the roof. The *run* of the roof will be $\frac{1}{2}$ of the span and if the *rise* of the roof in inches be divided by the *run* of the roof in feet, the result will be the *rise-per-foot-of-run* for the roof.

To avoid doing the arithmetic, the slope of the roof may be found with the steel square as follows: Lay the square down flat on a large piece of strong brown paper as shown in Fig. 6. Mark off along the outside edge of the blade or body the distance A-B, a number of inches equal to the number of feet in the *run* of the roof. In this case let the span of the roof be thirty feet and the run fifteen feet. Mark off along the outside edge of the tongue the distance B-C a number of inches equal to the number of feet in the *rise* of the roof. In this case let the rise be ten feet. Draw the line A-B along the outside edge of the blade and then lift the square and draw the line A-C. Now lay the square down again in the position shown in Fig. 6 by the dotted lines so that the outside edge of the blade will lie along the line A-B and the 12 inch mark will come at the point A. Then the inch mark on the outside edge of the tongue where it crosses the line A-C will give the rise-per-foot-run of the common rafters. In this case rise-per-foot-run will be eight inches.

If you can find the length of the hip rafter per-foot-run

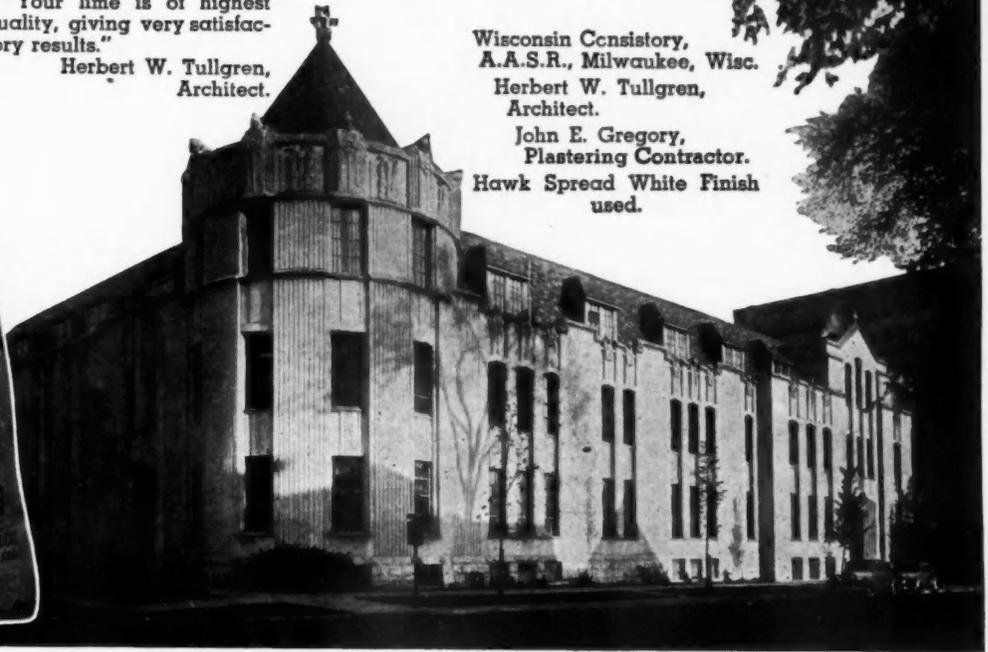
The lime that's packed in Zig Zag Bags

For Fine Interiors

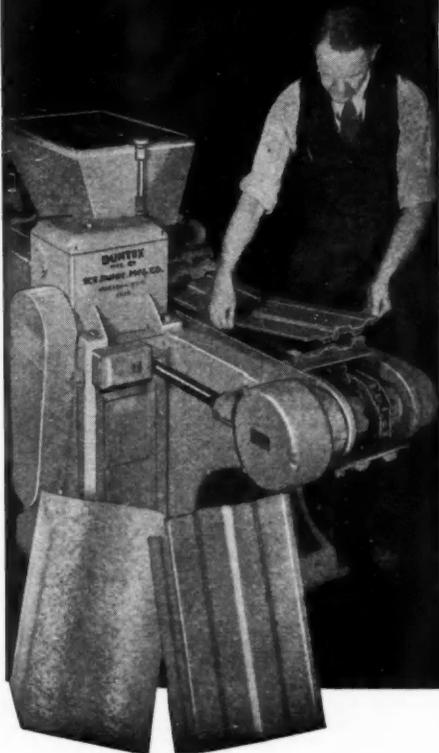
nothing excels fine lime plaster. For permanent beauty, careful builders apply Ohio White finish or Hawk Spread White Finish -- two famous brands of equal uniformity -- fresh, fat and fluffy. Your dealer can supply you. The Ohio Hydrate & Supply Co., Woodville, Ohio

"Your lime is of highest quality, giving very satisfactory results."
Herbert W. Tullgren, Architect.

Wisconsin Consistory, A.A.S.R., Milwaukee, Wisc.
Herbert W. Tullgren, Architect.
John E. Gregory, Plastering Contractor.
Hawk Spread White Finish used.



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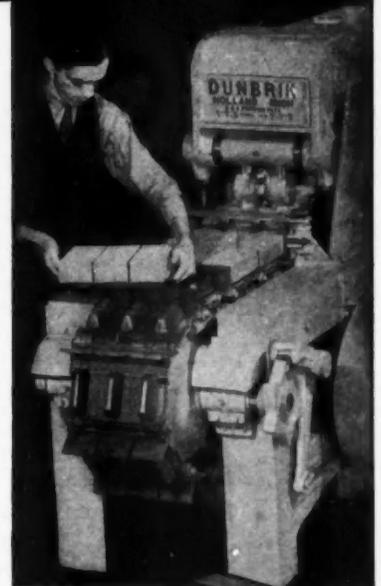
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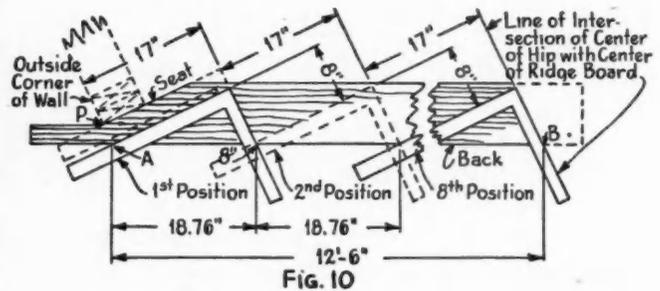
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(Continued from page 94)

the tongue will both rest on the dressed edge of the piece of stuff which in this case is *towards* the worker. The 17 inch mark on the outside edge of the blade should be placed at the point A which should be located far enough from the extreme left hand end of the piece of stuff to allow for the overhang of the hip rafter over the outside face of the wall plate. Note that the overhang for the hip rafter will be about 1 1/2 times as much as the overhang for the common rafters. Now mark carefully the point where the outside edge of the tongue of the square crosses the dressed edge of the piece of stuff and then move the square along the dressed edge to the right, away from the point A to the position marked "2nd position" in Fig. 10, with the 17 inch mark on the outside edge of the blade and the 8 inch mark on the outside edge of the tongue still kept carefully on the dressed edge of the stuff. As indicated in Figs. 9 and 10, this means that the square will have been moved along a distance of 18.76 inches or 18 3/4 inches in the direction of the length of the hip rafter and a distance of 17 inches in the direction of the *run* of the hip rafter. This process can be repeated again and again until the square has been placed on the piece of stuff just as many times as there are *feet* in the *run* of the *common* rafter.



In its last position the square will be so placed that a line drawn on the side of the piece of stuff along the outside edge of the tongue will represent the line in which the center of the rafter would intersect the center of the ridge board or the line in which the hip rafter would intersect the ridge board if both the hip rafter and the ridge board were made of paper and had no thickness. The way in which allowance should be made for the thickness of the two members and the fact that they meet each other at an angle will be explained later.

Finding Length of Hip Rafter When Run of Common Rafter is Not in Even Feet

If the run of the common rafter is not an even number of feet, that is, if this run is, say, 12 feet, six inches, instead of 12 feet, then a somewhat different procedure is necessary. The square must be applied to the rafter as described above just as many times as there are even feet in the run of the common rafter, in this case 12 times, and it will then be in the position shown by the dotted lines in Fig. 11. The square must then be moved along to the right (towards the upper end of the rafter) a further distance to allow for the extra six inches in the run of the common rafter. We have seen that for each foot in the run of the common rafter the run of the hip rafter is 17 inches for roofs of equal pitch. Then for an increase of six inches, in the run of the common rafter, you can find the corresponding increase in the run of the hip rafter as follows: Lay the square down flat on a large piece of paper, as shown in Fig. 12. Draw lines along the outside edges of both the blade and the tongue. Make marks at the 12 inch mark in the inch line on the outside

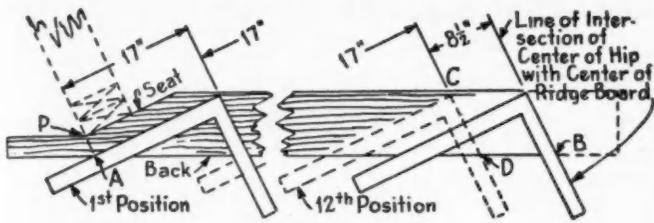


FIG. 11

edges of both the blade and the tongue and then measure the diagonal distance between these two marks which will be nearly 17 inches. Now measure the diagonal distance between the six inch marks in the inch lines on the outside edges of both the blade and the tongue of the square. This distance will be found to be $\frac{6}{12}$ of 17 inches or $8\frac{1}{2}$ inches, as shown in Fig. 12. The diagonal distance between the two five inch marks will be $\frac{5}{12}$ of 17 inches and the diagonal distance between the two four inch marks will be $\frac{4}{12}$ of 17 inches and so on. This means that for roofs of equal pitch when the runs of the common rafters are increased by 6 inches or 5 inches or 4 inches, then the run of the hip rafter is increased by $8\frac{1}{2}$ inches or $7\frac{1}{12}$ inches or $5\frac{2}{3}$ inches respectively. In the case shown in Fig. 11, we will assume that the span of the roof is 25 feet and the run of the common rafters is $12\frac{1}{2}$ feet. When the square has been applied to the rafter 12 times, having been stepped along the dressed edge of the stuff eleven times, as explained above in connection with Fig. 10, it will be in what would be its final position if the run of the common rafter were 12 feet. But the run is really twelve feet and six inches, so the steel square must be advanced to the right (towards the top end of the rafter) a further distance to allow for the increase of six inches in the run of the common rafter. A study of Fig. 10 will show that each time the square was stepped along the rafter, it was advanced away from the outside corner of the walls and towards the ridge a distance of 17 inches in the direction of the run of the hip rafter, as indicated by the 17 inch dimensions along the outside edge of the blade or body of the square. The square must now be advanced a further distance of $8\frac{1}{2}$ inches in the direction of the run of the hip rafter. To do this, draw or scratch a line on the side of the rafter along the outside edge of the tongue of the square when it is in the position for 12 foot run (line C-D in Fig. 11) and then move the square along to the right as shown by the full lines at the right hand end of Fig. 11 (keeping the 17 on the outside edge of the blade and the 8 on the outside edge of the tongue always on the dressed edge of the piece of stuff)

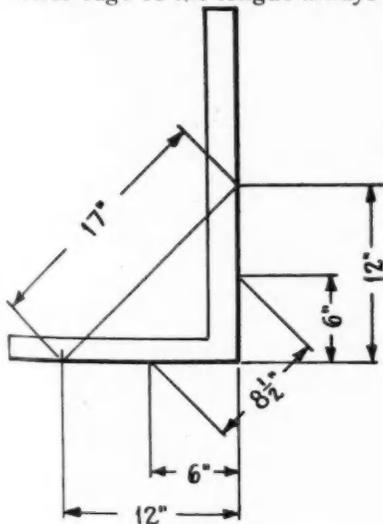
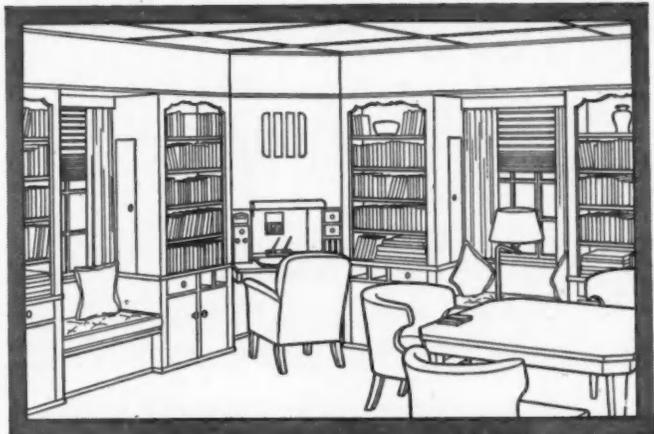


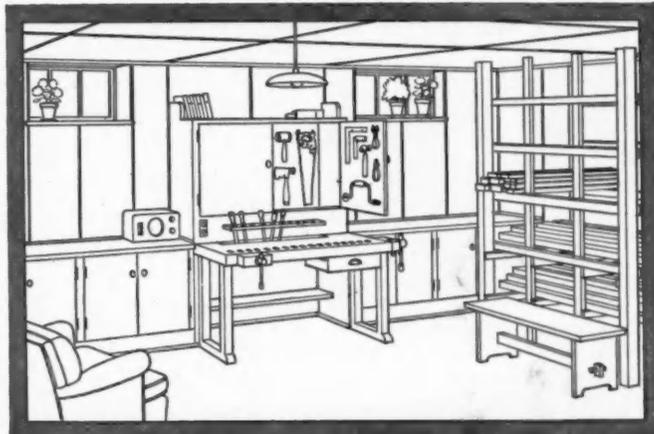
FIG. 12

until the $8\frac{1}{2}$ inch mark on the outside edge of the blade is on the line previously drawn along the outside edge of the tongue (line C-D in Fig. 11). The square will then have been advanced $8\frac{1}{2}$ inches further in the direction of the run of the hip rafter and a total distance in this direction corresponding to the 12 foot six inch run of the common rafter. With the square in this (Continued to page 98)

Rooms for recreation



Ace high is this card room-library. The flexibility of Masonite Tempered Presdwood permits several unique features. For walls and ceilings the board can be left natural, or painted or varnished. Radio loud-speaker is installed behind a Tempered Presdwood panel over built-in desk. Ample bookshelf space is provided by using Tempered Presdwood for cabinetwork.



Waste space in the cellar can be used to make this practical workshop. Tempered Presdwood is ideal for walls, ceilings, shelves and cabinets because it is highly moisture-resisting. Even though the cellar may be damp, Tempered Presdwood will not warp, chip, split or crack when it's properly applied. Walls and ceiling are grooved with U scoring, and painted white.

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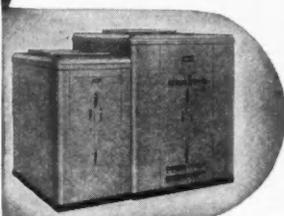
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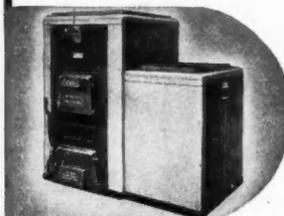
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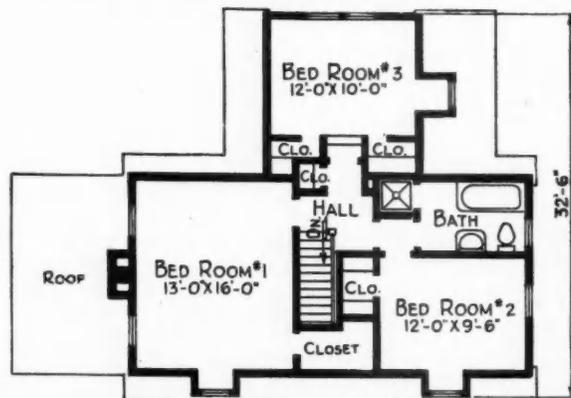
(Continued from page 97)

last position, a line drawn on the side of the stuff along the outside edge of the tongue will be the line in which the hip rafter would intersect the ridge board if both the hip rafter and the ridge board were made of sheet metal or paper, that is, if they had no thickness. Since both the hip rafter and the ridge board have a considerable thickness, perhaps two inches for the ridge board and three or four inches for the hip rafter, the square must be moved back again (to the left in Fig. 11) to allow for this thickness before it will be in the correct position to indicate the proper cuts to be made to fit the top end of the hip rafter against the side of the ridge board. There are two cuts which will have to be made, one called the *plumb cut*, made necessary by the *slope* of the hip rafter, and the other called the *side cut*, made necessary by the fact that the hip rafter is not at right angles to the ridge in plan view. Fig. 1 illustrates this in plan view while Figs. 2 and 8 show it in isometric.

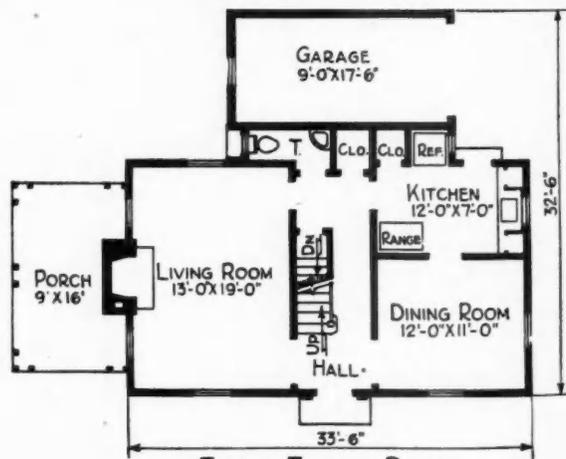
The next article in this series on the steel square will describe the method for getting the plumb cut and the side cut on the upper end of both hip and valley rafters, as well as the seat cuts for these rafters. The reason why hip rafters must sometimes be "backed" will be explained and what is meant by this word will be illustrated, showing the application of the steel square to this problem.

* * *

Front Cover Home Plans



SECOND FLOOR PLAN



FIRST FLOOR PLAN

ABOVE plans of the front cover home, designed by Architect Randolph Evans, New York, show a popular arrangement of six rooms and attached garage. The home is located at Harbor Green, L.I.

Plywood Model Home—

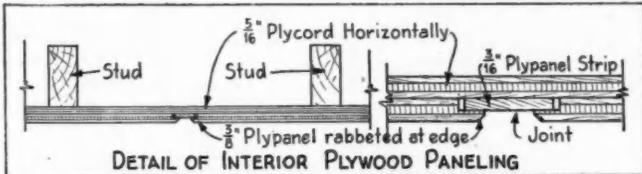
(Continued from page 58)

except the kitchen where muslin has been applied to 3/8-inch plywood walls and enameled. The kitchen walls are enameled hardboard over 3/8-inch Plywall.

The wall construction is indicated in the detail below which shows the manner in which the rabbeted edges of the panels were applied to give an open joint with the 3/8 Plypanel finish and 3/16" joint strips attached to a base of 5/16 Plyscord laid horizontally on the studs.



OPEN joint paneling, as in close-up at left, is detailed in diagram. Panel edges are quickly rabbeted with power router shown in operation below.



IN this bedroom, rabbeted panel edges prepared as above are butted to produce a simple V-joint effect on walls and ceiling.



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(Continued from page 52)

being selected to do each operation most efficiently. They were found to be particularly handy in cutting the over-size first floor framing. Notching for ribbons, cutting of openings and sawing off projecting sheathing board were also done with these saws. Routing for door butts and mortising locks with electric tools, as well as fitting sash, were handled economically.

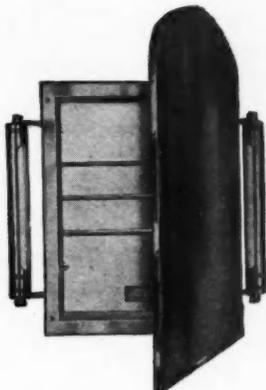
As soon as operations can be completed on the present site where there are 25 lots available, construction has already been planned for further groups of these houses on a larger site containing about 20 acres. At the present rate of sales, C. Henning Vagtborg & Associates estimate that about 120 additional units can be built and sold within a year,—a true gauge of the rapid public acceptance of this revolutionary type of home which provides better value in a difficult market.



CONSTRUCTION views show, top, 2 by 6 subflooring being laid over 4 by 8 joists; center, looking down the trench excavation, workmen laying out studding in foreground; bottom, power saws are used to cut wall studs and notch for ribbons.

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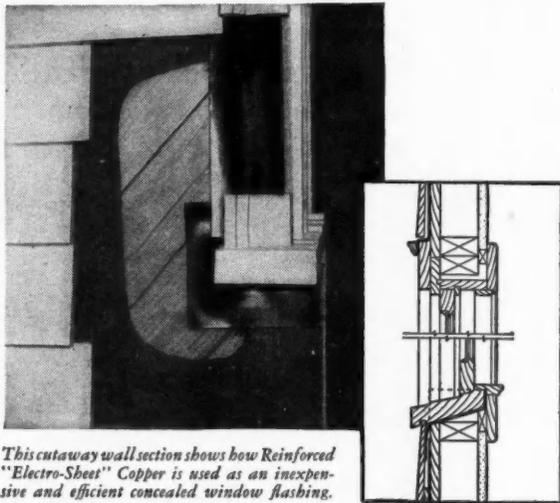
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This cutaway wall section shows how Reinforced "Electro-Sheet" Copper is used as an inexpensive and efficient concealed window flashing.

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Cold Storage Locker Plants

(Continued from page 73)

8 in. to 10 in. deep. The footing should be placed on firm soil at least 3 ft. below grade and below the usual frost line. It is also best practice to place two 5/8-in. round reinforcing bars in the footing and near the top of the foundation as shown in the drawing, Fig. 2. These reinforcing bars should be continuous around the building, lapped about 2 ft. 6 in. at splices. Unless soil drainage is excellent, a tile drain should be placed along the footing entirely around the building and connected to a suitable outlet.

Subgrade for the concrete floor should be prepared with care to obtain levels needed as shown in the drawing, Fig. 3. Then a 10-in. or 12-in. layer of fine stone or crushed rock should be placed and well tamped under the locker room and the sharp freezer room. Experience has shown that more complicated subfloors than those shown in the drawings are an unwarranted additional expense. Hundreds of locker plants built with the type of floor construction shown here have proved entirely successful.

At this point in construction, all column footings, water pipes, floor drains, etc., should be in position. Standard construction then consists of placing a 4-in. concrete floor with light reinforcement such as No. 5 gauge wire mesh 6 x 6 in. or 1/4-in. round bars, spaced 10 in. on center both ways. After this concrete floor has hardened, the surface is mopped with tar or asphalt and the required thickness of rigid insulation is placed according to manufacturers' directions.

The top 4-in. concrete floor is then placed and reinforced as described above. Reinforcement of this concrete floor minimizes danger of cracking and is generally favored since sanitary floors of good appearance are important in the cold storage locker plant. Usual practice is to build all floors level except that the floor in the receiving room slopes toward the drain. An attractive colored concrete floor topping is sometimes preferred in the lobby where the concrete floor is to be exposed. Colored concrete is produced by adding mineral oxide pigments to the concrete topping. Manufacturers' directions should be followed.

Construction Trends and Costs

Because locker plants hold large amounts of food in storage, it is important that the building be highly firesafe, rodent-proof and free from objectionable odors of paint and lumber which might tend to lower the quality of stored foods. In view of these considerations, most plants are built of some form of masonry construction. Actual cost of construction will, of course, vary in different localities, with different materials, etc., but investigations of agricultural colleges and the U. S. Department of Agriculture indicate that complete plant costs usually range between \$25 and \$35 per locker.* This cost includes cost of all equipment, insulation, building, refrigeration, in fact, all items except land. Cost of construction also varies somewhat with the size of locker plant, type of construction and other design features of the building. Excessive cost is sometimes caused by unnecessary complicated floor and roof construction. It is also of interest that remodeling of buildings for locker plants has often proved unsatisfactory and the cost per locker in the remodeled building often equals and sometimes exceeds cost of all new construction. This is due to the need for specially insulated floors and to the unusual structural requirements for a successful cold storage locker plant.

An interesting feature of recently built cold storage

locker plants is the attractive exterior appearance obtained by more careful planning and architectural help in designing the plant for good appearance and sales appeal. One recent noteworthy example where fine appearance and thrifty masonry construction have been used to advantage is found in the Jasper County cold storage locker, Rensselaer, Indiana, shown on the second page of this article. This plant was built by the Myers Engineering Company, Chicago, and Norman T. Maxon, Chicago, was the architect. Walls of this plant are of insulating Waylite concrete block. Of particular interest is the roof construction which was of Postonway Waylite concrete floor slabs. These units are precast hollow slabs of lightweight concrete 12 in. wide and 6 in. deep. Principal advantages of their use are that a firesafe roof structure is installed rapidly and economically.

*Cost of construction and operation and reported income may be found in the following publications: "Refrigerated Food Lockers," Farm Credit Administration, Washington, D. C.; "Cold Storage Locker Plants," University of Wisconsin, Madison, Wisconsin; "Cold Storage Lockers," University of Minnesota, St. Paul, Minnesota.

* * *

FHA Approved Houses at the Fair

(Continued from page 46)

neighborly friendship at the Fair. Dedication exercises when the houses were opened were attended by many notables, including Mayor LaGuardia of New York, Grover Whalen and Harvey D. Gibson of the Fair, Stewart McDonald of FHA, and prominent building and material officials.

Construction and material details of the two houses include the following:

\$2,500 House

FLOOR PLAN—25' x 26' with a 4' x 14' 6" bedroom extension. Full basement. Space saving hall arrangement.

ROOF—Multicolored asphalt shingles, Certain-teed Products Co.

EXTERIOR WALLS—Asbestos cedar grained siding shingles, Johns-Manville.

INTERIOR WALLS AND CEILINGS—Sheetrock gypsum board, U. S. Gypsum Co.

HEATING—Forced circulation hot water, recessed radiators, copper tubing, coal-burning boiler, Crane Co.

BATHROOM FIXTURES—Crane Co.

FLOORS—Oak floors laid over diagonal subfloors. Linoleum in kitchen, tile in bathroom.

\$3,100 House

FLOOR PLAN—26' x 31' with two bedrooms, dinette, kitchen and 12' x 14' living room. Space upstairs for a small additional room. Fireplace, full basement, front vestibule and coat closet.

ROOF—Green blend thick butt asphalt shingles, Flintkote Co.

EXTERIOR SIDING—Idaho white pine bungalow siding, Weyerhaeuser Sales Co.

CEILINGS—Upson Strong-Bilt Panels, Upson Co.

PIPE AND FITTINGS—Mueller Brass Co.

FLOORS—Oak floors laid over diagonal subfloors. Linoleum in dinette and kitchen; tile in bathroom.

HEATING—Forced circulation hot water system with coal-burning Arco boiler, recessed radiators, copper tubing, American Radiator and Standard Sanitary Corp. Bell & Gossett fittings.

BATHROOM FIXTURES—Modern fixtures with tub and shower, American Radiator and Standard Sanitary Corp.



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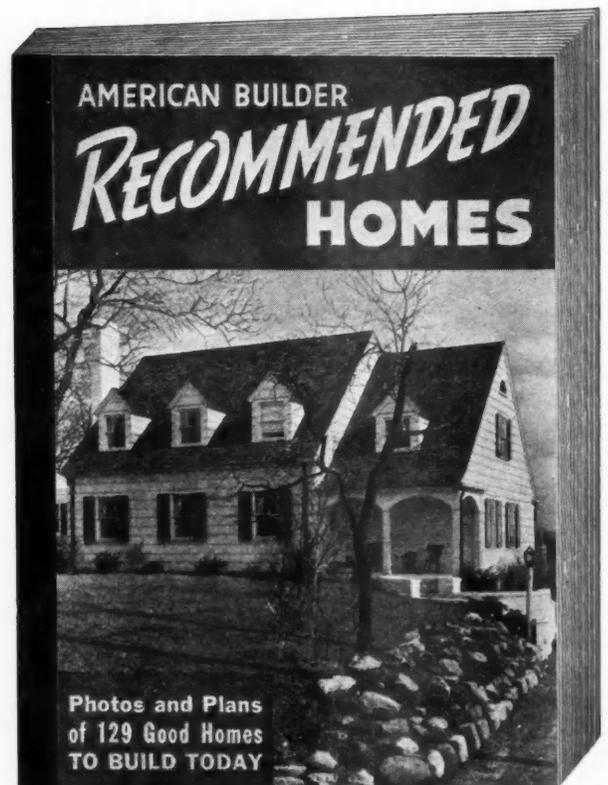
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Some of the FEATURES YOU'LL FIND IN RECOMMENDED HOMES

Six Prize Winning Homes

The most distinctive homes winning prizes in the American Gas Association's nation-wide competition. An outstanding example of simple New England design that won prize for White Plains, N. Y. home . . . prize winning compact home built at Rochester, N.Y., 6 rooms in area of 28 x 21 ft. (elevations also shown) . . . 8-room Colonial with winter air conditioning built in Brookline, Mass., showing picture of attractive pine paneled basement room with brick fireplace . . . 7-room French Provincial with stone exterior and "straight line production" kitchen . . . mountain home built at Altadena, Calif., with efficiency one floor plan . . . charming all-gas Dutch Colonial from Columbus, Ohio, with spacious living room photographed.

Attractive Unusual Designs

Five room cottage with three plans, "Economy," "New England" and Modern. Space saving three level design for Union (N.J.) home—Hollis (L.I.) Colonial with dropped floor living room to fit hillside—Evanston (Ill.) 7-room home on narrow lot—smartly styled modern motor home—two unusual narrow lot designs of homes built in Chicago.

Modern and Modernized

Modernized four-story unit wins \$500.00 prize—Wichita, Kansas, retail store modernized—unusual modern style home in Illinois—8 practical salable suggestions for modernized basements—extreme modernism in brick and glass . . . modern Plan and Equipment for attractive Detroit home . . . modern home at Glendale, Calif., with circular dinette.

Town of Tomorrow Homes

The now famous "Double Duty" house at the New York World's Fair, a compact design providing greater comfort at extremely low cost . . . Long Island Colonial with outstanding design resembling Dutch Farm House, yet modern in all respects . . . modern design added to traditional New England architecture, showing elevations and arrangement of rear garden . . . Low cost "House of Many Woods" showing distinctive Scandinavian effect, sponsored by National Lumbermen's Association and showing construction details . . . The House of Vistas showing extreme modernism in design that is also comfortable, livable and economical.

Details That Helped Sales

Quick sale made "Because wife liked kitchen" in Montclair home—striking all-electric kitchen in small modern Texas home—attic fan helps cool Alabama home—compact basic plan for Orchard Park (N.J.) home—living room of Long Island home enhanced by "hidden door" for book shelves—construction details contributing to successful building of 950 homes by Lang Brothers, Cincinnati.

Special Features

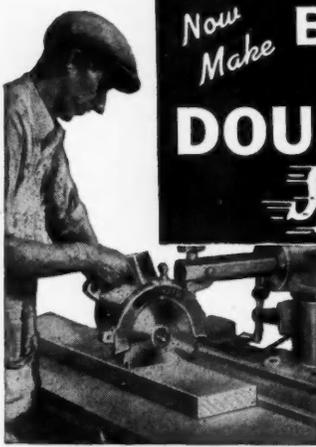
Convenient chart for quickly figuring F.H.A. payments—picture windows that have sales appeal—photos and details of delightful equipment for home grounds—attractive effects in concrete work—"Today all can be home owners" . . . "Brides Home" advertising that brought out crowds.

This Page Can Only Suggest the Full Value of Our New 1940 Plan Book

Return the Above Coupon and Gain All the Advantages of

AMERICAN BUILDER plus free copy of RECOMMENDED HOMES

(See previous page)

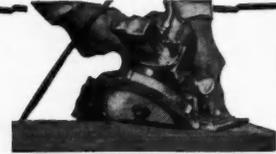


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1731-F No. Salina Street, Syracuse, N. Y.

LETTERS from Readers on All Subjects
Facts, opinions and advice welcomed here

George M. Gross Says: Worth Thousands
Jamaica, N.Y.

To the Editor:
The Long Island issue of the *American Builder* is the best job I have ever seen on the building business as we conduct it out our way. The issue is so full of facts and money-making ideas for every builder, it is almost a post-graduate course in the building business for a person to read the issue through entirely.
I wonder if the fellows who read it really know what that amount of information, contained in the Long Island issue of the *American Builder*, is worth to them in dollars and cents. Surely, no builder could go out and get that much information himself without spending thousands of dollars.
GROSS MORTON CORPORATION,
By George M. Gross, President.

Another April Issue Enthusiast
Amityville, L.I.

To the Editor:
I would like to take this opportunity to extend my congratulations on your marvelous work of the April 1940 issue of *American Builder*.
While it is a grand idea for Long Island homes, I am sure that builders and lumber dealers everywhere will benefit by using your latest issue. We have two builders who have been customers for a number of years and feel that your last issue is indispensable. They have asked us to secure a copy for their own files. Considering our

STOP! SAVE!
drafts and leaks on fuel bills
CAULK ALL JOINTS WITH PECORA

WHETHER you build—or modernize—or repair—don't leave the job unfinished. Caulk all joints with Pecora, the time-tested material that is so dependable. More important buildings are caulked with Pecora than with any other compound. But the "little owner" too, is interested in saving money and avoiding leaks and drafts. He will welcome the weather protection you can give him with Pecora. Order a Pecora Gun and keep it handy for small jobs.



Write for illustrated folder

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The 1939 BOOK GUIDE
of *American Builder* and *Building Age*

This 64-page Book Guide has been brought up to date and describes all the books and booklets on house and other small construction work published or revised within the past ten years. It is indexed for ready reference and a Table of Contents furnishes a guide to general subjects.

Some of these are as follows: Air Conditioning, Appraising, Architectural Drafting, Blueprint Reading, Bookkeeping, Brickwork, Cabinet Making, Carpentry, Churches, Concrete Engineering, Construction Methods, Contracts, Decorating, Electric Wiring, Estimating, Excavating, Farm Buildings, Fine Homes, Furniture, Garages, Gardening, Heating, Hollow Tile, House Planning, Job Management, Low Cost Homes, Masonry, Mechanical Equipment, Multiple Dwellings, Painting, Plumbing, Roof Framing, Sheet Metal Work, Specifications, Stairbuilding, Steel Square, Summer Homes.

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AMERICAN BUILDER AND BUILDING AGE
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past relationship, would it be too much trouble to mail A. S. Pettit & Sons, Huntington Station, L.I., two extra copies?
 NASSAU SUFFOLK LUMBER & SUPPLY CORP.,
 By Walter R. Pettit, Jr.,
 A. S. Pettit & Sons Branch

No American Builder Plan Service

East Orange, N.J.

To the Editor:

This committee is conducting a survey of the small house field in this country with the object of determining methods by which improved architectural service may be made available therein.

It has come to our attention that you are operating a small home plan service for the benefit of your readers. We should be most grateful if you can help us to the extent of furnishing us with certain information concerning your activities in this respect.

Can you give us a brief description of the service you offer, stating:

- (a) Whether small scale sketch plans or complete working drawings and specifications are offered, and for what price?
- (b) Where designs are obtained and the designer's or architect's compensation?
- (c) How many sets of plans were sold last year?
- (d) How many houses do you estimate were built from these plans?

Your co-operation in this matter will be greatly appreciated.

THE AMERICAN INSTITUTE OF ARCHITECTS,
 By Kenneth W. Dalzell, Chairman,
 Committee on Single Detached Unit Housing.

ANSWER:

Answering your query, with reference to the *American Builder*, it is evident that you have been entirely misinformed. The *American Builder* does not conduct a plan service in any shape or form and is in no way connected with any organization that does. We illustrate monthly in our magazine a number of small home designs of merit selected from the work of competent home designers

(Continued to page 108)



In last summer's heat
 Jack just couldn't eat
 He was always as cross as a bear.
 This summer is hot
 But Jack's house is not
 Since shingled by Robert McNair.

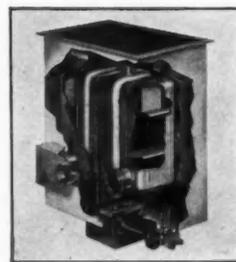
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**HEATING SATISFACTION
 INTO YOUR HOMES!**

... And build your reputation, too—by assuring permanent heating satisfaction for every client... specify *double-proven* Payneheat. AGA approval for *efficiency of design*... plus relentless *performance* tests, in one of the Country's outstanding "Proving Grounds"—the Payne Testing Laboratory! ☆ Backed by over a quarter-century of engineering and research, the Payne Floor Furnace, for instance, offers an ideal economical source of dependable heat. Fully vented for safety, comfort, economy. Requires no basement. Scores of exclusive features, including most efficient baffling yet devised for uniform heat distribution. ☆ There's a Payne Gas Fired Unit for every heating need. Send for complete information and name of nearest dealer.



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"Plug-in" Strip means added convenience and greater saleability. Write to National today for full details.

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A sure way to get maximum fireplace efficiency—and simplify construction! Majestic dampers insure smoke-free operation, control draft, and close extra tight (ideal for air-conditioned homes)! Poker control is standard; face or end control, slightly extra. Built-on lintels save time, materials and labor. Heat, smoke, soot and rust will not impair their

efficient, easy operation. Write for catalog on Majestic Dampers and other building items.

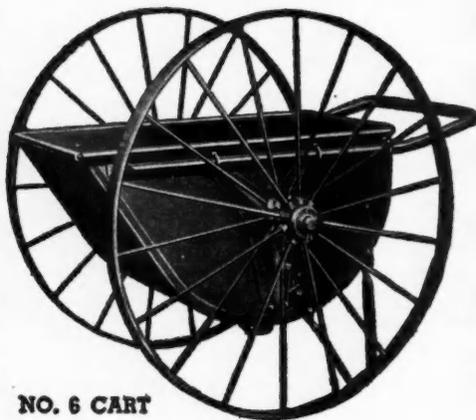
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STERLING WHEELBARROW CO.
MILWAUKEE, WISCONSIN

LETTERS—

(Continued from page 107)

in various sections of the United States. We illustrate these for their suggestive value to other architects and builders. We credit these designs to their creators, and any correspondence from readers inquiring about actual service is forwarded immediately and exclusively to these men who have given us the privilege of illustrating their work. I presume that in some cases a sale of architectural service results.

The *American Builder* is enjoying very fine co-operation from the architects doing house designs, and I believe that this has been a substantial feature in the growth of *American Builder* circulation among architects and draftsmen.

Since the great majority of our subscribers are themselves functioning as architects in the service of their local communities, we have long felt that we did not care to be in competition with them by selling stock plans. They are competent to prepare their own, and we find that an interchange of suggestions and ideas is appreciated by them. Experience in this field shows that almost invariably stock plans have to be modified and changed in certain particulars to fit them to local topography and the individual client's needs. These changes are best handled by local planning talent.—

EDITOR.

Always Glad to Publish Worth While News

Minneapolis, Minn.

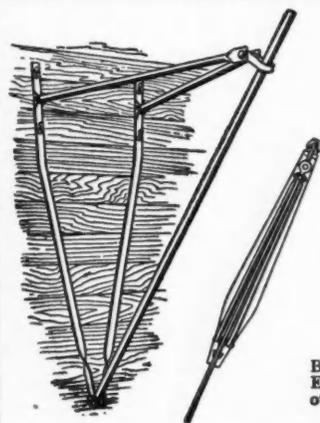
To the Editor:

This is just by way of saying "Thanks" for the excellent write-up you gave the Bayport Housing Project in the May issue of *American Builder*.

Without a doubt, this is the best write-up received from the standpoint of being complete and accurately handled.

We are glad that you saw in it such news worthiness and hope that we will be able to repay the favor.

CAMPBELL-MITHUN,
By B. E. Howard.



CUT COST OF SCAFFOLDING IN HALF

RELIABLE Steel Scaffold Brackets can be used on wood or stucco with perfect safety. Remember: A safe workman is a good workman.

BRACKET FOLDS compactly. Easy to remove and erect on another job. Far less bulky to handle.

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RELIABLE
SCAFFOLDING BRACKETS

Dealer Information Worthy of Study

Wichita, Kans.

To the Editor:

Please send us four more copies of the May 1940 number of your *American Builder*, as we particularly wish to pass on to some of our managers the article on page 134 about McDowell yards, of Chester, Pa., lining up the eighteen low cost houses and financing them.

BIG JO LUMBER COMPANY,
By H. N. Roberts, Vice-Pres. and Secy.

Helps Develop "Young" Builders

Cornwall, Ont., Can.

To the Editor:

We have been using back numbers of *American Builder* in our architectural drafting class in Cornwall's new Vocational School, and find them very helpful, especially those numbers of a few years back where "The House of the Month" working drawings are given full page size and in such minute detail. Your more recent issues are fine, too, in other ways, but I hope you may give us an occasional "Old Timer" this coming year.

I enclose my first subscription, though I have been buying occasional copies at the newsstands for some time.

ELIZABETH MACKAY, Student.

A Boost for "Recommended Homes"

Rensselaer, N.Y.

To the Editor:

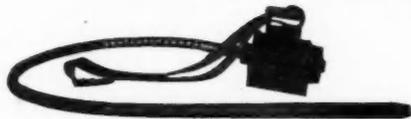
The copy of your very excellent book of "Recommended Homes" was received a few days ago, for which I thank you. The range of size style is quite impressive, and should certainly provide an unusually good basis from which to build a home.

JOHN S. RUGGLES, Engineer.

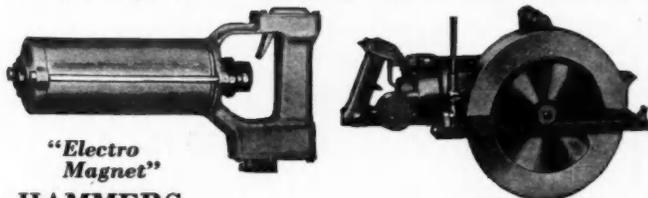
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Second: As labor savers that will pay for themselves on the first fair sized job.

Write for new booklet illustrating many ways
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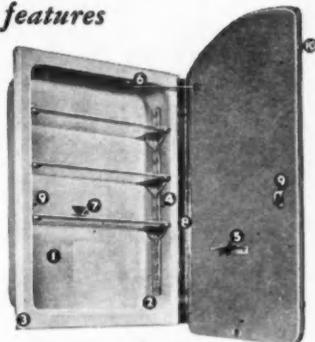
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- 10 "Jiffy" ratchet mirror clips



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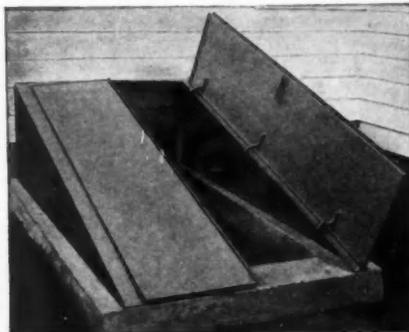
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Don't Build Homes With DEAD END CELLARS



Sell Safety,
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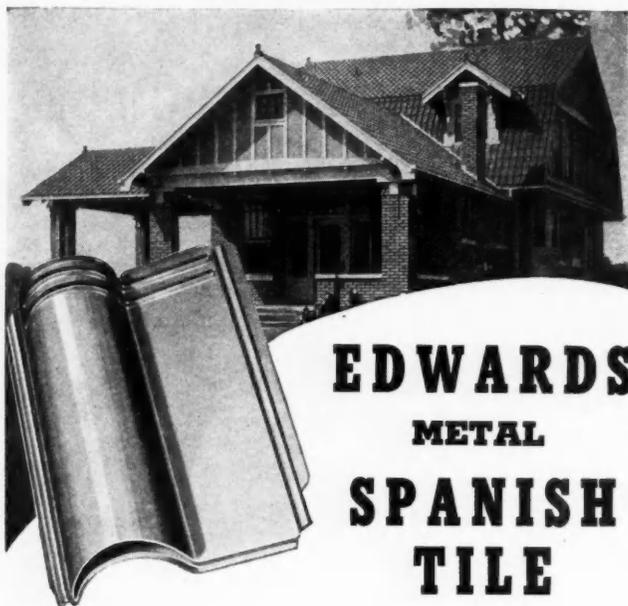
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**"TruCost" Estimating Figures
for Home Designs in this Issue**



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 46, June; World's Fair House

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 110 lin. ft.; Trench Walls, 14 lin. ft.; Basement Floor, 700 sq. ft.; Excavation per ft. deep, 30 cu. yds.; Outside Walls, 13.75 sqs.; First Floor, 7.00 sqs.; Ceiling, 7.00 sqs.; Roof Pitch, 7" rise per ft. run; Roof, 8.75 sqs.; Cornice, C & F, 132 lin. ft.; Partitions, 110 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 Opgs., 11 opls.; Windows and Casements, 14 opls.; Gable Sash and Louvers, 2 opls.; Chimney, 26 lin. ft.; Porch Floor, .20 sqs.

Page 47, June; World's Fair House

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 106 lin. ft.; Trench Walls, 44 lin. ft.; Basement Floor, 700 sq. ft.; Excavation per ft. deep, 30 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, 9" rise per ft. run; Roof, 10.50 sqs.; Hips and Valleys, 38 lin. ft.; Cornice, C & F, 110 lin. ft.; Partitions, 122 lin. ft.; Inside Finish OS Walls, 135 lin. ft.; Front and OS French Doors, 1 opg.; Rear and Grade Doors, 1 opg.; Inside Doors and Cased Opls., 12 opls.; Windows and Casements, 20 opls.; Chimney, 28 lin. ft.; Main Stairs, 1; Porch Floor, .32 sqs.; Porch and Balcony Post and Newels, 1; Deck Rail, 16 lin. ft.

**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.

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Practical Accounting and Cost
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This practical book describes the easiest and best methods of keeping all kinds of contractor's records, time keeping, cost keeping, bookkeeping, Social Security records, estimating forms, etc. It illustrates and explains book-keeping systems for the smallest builder or the largest general contractor. It shows how to keep costs on the job and in the office, how to prepare intelligent estimates, and how to draw up contracts and sub-contracts.

170 pages, 300 illustrations, 8 1/2 x 11 1/2 inches, cloth, \$2.50.

Hogg's Wage Tables for
Building Contractors

This handbook prevents mistakes and saves time when figuring pay rolls. There is a complete set of wage tables worked out by quarter hours for any length of time from 1 to 60 3/4 hours, and every wage rate from 30 cents, increasing by 2 1/2 cents per hour, to \$2.25 per hour. It also includes all odd rates, such as \$.68 3/4. You simply refer to the table showing the rate per hour and then follow down to the nearest quarter hour.

190 pages, 4 1/2 x 6 1/2 inches, thumb-indexed, flexible, \$2.50.

BOOK SERVICE DEPARTMENT

AMERICAN BUILDER and BUILDING AGE

30 Church Street New York, N. Y.

Page 51, June: Lind & Luckman, Archts.

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 152 lin. ft.; Basement Floor, 675 sq. ft.; Excavation per ft. deep, 50 cu. yds.; Outside Walls, 16.25 sqs.; First Floor, 5.70 sqs.; Second Floor, with fin. flg., 5.70 sqs.; Ceiling, 11.40 sqs.; Roof Pitch, 5" rise per ft. run; Roof 6.50 sqs.; Cornice, C & F, 100 lin. ft.; Partitions, 148 lin. ft.; Inside Finish OS Walls, 200 lin. ft.; Front and OS French Doors, 2 opps.; Rear and Grade Doors, 1 opg.; Inside Doors and Cased Opps., 14 opps.; Windows and Casements, 21 opps.; Chimney, 34 lin. ft.; Main Stairs, 1; Porch Floor over Laundry and Storage, 1.60 sqs.

Page 54, June: Preu. Bldr.

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Trench Walls, 150 lin. ft.; Outside Walls, 15.00 sqs.; First Floor, 7.00 sqs.; Ceiling, 7.00 sqs.; Roof Pitch, 4" per ft. run; Roof, 8.75 sqs.; Cornice, C & F, 100 lin. ft.; Partitions, 110 lin. ft.; Inside Finish OS Walls, 122 lin. ft.; Front and OS French Doors, 1 opg.; Rear and Grade Doors, 1 opg.; Inside Doors and Cased Opps., 10 opps.; Windows and Casements, 10 opps.; Gable Sash and Louvers, 2 opps.; Porch Floor, .75 sqs.; Porch Ceilings, incl. Porte Cochere, 2.50 sqs.; Porch Beam, 54 lin. ft.; Porch and Balcony Post and Newels, 4; Porch Roof, incl. Porte Cochere, 3.00 sqs.; Porch Cornice, 50 lin. ft.; Porch and Deck Rail, 22 lin. ft.

Page 57, June: West, Archt.

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 140 lin. ft.; Trench Walls, 100 lin. ft.; Basement Floor, 1100 sq. ft.; Garage Floor, 400 sq. ft.; Excavation per ft. deep, 48 cu. yards; Outside Walls, 20.00 sqs.; First Floor, 11.00 sqs.; Second Floor, without fin. flg., 10.00 sqs.; Ceiling, 11.00 sqs.; Roof Pitch, 8" rise per ft. run; Roof, 19.50 sqs.; Hips and Valleys, 20 lin. ft.; Cornice, C & F, 260 lin. ft.; Partitions, 150 lin. ft.; Inside Finish OS Walls, 140 lin. ft.; Front and OS French Doors, 2 opps.; Rear and Grade Doors, 2 opps.; Garage Door 8 ft. wide, 2; Inside Doors and Cased Opps., 12 opps.; Windows and Casements, 23 opps.; Gable Sash and (Continued to page 112)



DOES NOT WARP or SWELL
LONG SERVICE LIFE

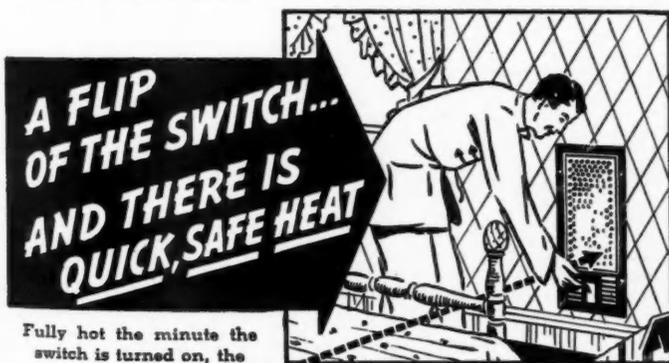
INSULATED VENTILATED DONLEY PACKAGE RECEIVER

• Deliveries of milk, food, etc., are safe in homes equipped with this prefabricated Donley Package Receiver. Automatic lock—insulated outer door and louvered inside door protect all deliveries from summer heat and winter cold. Outside door can be recessed into building for maximum weather protection. Two strong refrigerator type door catches of nickel plated brass. Automatic lock of rust-proofed steel and hinges that extend the full height of doors give greater durability. (Can be furnished without automatic lock.)



This inexpensive convenience item increases scalability of new homes. Free book—"Donley Devices," gives information about this and many other home conveniences and specialties. Write for your copy!

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ELECTRIC "QUIKHETER"

is the ideal auxiliary unit for bathrooms, bedrooms, and children's playrooms. It provides comfort on chilly days—and adds its warmth to that of the main heating plant on exceptionally cold days.

The cold air, drawn in at the floor level, is quickly heated and forced out at the top—and immediately begins to circulate through the whole room. Its cheerful warmth is welcomed by the whole family.

In New Construction and in Modernization

the built-in **QUIKHETER** should be included in the plans. Installed during the summer months, it will be ready to go into service when needed.

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Its ONE application gives smoother, harder, more attractive floors. Thousands of contractors are finding the LIGNOPHOL method of preserving and finishing floors (and trim) at 50% or more savings, the modern way to more profits and greater job satisfaction.

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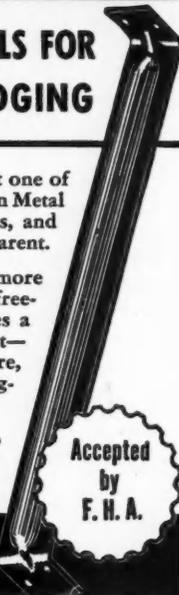
MODERN CONSTRUCTION CALLS FOR UNION METAL STEEL BRIDGING

• This modern Cleveland, Ohio, home is but one of many being built this year which features Union Metal Steel Bridging throughout. Examine the facts, and the reasons for its growing popularity are apparent.

Tests have proved Union Metal bridging more effective than 1" x 3" wood bridging, and its freedom from warpage and shrinkage eliminates a major cause of squeaky floors. Installed cost—and here's the surprising feature—is no more, sometimes less, than wood because steel bridging can be applied in 1/2 to 2/3 the time.

Union Metal bridging is available in lengths to fit all regular joist sizes and spacings. Write for free sample, descriptive folder and prices.

THE UNION METAL MANUFACTURING COMPANY • CANTON, OHIO



Water Repellency

Long before WOODLIFE became a standard of excellence in the treating of millwork and rough lumber, other water repellent solutions manufactured by this company were successfully used to preserve fabrics, leather, wood, cement, and brick. As early as 1921 our research laboratory developed effective water repellents which have been widely used in treating automobile tops, tents, and leather goods.

The result of this pioneering was a solution that came into use for treating wood parts in automobile and truck bodies in 1927—the fore-runner of WOODLIFE. With the present WOODLIFE treatment, protection of sash and frames in 1931 ushered in a new era for all millwork and lumber products. This is the time-proven background of WOODLIFE—the first Complete Treatment for wood.



Protection Products Mfg. Co.

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

TruCost Figures

(Continued from page 111)

Louvers, 3 oppgs.; Chimneys, 64 lin. ft.; Main Stairs, 1; Porch Floor, 1.20 sqs.; Porch Ceilings, 1.00 sqs.; Porch Beam, 20 lin. ft.; Porch and Balcony Post and Newels, 8; Porch Roof, 1.75 sqs.; Porch Cornice, 20 lin. ft.

Page 59, June: Spaulding, Archt.

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Trench Walls, 260 lin. ft.; Garage Floor, 342 sq. ft.; Outside Walls, 26.00 sqs.; First Floor, 19.00 sqs.; Ceiling, 19.00 sqs.; Roof Pitch, 6" rise per ft. run; Roof, 28.00 sqs.; Hips and Valleys, 160 lin. ft.; Cornice, C & F, 300 lin. ft.; Cornice, 12", 300 lin. ft.; Partitions, 175 lin. ft.; Inside Finish OS Walls, 260 lin. ft.; Front and OS French Doors, 2 oppgs.; Rear and Grade Doors, 2 oppgs.; Garage Door 8 ft. wide, 2; Inside Doors and Cased Oppgs., 19 oppgs.; Windows and Casements, 33 oppgs.; Chimney, 24 lin. ft.; Porch Floor, .20 sqs.; Porch Ceilings, .20 sqs.; Porch Beam, 6 lin. ft.

Page 61, June: Loye, Archt.

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 106 lin. ft.; Trench Walls, 92 lin. ft.; Basement Floor, 675 sq. ft.; Excavation per ft. deep, 30 cu. yds.; Outside Walls, 20.00 sqs.; First Floor, 10.00 sqs.; Second Floor, with fin. flg., 5.00 sqs.; Ceiling, 15.00 sqs.; Roof Pitch, 24", 16" & 8" rise per ft. run; Roof, 19.00 sqs.; Cornice, C & F, 240 lin. ft.; Partitions, 160 lin. ft.; Inside Finish OS Walls, 200 lin. ft.; Front and OS French Doors, 2 oppgs.; Rear and Grade Doors, 1 oppg.; Inside Doors and Cased Oppgs., 18 oppgs.; Windows and Casements, 22 oppgs.; Gable Sash and Louvers, 1 oppg.; Chimney, 32 lin. ft.; Main Stairs, 1; Porch Floor, .25 sqs.

Page 62, June: Bellamy, Archt.

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls 114 lin. ft.; Trench Walls, 60 lin. ft.; Basement Floor, 800 sq. ft.; Garage Floor, 400 sq. ft.; Excavation per ft. deep, 40 cu. yds.; Outside Walls, 32.00 sqs.; First

What old New England sea captains could tell modern home-builders about

KEEPING BEAUTIFUL WOOD BEAUTIFUL



Back in the days when Americans toted a gun for Indian protection every time they ventured outdoors—they already knew the secret of having beautiful woods indoors. For even then New England captains brought shellac from India, to give pine panelling and floors that hand-finished effect we now admire.

Beauty-loving colonists dissolved the shellac in pure alcohol, applied it in thin coats after the woods had been sanded smooth, and then brought it to a polish with a coating of wax from their own bee-hives.

A Lasting Beauty Treatment

Today, except for the use of paste wax, the beauty treatment for good wood is identical in process, and even more effective in results. Shellac is the

toughest, most enduring finish that can possibly be used—it doesn't crack under hammer blows, doesn't break down in bowling alleys, comes out gleaming and fresh after a busy night in a ballroom!

Specify a Pure Shellac

On your next building, make sure those good floors stay that way through every season for years to come—beautify them and then protect that beauty, by specifying a good pure shellac. Write 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

Floor, 11.75 sqs.; Second Floor, with fin. fig., 11.00 sqs.; Ceiling, 22.75 sqs.; Roof Pitch, 10" rise per ft. run; Roof, 16.00 sqs.; Hips and Valleys, 48 lin. ft.; Cornice, C & F, 244 lin. ft.; Cornice, 4", 52 lin. ft.; Partitions, 425 lin. ft.; Inside Finish OS Walls, 228 lin. ft.; Front and OS French Doors, 2 opps.; Rear and Grade Doors, 1 opg.; Garage Door 8 ft. wide, 2; Inside Doors and Cased Opps., 24 opps.; Windows and Casements, 32 opps.; Gable Sash and Louvers, 2 opps.; Chimney, 36 lin. ft.; Main Stairs, 1; Porch Floor, 2.00 sqs.; Porch Ceilings, 2.00 sqs.; Porch Beam, 56 lin. ft.; Porch and Balcony Post and Newels, 11; Porch Roof, 1.00 sq.; Porch Cornice, 38 lin. ft.; Porch and Deck Rail, 28 lin. ft.

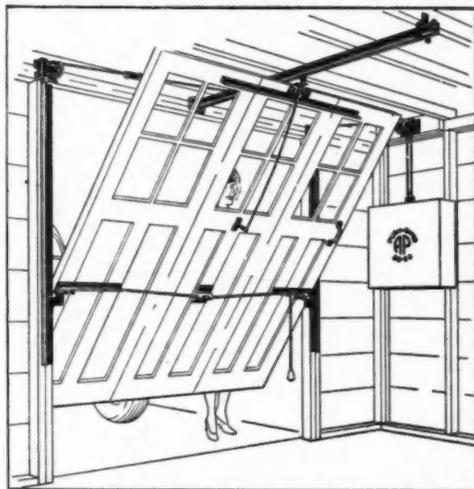
Page 63, June; Smith, Carroll & Johanson, Archts.

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Trench Walls, 230 lin. ft.; Utility Rm. Floor, 180 sq. ft.; Garage Floor, 210 sq. ft.; Outside Walls, 20.00 sqs.; First Floor, 9.20 sqs.; Ceiling, 9.20 sqs.; Roof Pitch, 8" rise per ft. run; Roof, 15.50 sqs.; Hips and Valleys, 40 lin. ft.; Cornice, C & F, 205 lin. ft.; Partitions, 110 lin. ft.; Inside Finish OS Walls, 134 lin. ft.; Front and OS French Doors, 1 opg.; Rear and Grade Doors, 2 opps.; Garage Door 8 ft. wide, 1; Inside Doors and Cased Opps., 14 opps.; Windows and Casements, 18 opps.; Gable Sash and Louvers, 2 opps.; Chimney, 22 lin. ft.; Porch Floor, 1.25 sqs.; Porch Ceilings, 1.25 sqs.; Porch Beam, 36 lin. ft.; Porch and Balcony Post and Newels, 5; Porch Roof, 1.75 sqs.; Porch Cornice, 36 lin. ft.; Porch and Deck Rail, 16 lin. ft.

Page 64, June; Richmond Housing Corp.

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Trench Walls, 118 lin. ft.; Outside Walls, 15.00 sqs.; First Floor, 8.00 sqs.; Ceiling, 8.00 sqs.; Roof Pitch, 10" rise per ft. run; Roof, 10.00 sqs.; Hips and Valleys, 50 lin. ft.; Cornice, C & F, 136 lin. ft.; Cornice, 4", 60 lin. ft.; Partitions, 112 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., 10 opps.; Windows and Casements, 9 opps.; Gable Sash and Louvers, 2 opps.; Chimney, 26 lin. ft.; Porch Floor, 1.00 sqs.; Porch Ceilings, 1.00 sqs.; Porch Beam, 36 lin. ft.; Post and Newels, 3; Porch Roof, 1.75 sqs.; Porch Cornice, 44 lin. ft.

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Garage doors are important—they must be opened and closed in all kinds of weather—children, frail women and careless hired help all will use the garage doors. The Push-Over Stock Set is the answer. It will fit all openings up to 8'11" wide by 8' high. Sets for wider opening have two top tracks, only 5 1/2" headroom needed.

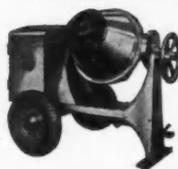
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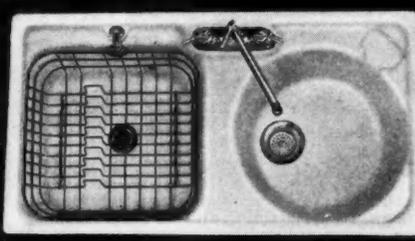
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401 WEST TOWN STREET COLUMBUS, OHIO

TruCost Figures

(Continued from page 113)

Page 66, June; Wilson & Morris, Archts.

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Trench Walls, 300 lin. ft.; Garage Floor, 430 sq. ft.; Excavation per ft. deep, 35 cu. yds.; Outside Walls, 22.00 sqs.; First Floor, 10.00 sqs.; Ceiling, 10.00 sqs.; Roof Pitch, 6" rise per ft. run; Roof, 20.00 sqs.; Cornice, C & F, 200 lin. ft.; Partitions, 140 lin. ft.; Inside Finish OS Walls, 160 lin. ft.; Front and OS French Doors, 4 opps.; Rear and Grade Doors, 3 opps.; Garage Door 8 ft. wide, 2; Inside Doors and Cased Opps., 12 opps.; Windows and Casements, 13 opps.; Gable Sash and Louvers, 2 opps.; Chimney, 22 lin. ft.; Porch Floor, 3.00 sqs.; Porch Ceilings, 1.90 sqs.; Porch Beam, 18 lin. ft.; Porch and Balcony Post and Newels, 3; Porch Roof, 2.00 sqs.; Porch Cornice, 18 lin. ft.

Page 69, June; Ahlers, Archt.

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 170 lin. ft.; Trench Walls, 160 lin. ft.; Basement Floor, 1450 sq. ft.; Garage Floor, 480 sq. ft.; Excavation per ft. deep, 62 cu. yds.; Outside Walls, 32.00 sqs.; First Floor, 15.00 sqs.; Second Floor, with fin. flg., 15.00 sqs.; Ceiling, 30.00 sqs.; Roof Pitch, 12" rise per ft. run; Roof, 22.50 sqs.; Hips and Valleys, 230 lin. ft.; Cornice, C & F, 260 lin. ft.; Partitions, 420 lin. ft.; Inside Finish OS Walls, 340 lin. ft.; Front and OS French Doors, 4 opps.; Rear and Grade Doors, 2 opps.; Garage Door 8 ft. wide, 2; Inside Doors and Cased Opps., 32 opps.; Windows and Casements, 40 opps.; Chimneys, 70 lin. ft.; Main Stairs, 2; Porch Floors, 2.25 sqs.; Porch Ceilings, 1.90 sqs.; Porch Beam, 40 lin. ft.; Porch and Balcony Post and Newels, 6; Porch Roofs, including Garage Roofs, 8.50 sqs.; Porch Cornice, 40 lin. ft.

Page 98, June; Front Cover House

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 115 lin. ft.; Trench Walls, 80 lin. ft.; Basement Floor, 726 sq. ft.; Garage Floor, 156 sq. ft.; Excavation per ft. deep, 27 cu. yds.; Outside Walls, 23.00 sqs.; First

TWO LINES OF MODERN SWITCHES



These switches are designed for long life and dependable service. One line is composed of G-E Standard Switches insulated with Textolite and with blades anchored in Textolite blade carriers. The other line is composed of silent G-E Mercury Sphinx Switches having cushioned action with little to wear out. Single-pole, double-pole, 3-way and 4-way types are available in both lines with either brown or ivory handles.

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Hardware to Get Life-Time Warranty

EFFECTIVE with July shipments, the National Brass Company, Grand Rapids, Mich., will inaugurate a Life-Time Warranty Policy applying to Dexter-Tubular locks and latches.

A Warranty will be mounted upon the face of every Dexter-Tubular box. This certificate unconditionally guarantees satisfactory service of each Dexter-Tubular lock and latch for the entire life of the building in which it is installed. Should failure occur for any reason whatsoever, except abuse, it will be repaired or replaced without charge.

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All stock now on dealer's shelves is automatically covered by this Warranty Policy. Dealers desiring Certificates for their stock may procure them by writing the manufacturer.

Stoker Sales Set Record

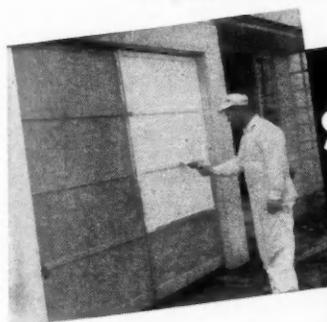
NEW all-time high sales records are being established in 1940 by the stoker industry; to date this year, the stoker industry's unit sales are 16 per cent ahead of 1939, and 33 per cent ahead of 1938.

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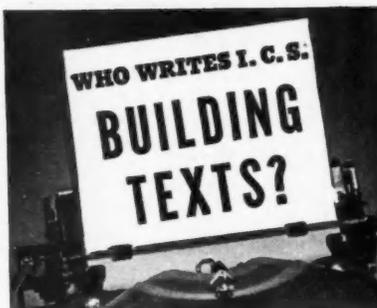
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U.S. JOBBING CENTER

- Equipped with free-spinning cylinder lock at no extra cost!
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Every Shop Can Afford It!

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Good Woodworking Machines Since 1887

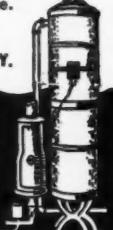
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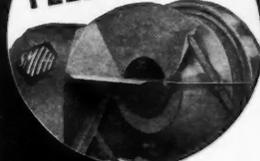
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SMITH TILTER

—the ONLY small tilter equipped with a feed chute, 31" wide and only WAIST HIGH, it provides a big roomy target for the shovel man.

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MORE FOR YOUR MONEY — Convenient loading — "End-to-Center" mixing action — faster "Tilt and Pour" discharge. You get them ALL with a Smith 3 1/2-S, yet you pay very little more. Write for literature.

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THE BOULDER DAM MIXERS

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Readers Wanting to Receive Any of the Catalogs and Data Sheets Listed in This Department Should Write on Their Business Stationery Direct to the Manufacturer. When Writing, Mention This Department of American Builder and State Your Occupation or Business Connection.

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"VENETIAN BLIND MANUAL"—24 pages of specifications, standards and design data are presented very attractively in a new publication of interest to architects, builders and dealers. Installation and lighting data of value are included, and the Chicago line of wood slat blinds, enamel metal slat blinds and aluminum slat blinds is presented.—CHICAGO VENETIAN BLIND CO., Michigan at 39th Street, Chicago.

"ROCKFORD" LINE OF CABINET HARDWARE—A big, bright broadside and wall hanger illustrates full size the chrome and color "Rockford" line of the National Lock Company. This poster shows the demonstrator display boards which progressive lumber dealers are featuring on their counters and in their display rooms. Illustrations, being in full size and exact colors, give reliable guidance to architects and builders.—NATIONAL LOCK CO., Rockford, Ill.

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from the point of view of the home owner, and makes clear the leading features of casement window hardware and casement operators. "How to Modernize Your Home with Casement Windows" is a companion piece, 14 pages illustrated, giving new information on the use of casement windows for remodeling and modernizing.—THE CASEMENT HARDWARE CO., 406 N. Wood St., Chicago.

RUBBER FLOORING DATA—A series of illustrated data sheets shows specifications and examples of use of Wrightex rubber floors and the Wrightflor—two products for floors in homes and commercial buildings by—WRIGHT RUBBER PRODUCTS CO., Racine, Wis.

"HOW TO MAKE GOOD WATERPROOFED CONCRETE"—An impressive brochure of 32 pages and covers, strikingly illustrated with photographs and construction details, and giving complete information on the waterproofing of concrete stucco, concrete brick and tile, and mortar.—MEDUSA PORTLAND CEMENT CO., 1002 Midland Bldg., Cleveland, O.

FOLDING SAW-HORSE BRACKETS—An illustrated folder presents the Bassick M-800 folding saw-horse bracket, and shows how it is used in connection with stock 2 x 4's to make a strong, convenient saw-horse.—THE BASSICK CO., Bridgeport, Conn.

"ARE YOU LOSING ANY TOOLS?"—An interesting little circular on Everhot branding irons asks this question and shows how to brand all tools to prevent loss.—EVERHOT MANUFACTURING CO., Maywood, Ill.

VICTOR IN-BILT VENTILATORS—The new Victor catalog is an 8-page booklet in silver and black. Dealers and builders are finding it useful in selling the Victor line, including the De luxe, Standard, and Master Models of the Victor In-Bilt ventilators and the new Victor Panelaire.—VICTOR ELECTRIC PRODUCTS, Inc., 2950 Robertson Road, Cincinnati, Ohio.

(Continued to page 118)

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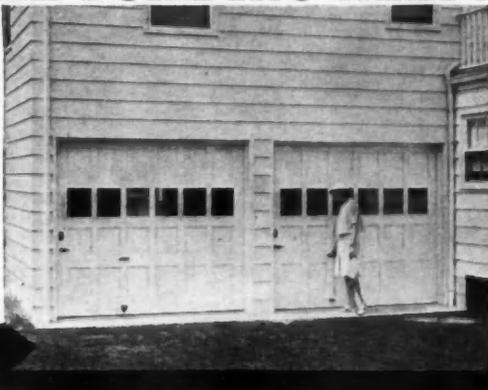
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CATALOGS—

(Continued from page 117)

MODERNCO PRODUCTS—"Modern materials for modern homes" is the theme of a new illustrated circular from E. H. Batchelder, Jr., announcing his line of Modernbric, the improved insulating brick siding, and other items of roofing and insulation which make up his line.—**MODERN BUILDING MATERIALS CO.**, 111 W. Washington St., Chicago.

WRICOPRINT—A 4-page circular describes a new lettering outfit which allows builders with little or no lettering experience to do perfect uniform lettering. Six styles are included.—**WARREN-KNIGHT CO.**, 136 N. 12th St., Philadelphia, Pa.

SHADE CONTROL FOR PAPERHANGERS—Bulletin No. SC-1 tells about Shade Control, and tells how it gives better paperhanging results. The Statter Mills' wallpaper carries the new Shade Control recording on the back of each sheet as a positive guide to shade matching, eliminating lost time in shading wallpaper.—**STATTER WALL PAPER MILLS**, Crystal Lake, Ill.

FRANK ADAM ELECTRIC CATALOGS—Catalog No. 56 is a 98-page general catalog on switch and fuse panel boards, including stage switchboards and other electric specialties. Supplemental bulletins, Nos. 57 and 58, cover "Dublbrak" circuit breaker panelboards and cabinets, and moderate priced AC circuit breaker panelboards and cabinets.—**FRANK ADAM ELECTRIC CO.**, St. Louis, Mo.

ARCOFLAME OIL HEATING UNITS—"It's the Heating Unit Behind the Thermostat That Counts," an intriguing title for a new 6-page folder in full colors, emphasizing the four exclusive features of the Arco flame oil heating units and conversion burners.—**AMERICAN RADIATOR & STANDARD SANITARY CORP.**, Pittsburgh, Pa.

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"HOW TO CUT COSTS AND INCREASE PROFITS"—A 24-page manual of Speedmatic saws includes a quantity of time and money-saving ideas, and of estimating data for the use of carpenters, builders, contractors and dealers. This material has been compiled by a well known authority. How to handle various classes of work is clearly shown.—PORTER-CABLE MACHINE CO., Syracuse, N.Y.

SAW MILL MACHINERY—"Condensed Catalogue No. 40," 16 pages illustrated, shows five sizes of portable saw mill machines, including the popular "Economy" saw mill. The new single-acting set works is an outstanding improvement in these saw mills.—AMERICAN SAW MILL MACHINERY CO., Hackettstown, N.J.

"WEISWAY CABINET SHOWERS FOR 1940"—A de luxe catalog of 24 pages gives full information, including working drawings, of the several new and standard types of Weisway cabinets, the modern shower bath. The smart new seashell pattern Receptor of vitreous porcelain is effectively illustrated. Both de luxe and economy equipment are included in this 1940 catalog.—HENRY WEIS MFG. CO., Inc., Elkhart, Ind.

CLEAR ARKANSAS PINE PANELING—"Which Pine for Paneled Walls?" is a very attractive 20-page portfolio of photographs and working details, illustrating the beauty of clear paneling in Arkansas pine rather than the more familiar knotty pine effects. Four "work sheets" show the standard patterns now available from Bureau members and carried in stock or easily available through retail lumbermen.—ARKANSAS SOFT PINE BUREAU, Little Rock, Ark.

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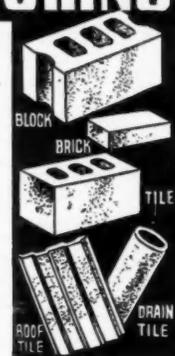
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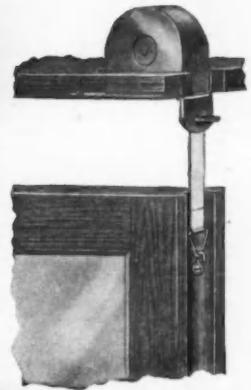
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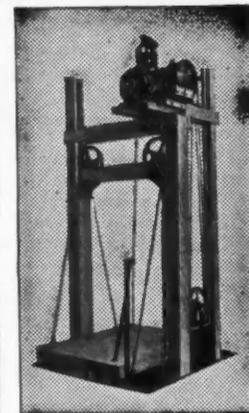


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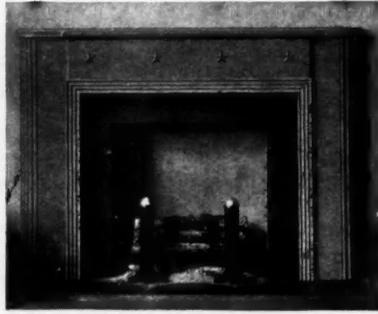
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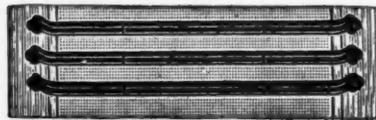


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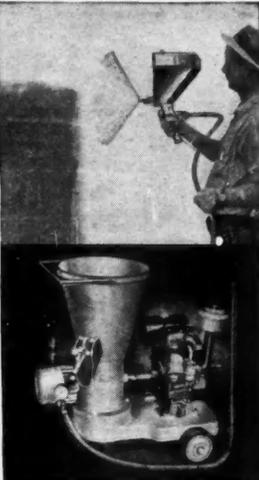
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