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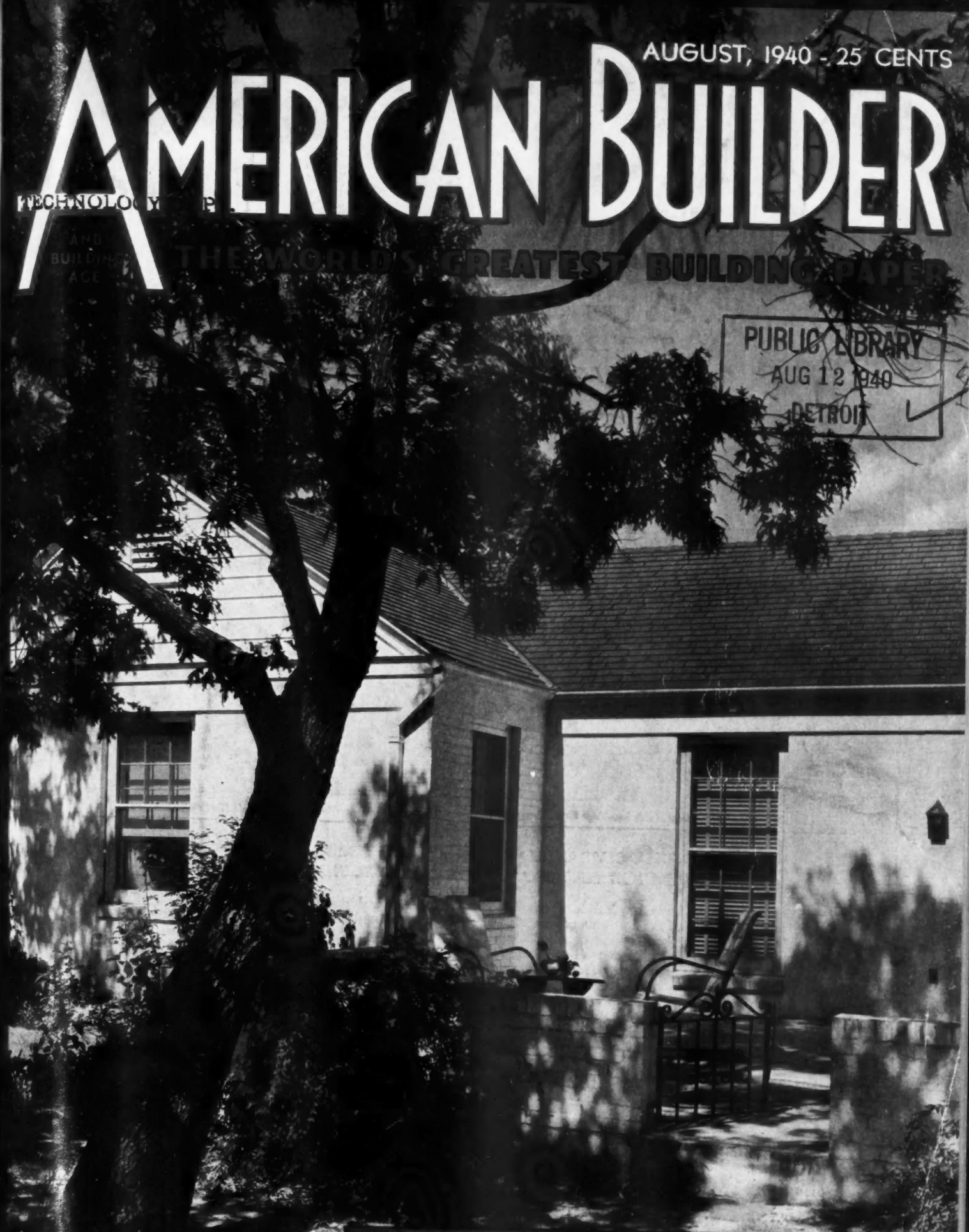
AMERICAN BUILDER

TECHNOLOGY

AND BUILDING
AGE

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Attractive Feature of Houston, Texas, Home, Frank C. This, Architect, Journal, Page 10, 1939

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AMERICAN BUILDER

and Building Age

CONTENTS FOR AUGUST, 1940

Publisher's Page—by Samuel O. Dunn.....	31
Editorial—Build NOW for Security.....	33
New FHA Modernization Drive to Start in August.....	36
Building Parkchester.....	38
How Starrett Bros. & Eken, Inc., Are Putting Men, Materials and Modern Equipment to Work in Creating World's Largest Residential Community for Metropolitan Life	
The Corner Drug Store of Tomorrow.....	43
How to Subdivide for Good, Small Homes.....	44
Garden Oaks of Houston, Texas, Points the Way to Better Low-Cost Houses on Perfect Sites Through Proper Planning	
30,000 Flock to "Model Living Home" in Wells Quarter Village.....	48
Two Chips Off the Old Blocks.....	50
Young Sons of Prominent Builders Make a Name for Themselves on Long Island; Build 50 Houses	
Three Distinctive Kansas City Homes.....	52
Economy Houses Planned for Narrow City Lots.....	55
One Good Plan, Three Salable Designs.....	56
Texas Motor Court Has Modern Appeal.....	58
Using the Steel Square to Lay Out Valley and Jack Rafters— by Gilbert Townsend.....	60
Practical Pointers for the Estimating of Prefinished Wall Paneling—by Mark Seibert.....	62
Shopcrafter's Corner—How to Build a Garden Pool for Water Plants and Goldfish.....	63
Service to Readers.....	64
News of the Month.....	72
Letters from Readers.....	76
TruCost Department.....	98
Advertisers' Index.....	105



62nd Year Vol. 62, No. 8

AMERICAN BUILDER and BUILDING AGE, with which are incorporated National Builder, Permanent Builder and the Builder's Journal, is published on the first day of each month by the

SIMMONS-BOARDMAN PUBLISHING CORPORATION, 105 WEST Adams Street, Chicago, Illinois.
New York Office: 30 Church Street

WASHINGTON, D. C.
National Press Building
SEATTLE, WASH.
1038 Henry Building
SAN FRANCISCO, CAL.
485 California Street
LOS ANGELES, CAL.
530 West Sixth Street

Samuel O. Dunn, *Chairman of Board*; Henry Lee, *President*; Bernard L. Johnson, Robert H. Morris and Delbert W. Smith, *Vice-Presidents*; J. S. Crane, *Eastern Manager*; Roy V. Wright, *Secretary*; Elmer T. Howson, *Assistant Secretary*; John T. De Mott, *Treasurer*.

Subscription price in the United States and Possessions and Canada, 1 year, \$2.00, 2 years, \$3.00; foreign countries, 1 year, \$4.00, 2 years, \$7.00. Single copies 25 cents each. Address H. E. McCandless, Circulation Manager, 30 Church Street, New York, N.Y.

Member of the Associated Business Papers (A. B. P.) and of the Audit Bureau of Circulations (A. B. C.) PRINTED IN U.S.A.

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Do you get lost in a Maze of figures?



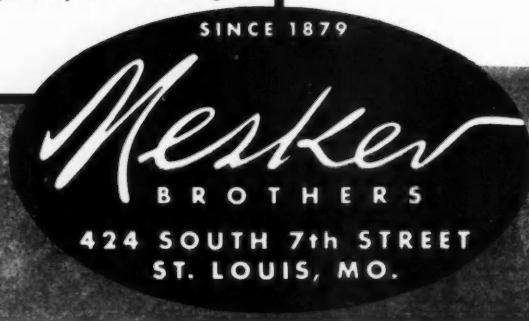
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PUBLISHER'S PAGE

Which Way America?

THE *American Builder* is not in any sense a *political* paper. It is in every sense a *business* paper, devoted to the advancement of the *building* business in particular, but also to the advancement of business in general—because the building business can't advance much more than business in general does. The past, present and prospective policies of the government affecting *business* raise the principal *political* issues of the present national campaign. *In spite* of the fact that they are now political, and because they relate to business, this paper intends to discuss them during the campaign as heretofore.

What, then, are the most vital problem and issue now confronting the American people? *The most vital problem is that of adopting the best means of largely increasing the national income—i.e., the total income of all the American people;* and the most vital issue is whether the government is more likely to help do this under Mr. Roosevelt or Mr. Wilkie. With the almost unanimous approval of the people, there is being adopted a program for national defense that seems likely soon to be costing as much as 10 billion dollars annually. How the nation can stand this will depend on its total income. The national income last year was 70 billion dollars. If it should not be increased, and we should spend 10 billion a year for defense, there would be left only 60 billion for the people to live on. But if the national income should be increased to 90 billion, there would be left 80 billion for the people to live on; while an increase to 100 billion would leave 90 billion for them to live on.

DO YOU say it is fantastic to talk of increasing the national income 20, or 30, or more billions annually? If so, you never knew or have forgotten certain important pertinent facts. The national income (according to a thorough study by the National Bureau of Economic Research) *actually was increased 10 billion*

dollars (from 60 to 70 billion) in the year 1923 alone; and it was increased from 60 to 83 billion a year—23 billion, or 40 per cent, annually in the seven years 1922 to 1929. A national income of 100 billion would be an increase of 30 billion, or 40 per cent, over that of 1939; but it would be an increase of only 17 billion, or 20 per cent, over that of 1929, eleven years ago.

In the single depression year 1921 our national income declined 14 billion dollars; but the very next year it began increasing, and it never stopped increasing until it had set new "highs" in 1925, 1926, 1928 and 1929. In the present depression it slumped again—but it has never since *in any year* equalled what it was *in every year* from 1924 to 1931, and in 1939 was still 13 billion less than in 1929.

WHY the great difference? In the first period the government let business recover naturally. In the second period the government has applied socialistic "planned economy" policies to business. The *increase* of 24 billion in annual national income that occurred in the decade ending with 1929, plus the *decrease* of 13 billion in 1939 compared with 1929, indicates that these planned economy (i.e., New Deal) policies are now costing the American people *30 billion dollars a year in income.*

We can, by substituting policies restoring confidence in business, cause an early increase of *at least 20 billion dollars* in national income—enough to enable the nation to bear the cost of adequate defense and raise its present standard of living. We can, also, by failing radically to change present government policies, prevent the needed increase of national income, and make the cost of defense a ruinous burden that will force lowering of the standard of living of all.

Which way America?

Samuel O. Dunn

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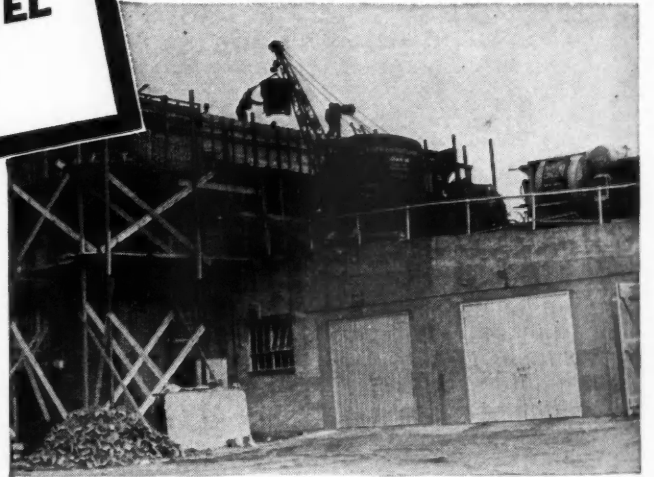
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THE MINUTE YOU PUT A SHOVEL
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AMERICAN BUILDER

AND BUILDING AGE

Build NOW For Security

Home Owning Best "Defense" In Times Like These

THERE ARE dozens of good reasons for building a home and for *saving* the monthly rent payments by applying them on a home purchase contract. But in these days of war turmoil abroad, huge defense preparations here, and the certainty of higher rentals and other living costs, a new reason for home building and owning is coming to the front.

It is a *personal* reason for each individual who is the head of a family; because it is a pocket-book reason, having to do with his future buying power. It is also a *family* reason, since it takes account of the family's living standards, to maintain and improve them. And it is also a *community* reason having to do with the general economic good and the safeguarding of true patriotic citizenship.

This new reason for building—or buying—a home, now in the spotlight because of war and rearmament conditions, is stated in *American Builder's* slogan for the active men of the building industry, "*Build NOW for Security.*"

Put This Idea To Work!

This publication urges each one of its readers to consider this new *security motive* for home owning as it may apply in his own local community and to his own circle of clients, customers and business associates; and to use this slogan and these arguments in his daily contacts with prospective builders.

In every community there are middle-income families living in rented houses or apartments and paying out enough rent every month to buy and pay for a nice home that would provide similar or better accommodations. The new long-term, low-rate financing, with small down-payment and regular monthly deposits "like rent" over a period of years, to take care of interest, taxes and payments on principal makes it attractive today for these renting families to become home buyers instead.

For a number of depression years after the stock market break in the fall of '29, real estate values were so chaotic that it was generally considered "cheaper to rent than to own"; and a great many families throughout this period have acquired a "renting habit" and a state of mind hostile, or at best neutral, toward owning. But today, under the threat of advancing prices, it is more desirable to own than to rent, and *much more secure for the future.* And this security applies not only to the single item of

shelter cost but also to the family's entire expense budget and scale of living.

The best plan for safeguarding their living standards that can be adopted by middle-income families is that of building or buying homes now and thereby fixing their shelter costs at present levels or less for the next 20 years in spite of prospective advances in rentals due to the increasing housing shortage, expenditures for military preparedness, and probable inflation.

Peg Rental Costs Through Home Ownership

Under today's extremely favorable home financing facilities it is now possible and proper for any one of our builder readers to go to a renter with this statement:

"Mr. Middle-Incomer, you're a good citizen and I want to keep you one. If you will just pay me the equivalent of a year's rent in advance now, I can put you in a new home of your own, and from then on for 20 years or more no one can come to you with threats of rent raises; also you will have anchored the biggest single item of your monthly living budget for a long time to come. Furthermore, your income tax status will be improved, because while you can't deduct rent from your taxable income, you can deduct interest paid on your mortgage and taxes paid on your real estate. These deductions can conceivably be the equivalent of the income tax deductions for one or two children. In addition, your payments on the principal of your debt on a home are *savings* in your own pocket, while rent receipts are but so much paper."

Expressed as above to an intelligent taxpayer living in a rented house or apartment, this *security* fact will prove a most effective argument toward home building in the present state of anxiety. Moreover, building industry men are fully justified in urging action *now* because certainly not again in this generation will costs of building be so low.

Faith In Home Ownership Resists War Shocks

The silver lining in recent news from the nation's capital is the report on mortgages selected for appraisal by the Federal Housing Administration. According to W. C. Bell of Seattle, secretary of the Western Retail Lumber Dealers Association, these reports show bright

prospects for a banner home building year in 1940 with volume of FHA mortgage business running 23 per cent higher for the first half of 1940 than for the first half of 1939—101,646 FHA mortgages accepted as compared with 82,600 for the first half of last year. And he adds, "The week ending June 24 saw 4,920 new homes started under FHA inspection, the largest number in any week since FHA started operations. Could anything more strongly represent the faith of the average American family in the permanent values of the ownership of house and land, of a true home, and a related faith in the power of this country to defend its people and their homes? The force of this faith is something as modern as the mechanized forces of warfare. It is embodied in the insured amortized home loan, which has been made a national institution by the Federal Housing Administration, the savings and loan associations, the banks and other home financing concerns allied with government agencies."

That money invested in a home is pretty apt to be the safest, under present conditions and outlook, is a logical conclusion. For a well designed and well built house always has a current *use value* to the owner, regardless of its market price and regardless of what may be happening to stocks, bonds, currencies and other tokens of ownership. Shelter we all must have; along with food and clothing it is one of the Three Essentials; and the family that puts its savings into a home always can be sure, come what may, that one of those three is safe and will not jeopardize the other two.

"NO ONE CAN BOOST MY RENT NOW!"

TO BUILD or buy a home NOW on long-term monthly payments. "like rent," offers this timely advantage: It anchors a family's shelter cost at today's relatively low level, protecting against expected rent advances and reduced buying power as war-time prices advance. The men of the home building industry in every community should spread this "good news" among the local business men and prospective home owners so that all concerned may Build for Security Now.

Low Cost Homes For Working Men Better Than Industrial Housing

With industry speeding up all over the country to fill the orders for national defense, unemployment is lessening and the need of additional homes for industrial workers is growing. In order to have first hand, detailed information from the field as to this developing situation, the editor recently questionnaired the secretaries of the Chambers of Commerce in 200 industrial cities. Their reports, in reply, can be summarized briefly as follows: (1) Our industrial plants are busy and their production can be further increased. (2) Local labor is adequate, unemployment is decreasing, and among skilled craftsmen has almost disappeared. (3) Small homes available for rent are few. Rentals are normal and working higher. Private capital and the regular building industry can take care of additional home building requirements. No government housing or cantonment building is wanted here.

Ignoring such local testimony, however, as to the ability of the private building industry to provide the homes for workers as needed, Administrator Nathan Straus



and his U. S. Housing Authority are, according to Washington news, already attempting to move in to take over, as a Government job, the housing of "war-workers."

American Builder hopes that Congress and the Administration will be prudently restrained by the memory of the disastrous Government war industries housing experiences of 1917-18, and will limit Mr. Straus to housing for the nation's armed forces only. Industrial housing can better be done by private industry, this publication believes. Furthermore, it advocates real homes, separated from the plants, in pleasant adjoining suburbs or rural communities, rather than a concentration of housing units "right under the smoke stacks of the plant."

In these days when every family has its car, the home building stimulated by our defense program ought to be of this saner, more wholesome type. Homes built by private industry and sold to workers on a basis like rent, will cover 90 per cent of the present housing need without the Government itself going further into the home building and renting business.

Homes and Fifth Columns

Home building and home owning have a patriotic meaning which, today, comes into new importance. An old saying has it that a man will fight for his home—not for his boarding house; and thoughtful people are realizing anew, in these last few months, the importance to the nation's defense of widely distributed home ownership. On this point W. C. Bell of Seattle has written: "So, while we forge our cannon, let's not overlook something equally vital—defense at home. What I get out of this national defense program is that the building industry has been given a new responsibility—to spread home ownership even wider, to put America's people in homes of their own. 'Fifth columns' do not march out of the ranks of home owners."

So, the active men of the home building industry have their own patriotic job to do in this year of national defense endeavor. "Build A Home NOW For Security" expresses a challenge for the readers of this publication.



New FHA Modernization Drive to Start

WITH an eye toward stimulating new fall business, the building industry is laying big plans for an all-out drive this summer to promote property modernization and repair, with emphasis on "pay by the month."

The nation-wide campaign, with the full co-operation of the Federal Housing Administration, is planned to break simultaneously in all sections of the country in mid-August. The new drive, patterned closely after last summer's similar and highly successful campaign, will again stress "Fix Up Your Home! Modernize," and convenient monthly payments on the FHA Plan of installment buying will be featured.

Manufacturers and dealers who tied in aggressively to last year's drive found that many modernization jobs can be closed and new prospects developed by featuring FHA-insured (Title I) loans. Plainly, someone is doing a considerable volume of business under this plan, since Federal Housing Administration figures prove that about 3,000,000 of these modernization loans have been made to date. That means something like \$1,100,000,000 worth of property improvement already financed on the FHA Plan. An impressive total, even in an age of astronomical figures!

Has all the property improvement already been done? FHA officials think it's only begun, since applications for loans seem to be steadily rising and at present average about 10,000 a week. This increased activity indicates that the public and the lending institutions are coming to realize and avail themselves of the benefits offered by the FHA Plan. The mounting figures also suggest that the building industry would do well to engage in some concerted action of its own during the coming months.

As a matter of fact, FHA officials throughout the country point out that industry is approaching that agency more and more frequently with cooperative suggestions and plans to make the most of the FHA mod-

ernization and repair program. In line with these suggestions, FHA is again preparing literature and display material for the trade. This will be available at headquarters in Washington, or through FHA's 64 field offices, about the middle of August.

The material includes a colorful window display printed in dark red, blue, and yellow and a cleverly illustrated booklet with a check list for home owners, printed in red and black. A mimeographed piece will describe how dealers can develop and handle business under the "Property Improvement Credit Plan," Title I of the National Housing Act. It is a brief merchandising manual for dealers suggesting means by which they may increase their sales through the FHA plan of installment payments.

Both the display material and literature are available to all dealers wishing to be identified with the national modernization program, but it will be sent only on direct request. To avoid duplication, manufacturers and trade associations should have the dealers themselves send in their orders. It is suggested that this be done as soon as possible since quantities are limited and it is a case of "first come first served," in filling requests.

The window display pieces are designed to be used separately and may be adapted to the needs and display facilities of individual dealers. However, this material is essentially a unified window display in which all pieces are employed to feature the dealer's merchandise. A colorful streamer bearing the legend, "Modernize—Repair" extends across the window, and side streamers suggest improvements to "Fix Up Your Home." In order to suggest to dealers how to arrange this material attractively in their windows, a descriptive folder has been prepared. Copies are available for manufacturers, trade associations, and others who wish to tie in their sales outlets with the national modernization program.

Specimen newspaper advertisements are also prepared by the Federal Housing Administration for dealer use.

These are mailed in proof form to local newspapers who will be supplied with mats of the art work on request.

Other media besides store display, direct mail, and newspapers will be used during the forthcoming campaign. A car card will be released for national distribution in trains, cars, and buses.

Special radio programs are being arranged locally by State and District Offices of FHA. In addition, manufacturers, dealers, and others will be provided, upon re-



LEFT: Window streamer designed for dealer display, printed in blue, red and yellow and available in three pieces, is used as shown.

in August

quest, with scripts and commercial announcements by which their products may be tied in to the national program for Home and Business Property Modernization. A special transcription of dramatized radio "spots," suitable for dealer tie-in, will be made available through local radio stations.

It is anticipated that a Technicolor movie, similar to last year's "Miracles of Modernization" will be prepared for release to motion picture houses all over the country. Such a film would show actual transformations that modernization can make in a series of colorful "befores and afters." It is estimated that nearly 100,000,000 people view these FHA-sponsored films.

Of course, the lending institutions themselves will play an important part in the national modernization program. The Federal Housing Administration is supplying them with special posters reading "We Make Loans to Modernize" which will be on display in their windows and on counters.

There are some 10,000 of these lending agencies which now hold contracts of insurance with the Federal Housing Administration to make Property Improvement and Modernization Loans.

Any of these institutions will be glad to cooperate with dealers who refer to them modernization prospects. They will also be able to supply FHA literature and printed forms as well as information about the FHA plan. Lists of the qualified financial institutions in any locality may be obtained through the FHA field offices or by writing

BELOW: FHA card will be displayed nationally in trains, cars and buses.

direct to the Federal Housing Administration at Washington.

It is to the interest of every member of the building industry to be thoroughly familiar with the workings of the FHA Plan of Property Improvement Loans. Briefly the plan is this:

The applicant for the loan must have an adequate income and own the property or hold a lease that runs at least six months longer than the term of the loan. The charge for these loans cannot exceed a discount of \$5.00 per \$100 face value of a one year monthly-payment note. The feature that appeals most strongly to the modernization prospect is the fact that the loan is repaid in equal monthly installments suited to his income. FHA's average insured loan amounts to about \$400. It seems plain that the dealers who have profited most in the past by these \$400 jobs have stressed the fact that it only costs the prospect \$12.78 a month.

The cost of both labor and equipment may be covered by the loan. This may include repairs, remodeling, decorating, landscaping, and the installation of new plumbing, heating, or wiring systems.

The building industry profits in two ways: more sales can be closed, and the dealer receives cash payment. It isn't an untried plan. It has worked successfully before and it will work again for those who get busy and tie in to the national modernization program under way this month and during the fall season.

Convenient Monthly Payments
Will Help You
MODERNIZE

ASK FOR
DETAILS

FHA Pay-by-the-Month **PLAN**

BETTER HOUSING PROGRAM

LEFT: Dealer poster for window display (28" x 38") is printed in bright colors; it is part of display opposite.

**WE MAKE
FHA
INSURED
LOANS**

to
MODERNIZE

BETTER HOUSING PROGRAM

ABOVE: 12" x 16" display card will be made available only to institutions qualified to make Title I loans in new modernization drive.

Convenient Monthly Payments Will Help You
FIX UP YOUR HOME

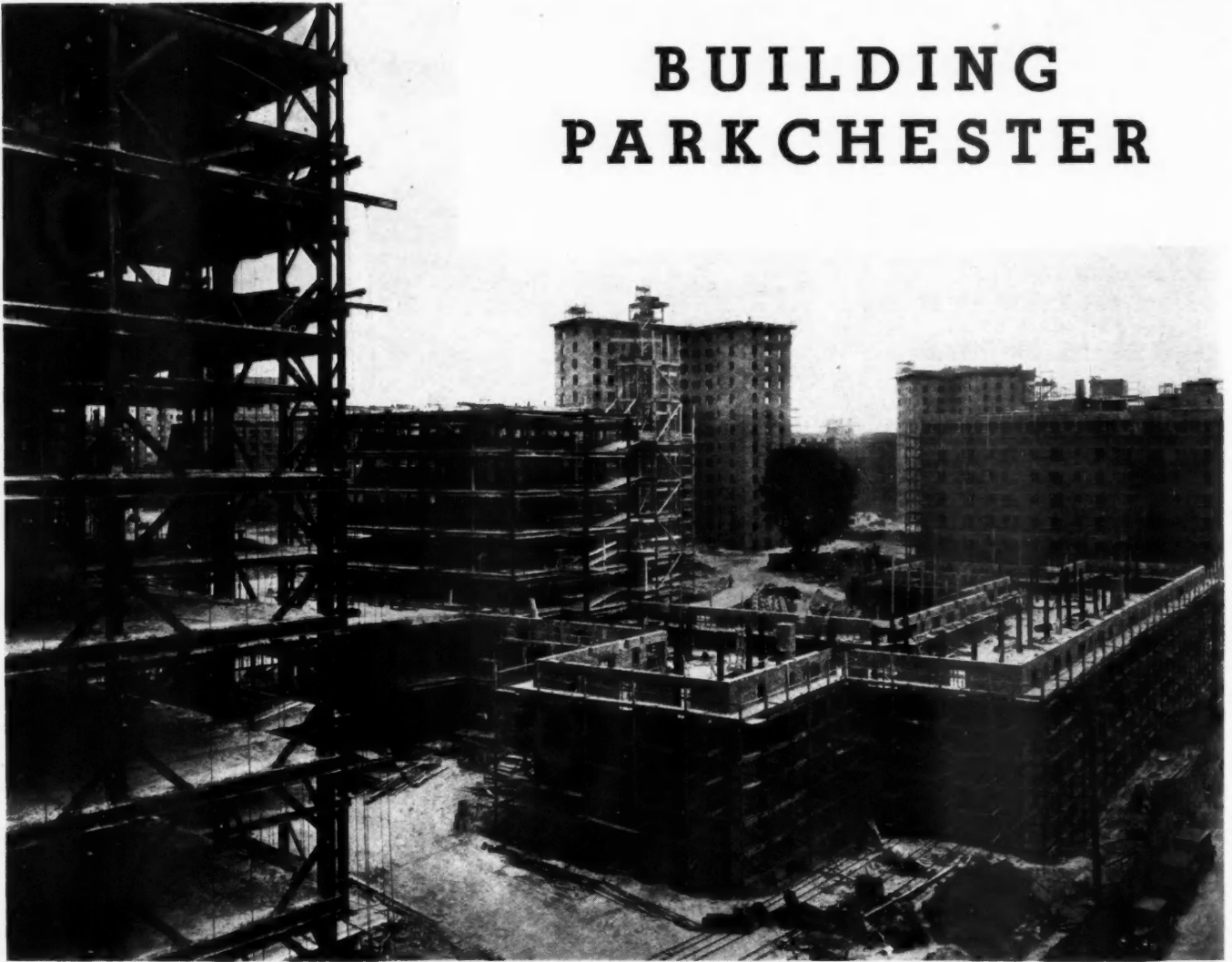
FHA

PAY-BY-THE MONTH PLAN

INQUIRE AT ANY QUALIFIED LOCAL LENDING INSTITUTION

BETTER HOUSING PROGRAM

BUILDING PARKCHESTER



FIFTY-ONE apartment structures, 5 ramp garages, a theatre and some 200 stores are under construction at Parkchester

FOR almost two years Starrett Bros. & Eken, Inc., have been engaged in building Parkchester—the world's largest housing project. This \$50,000,000 job, scheduled for completion in the spring of 1941, is of interest to every man in the building industry not only because of its tremendous size and scope, but because it so well illustrates the fact that private enterprise can handle the housing situation more efficiently and cheaper than government. Although the accommodations are far larger and more attractive than anything built by the U. S. Housing Authority, the average cost per dwelling is much less.

It should be pointed out clearly, however, that Parkchester is in no sense a "slum clearance" or government subsidized housing affair. It is financed, built and owned by the Metropolitan Life Insurance Company and was conceived by Frederick H. Ecker, Metropolitan's chairman.

The size of Starrett Bros. & Eken's job is indicated by the fact that as many as 5,000 men work daily on the 129 acre site in New York City's Bronx. There will be 12,200 apartment units in 51 structures. These apartments will accommodate about 40,000 persons.

In addition Starrett Bros. & Eken will build 5 ramp garages with a capacity of 4,000 cars, a huge central heating plant, a 2,000 seat theatre and some 200 shops and stores. Truly a man-sized job for one building firm.

Apparently Chairman Ecker felt it was a job for several men to run the world's largest housing project, for he appointed a Board of Design of seven, with Architect Richard H. Shreve as chairman. Builders Andrew J. Eken and Robert W. Dowling of Starrett Bros. & Eken are members of this board, which also includes Henry C. Meyer, Jr., engineer; Gilmore D. Clarke, town planner; Irwin Clavan, architect, and George Gove, housing expert.

With this highly experienced talent, the construction of Parkchester has moved along rapidly and on schedule. More than half of the buildings will be available for occupancy for this fall renting season.

100 Cubic Yards of Concrete per Hour

Starrett Bros. & Eken were confronted with one of the biggest organizing jobs in the history of building—and they have been accustomed to big jobs, since they are the builders of the Empire State Building, Williamsburg Houses and many other notable projects. Parkchester involved among other things some 120,000,000 lbs. of structural steel; 15,000,000,000 square feet of flooring; 110,000,000 bricks. Heights of the buildings vary from 7 to 12 stories. Those under 9 stories have brick load-bearing walls with interior steel columns. Buildings over 9 stories are steel framed throughout.

How Starrett Bros. & Eken, Inc., are putting men, materials and modern equipment to work in creating world's largest residential community for Metropolitan Life



CITY OF 40,000 on 129 acres. How Parkchester looked this spring.

One of the most remarkable production features was the placing of some 12,000,000 square feet of floor slabs of no-slump cinder concrete. This involved some 250,000 cubic yards of cinder concrete which had to be delivered to the various buildings scattered over the 129 acre site. The problem was solved by the use of a fleet of 5-yd. truck mixers operating from a central batching plant. The mixer trucks were equipped with extra-large discharge buckets which made it possible to deliver the cinder concrete to the hoists at the various buildings faster than they could carry it up. The batching plant and truck fleet were able to deliver 100 cubic yards per hour.

The Parkchester buildings are of standard fire-proof construction, and for the most part materials and equipment are time tested and non-experimental.

Walls Are Insulated

There are, however, many interesting construction features, one of which is the use of 2" solid plaster interior partitions over metal lath.

Of unusual interest is the insulation job done on the buildings. Although the brick walls are from 13 to 16 $\frac{3}{4}$ " thick, studies by the heating engineers indicated that important heating economies would be achieved by the use of an insulation blanket. As finally adapted, a 1" layer of mineral wool (fibre glass) blanket was placed against the wall where it



MINERAL WOOL on walls will cut annual heating cost \$40,000.



5,000 MEN were employed daily in building Parkchester.



PLAYGROUNDS and recreation areas such as this are scattered through the expertly planned community. Area is laid out in four quadrants, each with a large central recreational area and with its own shops and stores.

was temporarily held in place by steel prongs projecting from 1" metal channels attached to the walls. The insulation blanket was then covered by steel mesh plaster base attached to the same channels by the steel prongs (see illustration).

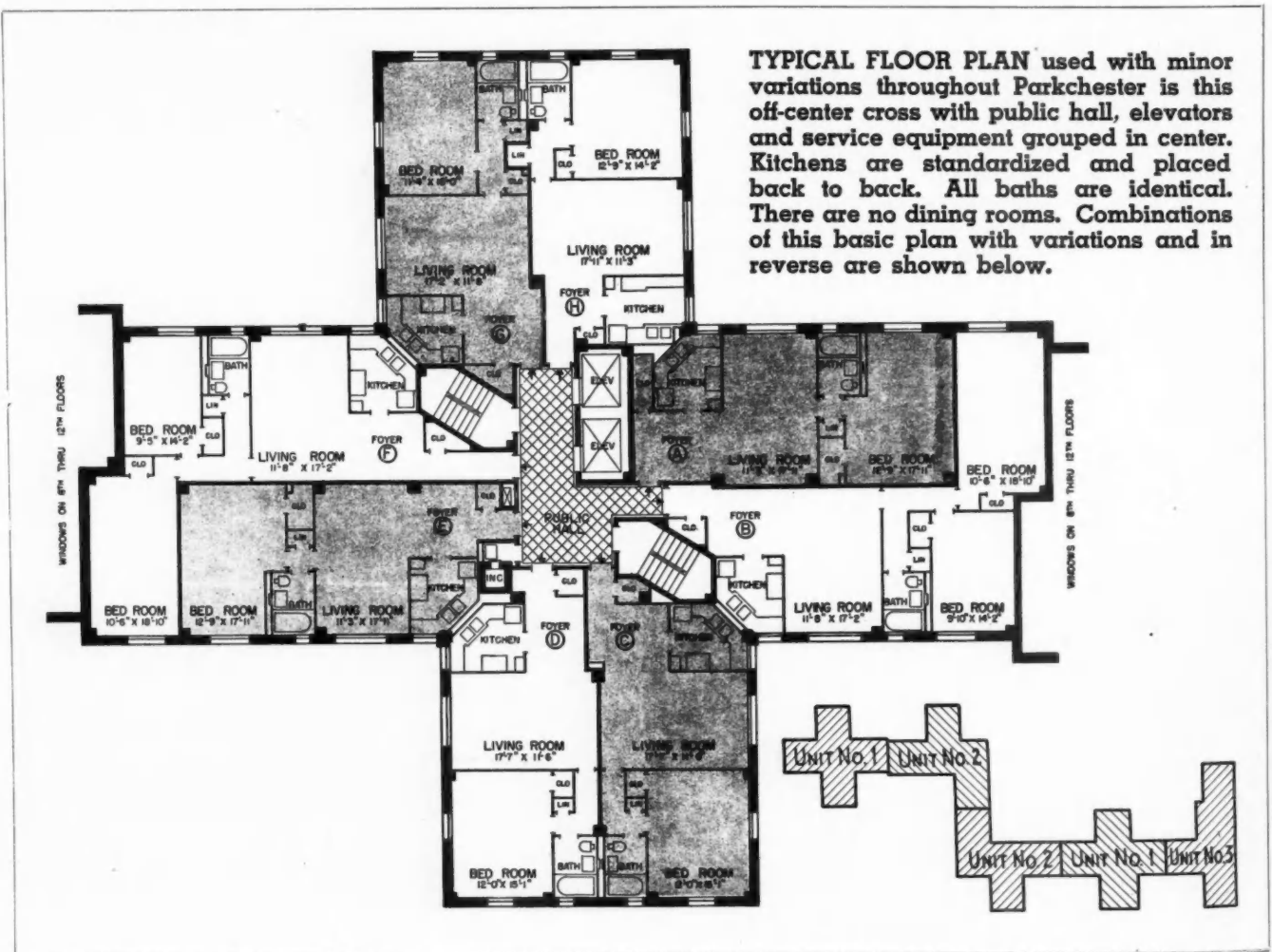
The use of insulation in the walls of these apartments is one of the first instances of its kind and has attracted wide attention. Preliminary estimates by the engineers indicated a probable saving of some \$40,000 per year and a further large additional economy due to the use of less radiation and a smaller heating plant.

Economical Floor Plan

The Board of Design perfected a most economical and satisfactory floor plan which with variations was used throughout the project. The basic plan consists of a central core which contains the automatic elevators, stairs, incinerator and a small public hallway. Apartment units branch out from the central core in the form of a cross (see accompanying large-scale plan detail). Through use of several variations of wing plans and by attaching the units in various combinations, the designers were able to get considerable variation in the appearance of the exterior of the building while still maintaining a virtually standardized and economical floor plan.

Through the repetition of this rather standardized plan, drafting was simplified and specifying and installing of equipment made more easy. Furthermore the frequent repetition of the same construction detail did much to increase labor efficiency and eliminate errors.

The Parkchester rooms are of more than average size



A GROUP of Parkchester apartments with recreation area in foreground. There are 51 apartment structures with 12,200 dwelling units having 40,000 rooms.



200 STORES will be required to serve the 40,000 people housed in Metropolitan Life's "Town of Today." This is the largest housing project in the world and is entirely handled by private enterprise.

considering the low rentals charged. The average living room is 225 sq. ft., the main bedroom 190, second bedroom 130, kitchen 55 and bathroom 40. The kitchen arrangements are very clever. They are of a standardized triangular-shape placed near the core of the unit, and are placed back to back against a common plumbing stack.

Bathrooms also are identical throughout the project.

Rentals being charged for these apartments are moderate, ranging from \$32 for the two-room units to \$63 for the five room. The rentals include both gas and electricity.

Preliminary estimates indicate that the average cost per apartment will be about \$4,100. Considering the



VIEW OF ONE of Parkchester's modern stores located near the elevated station and on one of the two main parkways.



TYPICAL living room with large steel casement window. Concealed convector radiator is located under window. Average living room has about 225 square feet of floor.



BATHS throughout project are identical, with standardized equipment shown at far left. Tile floors, wainscoting are standard.

TYPICAL KITCHEN is triangular in shape (see plan) and is well equipped with metal cabinets. Kitchens are set back to back against plumbing stacks.

quality nature of the dwellings and the large areas devoted to parks and playgrounds, this is a low figure and is some \$500 under the average cost of recent U. S. Housing Authority projects. One important economy is the use of all basements, where the floor is above grade, for living quarters, having added appeal of open terraces.

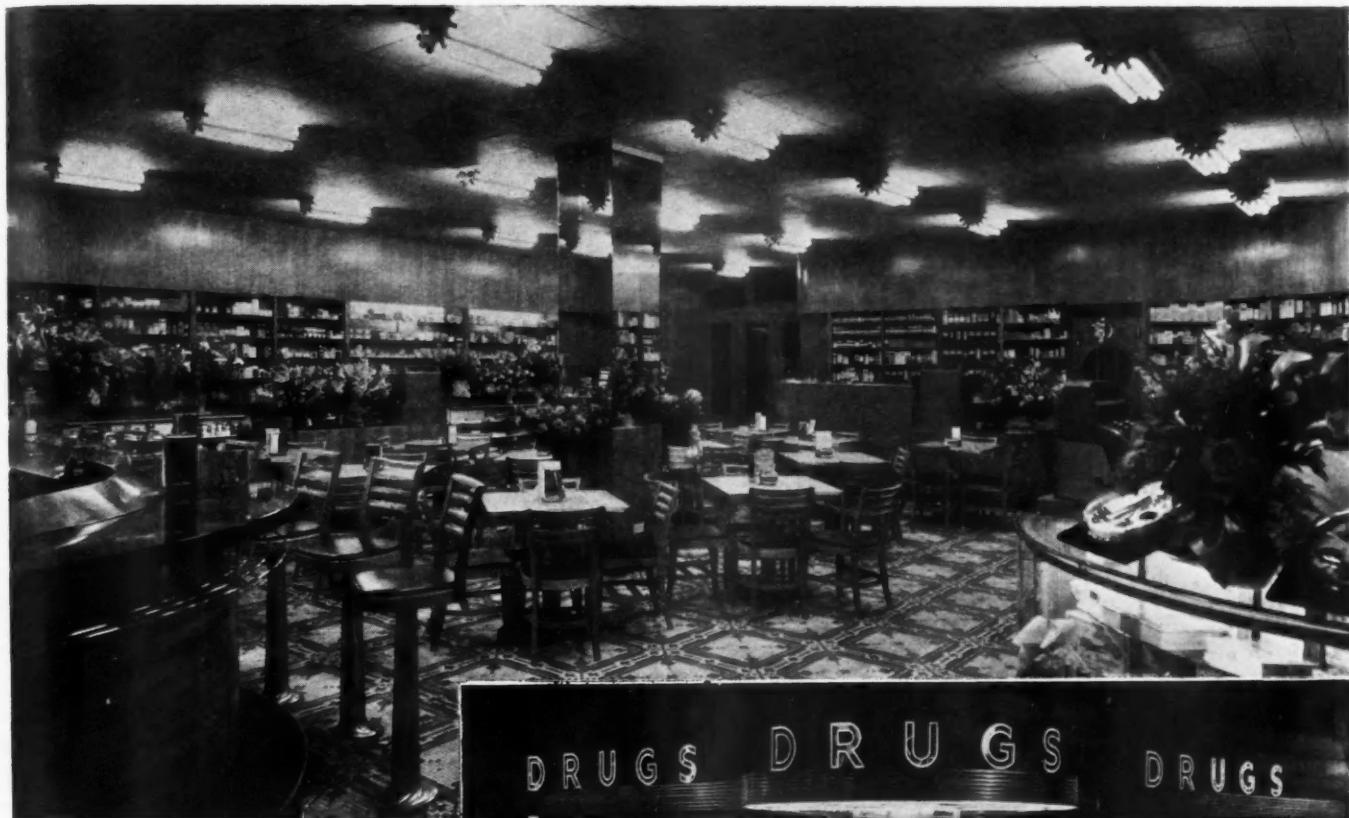
Parks and Playgrounds

The 129 acre Parkchester site is in the heart of New York's Bronx, some 30 minutes from mid-town. All existing structures were torn down and the area divided roughly into four quadrants by two 100 ft. (landscaped)

parkways. Each of the quadrants is laid out so that no fast traffic passes through and each is a complete little village containing in addition to neighborhood stores, an inner park area and a layout of walks, gardens and lawns. Fifty-one per cent of the land or roughly 67 acres are devoted to recreational areas. Buildings occupy only 27.4 per cent of the land.

In order to provide accommodations for a city of 40,000 people, extensive service buildings had to be built. In this group will be included ultimately some 200 shops and stores. In addition a 2,000 seat theatre will be provided and 5 ramp garages with a capacity of some 4,000

(Continued to page 102)



THE interior of the new Peabody Drug Store, Memphis, Tenn., is modern in every detail. Note that the single mirror-faced column in the center is the only structural support within the floor area; lighting, rounded corners for easy cleaning and harmonious color are reflected in exterior design. Air conditioning assures comfort.



The Corner Drug Store of Tomorrow

PATTERNED after the Hall of Pharmacy exhibit at the World's Fair, the Peabody Drug Store in Memphis, Tenn., is a model of commercial styling and equipment for this type structure. At the opening, leaders in the drug and allied businesses inspected the store and pronounced it at least a decade ahead of its time.

Fluorescent lighting, bleached walnut fixtures, rounded corners, soda fountain of Verdi antique marble and multi-colored rose mirrors, charm section, pipe bar and full view prescription department add to the distinctiveness of the store which has a special device to control atmospheric conditions in summer and winter. Five fluorescent lighted show windows front on the two streets which pass the store with a window included in the hotel foyer. Corrugated aluminite strips cover the exterior at the top with dark blue architectural glass at the base reflecting the passerby.

Fluorescent lighting from purplish tubes hung from the soundproofed ceiling make the store as light as sunshine without the glare. The same type light bathes the interior of the heavy plate glass display cases which are trimmed in bleached walnut. The layout holds to the modernistic trend of spaciousness with only a mirror enclosed column in the center.

Entrance marquee has a vitrolux luminous ceiling with indirect lights shining on the entrance. Column in front of the store's entrance is of fluted aluminum with bent plate glass trimming.

All the space has been utilized to afford greatest convenience and comfort to the customer. To the left of the entrance is the specially designed vari-colored fountain of mirrors. Here an imported Verdi antique marble soda fountain has been placed. Delicately-shaded multi-colored rose mirrors form the fountain's background. Table service for 48 is provided by a row of modernistic tables alongside. Fountain stools have self-adjustable backs while soda chairs are finished in harmonizing midnight blue leather.

Specially colored cash registers in the various departments harmonize with the fixtures in that section.

A portion of the store that gets some of the greatest attention, particularly from feminine patrons, is the Charm Section. Under the soft, natural light, milady can examine beauty helps in dainty bleached walnut display cases with their frameless, ball-bearing sliding doors.

Next to the drug department but occupying an island position is the full view prescription department. Here the public can follow the deft movements of registered pharmacists.



THE fine Garden Oaks Company office building, shown above, sets the style and standards of this successful development.

How to Subdivide for Good, Small Homes

Garden Oaks of Houston, Texas, Points the Way to Better Low-Cost Houses on Perfect Sites Through Proper Planning

"A SUCCESSFUL subdivider must be in a large measure a dreamer, but at the same time, keep his feet on the ground," said E. L. Crain, president of the Garden Oaks Corporation, Houston, Tex. "In dreaming of what may be accomplished, consideration must not only be given to the usual fundamentals, such as necessary utilities, transportation, type of paving materials, and fire protection, but the subdivider should dream considerably about the winding streets and playgrounds to be established and how they can best serve the home owner, and the beautification of esplanades, parkways, the size, arrangement and type of architecture for the homes. Without his ability to somewhat clearly visualize these many features termed "eye appeal," his enthusiasm and his interest will be at a low ebb. In summing up this particular feature, if you cannot earnestly and conscientiously sell yourself on the project, then you must expect the same result from the prospective purchaser."

This was the creed which Mr. Crain applied so successfully in building up beautiful Garden Oaks from a raw forest tract in October, 1937, to a premier subdivision of paved streets with a total of 401 homes completed or under construction, only thirty months later.

Characteristic of the entire project is the gracious, two-story Colonial office building, a structure which adds charm and stability to the whole project. Besides serving as the field office, it is also the general office of the corporation.

"We could have put up a temporary shack for our field office, as others have done," Mr. Crain said, "but such a proceeding would have struck a false note in the unified plan we were creating. Our office must match the beauty and the utility and the homelikeness of Garden Oaks itself.

"Therefore, no expense was spared to create a suitable home for the project. Fireproof vaults were built to house permanent records, handsome furniture was purchased and an attic ventilating fan installed for the comfort of the clients and the workers. Events have proven our course a wise one."

Garden Oaks has become an institution of more than

GARDEN OAKS PRESENTS



Another
Demonstration Home
(NOT FOR SALE)
BEAUTIFUL ^{AND} EXPENSIVE
FIRST SHOWING
10 A.M. TO 5 P.M.
TODAY

855 Lamonte Lane

You Are Cordially Invited

To attend today's opening of the second GARDEN OAKS DEMONSTRATION HOME. Beautifully and completely furnished and draped by Black Bros. Furniture Co., specifically planned and built to better demonstrate the many advantages of today's modern Garden Oaks Home

GARDEN OAKS COMPANY

REALTORS
E. L. CRAIN, PRESIDENT C. B. BRACE, VICE PRESIDENT AND MANAGER
OFFICES: THE COLONIAL BLDG.—706 GARDEN OAKS BLVD., COR. OF NORTH SHEPHERD
"You Have Never Seen Anything Just Like Garden Oaks."

local interest. As in the case of the builder of the better mousetrap, realtors, subdividers and corporations seeking to develop home tracts for their employes, have beaten a path to the beautiful office at 706 Garden Oaks Boulevard, to study this new type of development. Nation-wide interest has been evidenced in this unique group of homes, whose slogan is "Beautiful but not Expensive," and where better, happier living is the theme of the sponsors.

"When a land agent showed me the magnificent 750 acre tract of oaks and pines which is now Garden Oaks, my mouth fairly watered!" Mr. Crain chuckled, recounting the genesis of the project. "Situating as it is, only five miles northwest of the center of Houston, I instantly saw the possibilities here, but quite some time was required before the deal was finally consummated, and we were ready to begin operations."

Then, bringing to this virgin tract of land his accumulated thirty years experience and ability as a subdivider and builder, he and his associates determined to construct the finest subdivision in the medium price range, in the country.

As soon as title was passed, a nationally-known firm of subdivision planners and landscape architects was employed as consulting engineers and the first section of the 750 acres was platted. The curving, tree-lined drives were permanently paved with concrete; small parks at intersections were provided, a fully equipped playground was developed by the Garden Oaks Corporation, and all utilities were installed.

A novel feature is the absence of sidewalks, which permits a large, unbroken carpet of green grass to be grown from block to block, and which greatly adds to the appearance of the streets. And so that the home owner might enjoy pure water, the water supply is owned and operated by the Garden Oaks Corporation.

Eight hundred ninety building sites were platted, 680 of which have been sold, and there has been built and completed in Garden Oaks, approximately one house every other working day since it was started.

The average building site in Garden Oaks is 80 x 160 feet in size. The minimum width of any building site in this subdivision is 75 feet. A restriction requires that no residence whatever can be built on a tract of land having less frontage than 75 feet. The front building line of all homes must be fifty feet back from the front property line, and there must be at least 15 feet from either side line of each building site, to the building line. All streets

are 60 feet or more in width, and the main boulevard is 120 feet in width.

So that Garden Oaks may not have that "down at the heel" look a few years hence, a maintenance fund has been established. Each purchaser is assessed a charge of 40c per linear front foot at the time of purchase, which sum is placed in a trust fund and administered by the corporation, free of cost to the owners, for the beautification and the upkeep of the project. The money may be used for work on streets, parkways, or any other act for the general welfare of the community. Thus, if the owner purchases an 80 foot front, his assessment is \$32.00.

The fund was established, Mr. Crain said, because municipal authorities in a growing city are usually so hard-pressed for funds that they seldom have appropriations available to properly take care of this type of work.

Not usually found in moderately priced subdivisions are such conveniences as playgrounds. At no cost to the home owner or to the city, the Garden Oaks Corporation has donated the land, put in landscaping, constructed shelter houses and restrooms, put in playground equipment, built tennis courts, athletic fields and installed night floodlighting. A fine golf course adjoins the development, but is not a part of it.

All esplanades and parkways are planted with S. Augustine grass, and equipped with underground automatic sprinkling systems and all streets are slightly curved, to break the monotony of long straight lines, and to give architectural perspective.

One of the most advantageous restrictions contained in the conveyance of the building site is that the plans

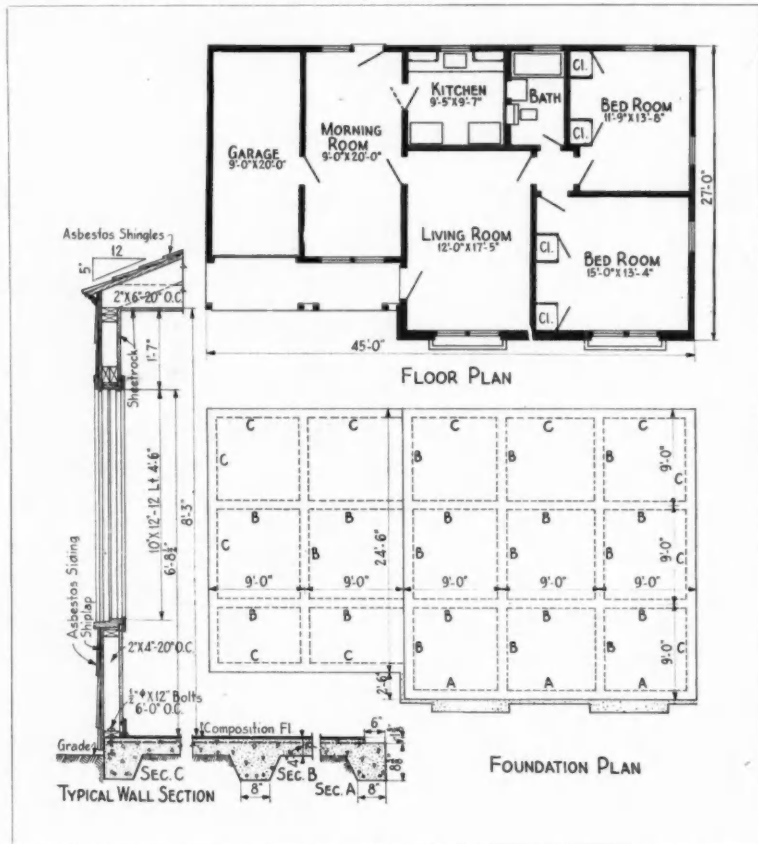
E. L. CRAIN, president of the Garden Oaks Corp., entertains one of his charming young guests on the merry-go-round at the celebration picnic, illustrated below.



TO celebrate the completion of 401 homes in 30 months, owners and neighbors of Garden Oaks are shown at the company's picnic; this friendly spirit reflected in advertising and sales boosts this rapidly growing community.



BROAD fronts to take advantage of the cooling Gull breezes are possible on the wide Garden Oaks sites, this spread-out idea developing a new type of architecture. Floor plan and section showing construction of this low-cost demonstration home appears below.



and construction of any building whatsoever erected on any plot, must be approved in writing by the Garden Oaks Company, or a committee of three individuals who might be designated by the company. This means that not only will the project be harmonious in appearance, but, due to written restrictions, business enterprises are kept out of residential districts. Garden Oaks residents need never fear the encroachment of commercial establishments in the districts set apart for homes. However, provision has been made for a shopping center at an appropriate location.

These restrictions are rather unusual on properties, the majority of which sell for under \$6,000, but it is one of

the most advantageous and protective restrictions that could be imposed, provided those administering this authority are well equipped to handle such an undertaking.

In this connection, the Garden Oaks Company maintains an Architectural Department which renders considerable free, helpful service to the lot owner or the contractor in connection with his plans, and consultation between the company and the prospective builder on such matters is quite frequent. The result of such co-operation is most gratifying. Many subdividers of years of experience, from all parts of the nation, have spoken of Garden Oaks platting and the types of architecture to be equal, if not superior to any other subdivision in the United States in its price range.

"Other builders are more than welcome in Garden Oaks," Mr. Crain declared. "Our architectural staff is always glad to suggest improvements, and make small corrective sketches and drawings free of charge, on plans submitted for approval. For instance, when someone brings us plans of the vintage of 1915, we are happy to suggest ways and means of streamlining the hackneyed architectural form, and bringing it up to date. We will not, of course, draw up a complete set of house plans free of charge."

The Garden Oaks Company constructs many of the homes in the subdivision, and it makes every possible effort to design and erect homes in the price range of \$3,500 to \$6,000.

that are outstanding in architecture and construction detail. In addition to the homes erected by the purchasers of vacant lots, one can usually find ten or twelve model homes under construction or completed and ready for sale.

Another feature designed to keep the subdivision firmly established in its position of leadership is the construction, from time to time, of demonstration homes. The management endeavors at all times to maintain at least two or three of these. The purpose of these homes is to build up better architectural styling, better construction, and, occasionally, new ideas in arrangement. The company makes every effort to see that these demonstration homes

are better, more efficient, and ahead of the general trend; otherwise their construction would be pointless. While there are many medium sized homes in Garden Oaks, such as the one shown on the front cover, great progress has been made in the low-cost field, two of Garden Oak's smaller demonstration homes being illustrated.

Typifying the hundreds of attractive low-cost homes that have been built in Garden Oaks, the demonstration home on the preceding page shows how the small house owner enjoys the benefits of six or seven rooms, although the residence itself is only a five room dwelling. Designed by Talbott Wilson and Irwin Morris, Houston architects, it offers a morning room which can be converted into an open living room, a glazed-in porch or a dining room. Or, if the owner prefers, it can be utilized for a club room.

The house contains a living room, two bedrooms, kitchen, bath and built-in garage in addition to the morning room; there is no basement, a reinforced slab foundation being used. Carpeting has been laid from wall to wall in all rooms except the kitchen, which has an inlaid linoleum floor, and the bath, which is tiled.

In order that prospects might see exactly what could be done in the way of livability in this type of house, a Houston dealer furnished the home throughout in attractive, tasteful, yet moderately priced furniture.

Three other small homes are shown here, each offering slightly different arrangements of a similar floor plan.

Some of the materials used in the construction of these homes include transit-mixed concrete, treated lumber from the National Lumber and Creosoting Company; frame material from the Carter Lumber & Building Company; mill work, the Wm. Cameron Co.; screens and blinds, the Buselle Cabinet Works; paint, John Lucas Co.; asbestos shingles on walls and roof, by Keasbey & Mattison Co.; the plumbing by the Richmond Radiator Company; and F. H. Lawson Co., cabinets.

About 75 or 80 homes have been built by the

corporation itself. The purpose of this building, Mr. Crain said was to construct something better than the average.

"We must set the standard," Mr. Crain declared. "If we set the standard high, others will try to rise to our level. On the other hand, if we set the standard low, others will simply seek to match our shabbiness."

"When you have finally sold your prospect a home," he continued, stressing the value of sound construction, "you haven't finished with your prospect. For, if you have sold him a well-built house, you have more than likely created another prospect."

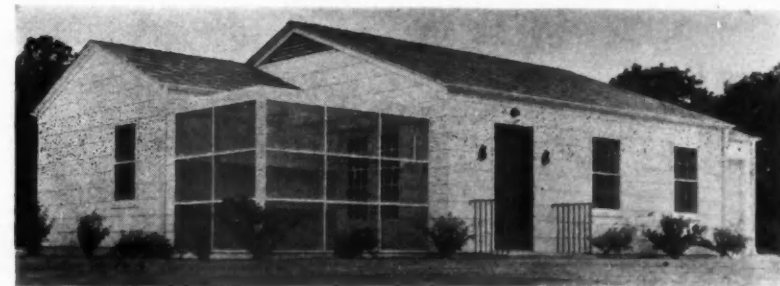
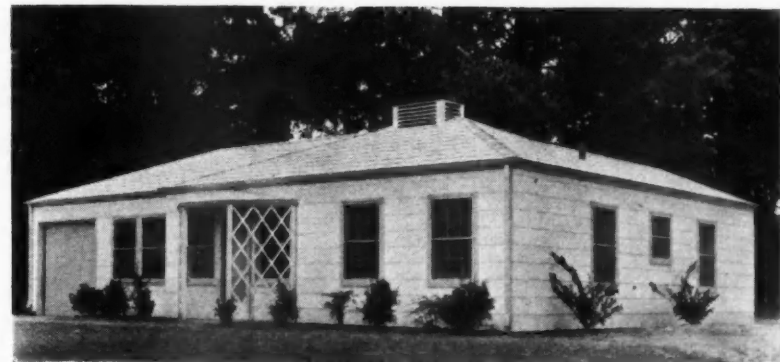
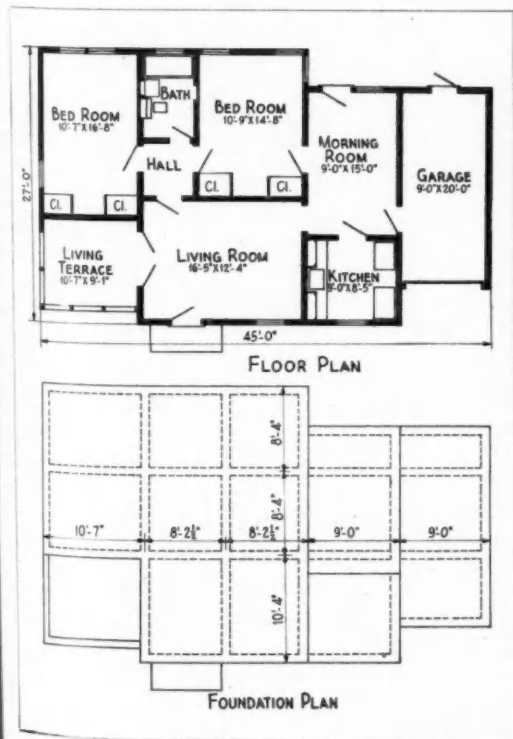
C. R. Brace, vice president of the company, who is in charge of the construction end of the business, outlines some of their building policies as follows:

"First, and also a very important matter, is the architectural design of each home we construct. We are of the opinion that the small home should have the same architectural designing as the larger and more expensive homes, and we believe the purchaser appreciates this fact."

"Due to natural conditions—that is, sandy soil and good drainage—we have been experimenting with the slab type of construction. That is, using a concrete slab as a foundation instead of the customary piers, and have found the same entirely satisfactory. The slab is four inches thick, with beams designed to carry the load under all walls, both exterior and interior, with a maximum distance between beams not over twelve feet. Before the slab is poured, the ground is thoroughly treated with a

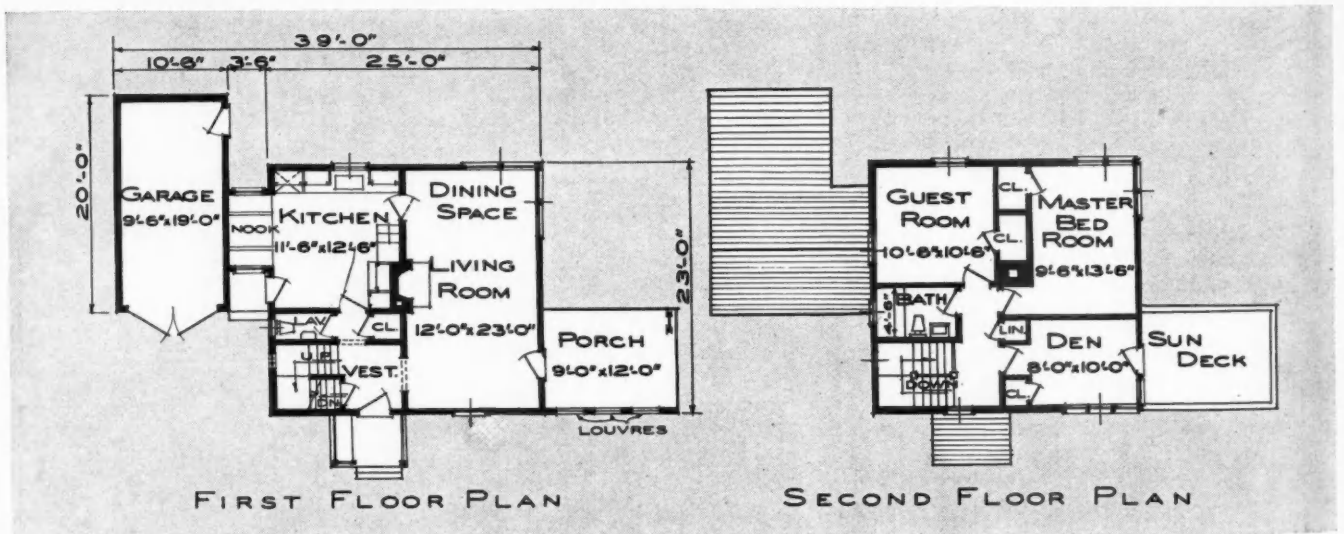
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THREE typical Garden Oaks low-cost homes, the bottom one being another demonstration house, are variations of the basic floor plan given below.





MODERN LINES and floor plan are featured in this Connecticut demonstration home built by Joseph De Paolo.



JOSEPH DE PAOLO, builder, plans 140 houses.

30,000 Flock to "Model Living Home" in Wells Quarter Village

"THEY came, they saw, and were conquered," is the report from Wethersfield, Conn., where energetic Joseph De Paolo recently opened an unusual and interesting demonstration home in his new Wells Quarter Village development. Thirty thousand people visited the house in three weeks, and many are returning to buy, De Paolo reports. The house itself was sold the first week.

De Paolo was celebrating the 20th anniversary of his activity in the building business in Wethersfield, and he took every opportunity to put pep into the opening of his new development. He

Wethersfield, Conn., builder attracts crowds with semi-modern 5-room model home, featuring latest trends in design and equipment. Unusual porch wall enclosure extends length of house, and gives it added privacy.



had the co-operation of The Hartford Gas Company, Life Magazine and numerous local representatives of equipment and material firms. The progressive Hartford Courant published a 12-page rotogravure section devoted to the demonstration home.

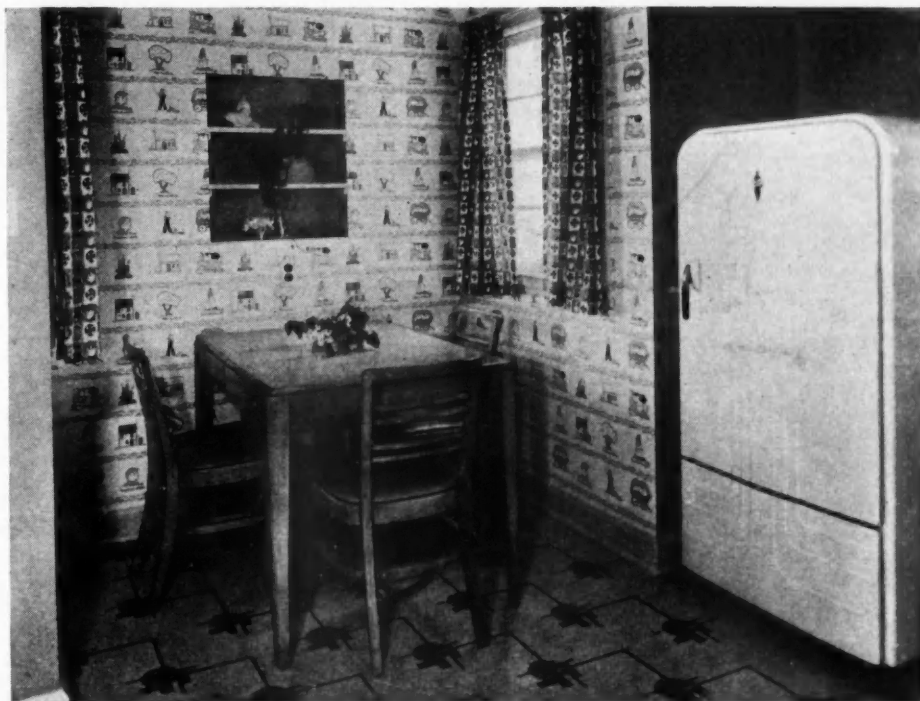
De Paolo plans to erect 140 houses in Wells Quarter Village, of which 11 have been constructed. He reports that the all-gas demonstration home has done much to help his sales.

While some local New Englanders who are rather thoroughly sold on New England Colonial architecture felt that the demonstration home was too "unusual" for that community, the house did attract much attention. It is a modern design with square-shaped central area and attached garage at one end and covered porch at the other. An interesting feature is the fashion in which the front wall of the house was carried out across the porch, giving an appearance of great size to the house and providing privacy for the porch.

The house has a fairly large living room, one end of which is planned as dining space. How this works out is indicated in the accompanying photograph of this dining corner. A more informal place for meals is provided in the dining nook, located between kitchen and garage, which is also illustrated. The kitchen itself is of good size, and the combination of the above three factors may make up for the absence of a full-size dining room in accustomed fashion.

A good feature of the plan

(Continued to page 97)



DINING CORNER of De Paolo's model home, top of page, shows how dining area can be made part of living room. In addition, a dining nook off kitchen (above) is provided for informal meals.

WELL DESIGNED and attractive sign at the entrance to De Paolo's Wells Quarter Village in Wethersfield, Conn.





FIELDSTONE and clapboard house in Stich and Gibson's Hempstead Park Acres. Floor plan opposite.

Two Chips Off the Old Blocks

Young sons of prominent builders make a name for themselves on Long Island. Build 50 houses.



BUILDER I. R. Stich, age 26.



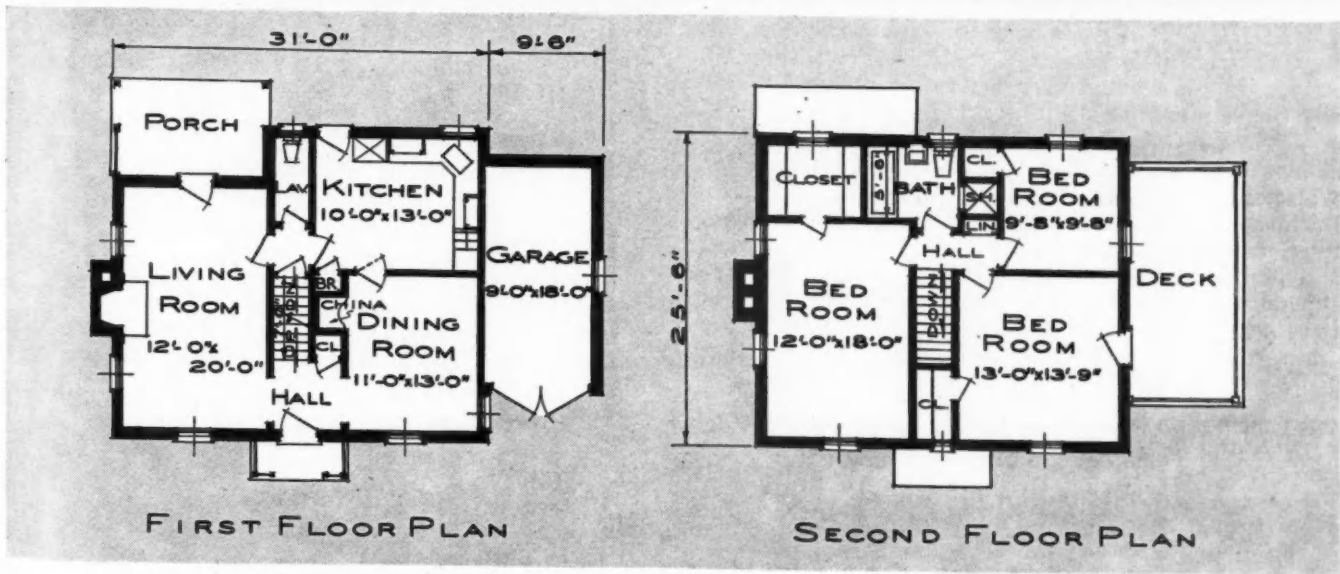
BUILDER F. E. Gibson, age 32.

TODAY as never before the home building field is seeing rapid changes and improvements that are having a far-reaching effect. A great many new young builders are coming into the picture, and frequently some of the most successful building projects of today are in the hands of surprisingly young men.

Two young builders such as this are I. R. Stich and F. E. Gibson, whose development, Hempstead Park Acres at West Hempstead, Long Island, has been very successful. In the past two years these two young men, aged 26 and 32 respectively, have built and sold 50 houses, in a price range from \$7,500 to \$15,000.

What is still more interesting in this case is that both Stich and Gibson are the sons of successful Long Island builders, well known for many years in the business. W. R. Gibson, for instance, has built many thousands of houses in numerous developments in a long and active career.

Both sons could have gone into business with their fathers, but they preferred to



ANOTHER Stich and Gibson house, with fine compact floor plan by Architect Maxmillian R. Johnke.

step out entirely on their own. They got their early experience, however, working summers and in between times on their fathers' jobs. Both have had a college education to add to this background of practical experience.

The Stich and Gibson project, Hempstead Park Acres, is located on land that was formerly a large private estate and is beautifully wooded and landscaped. The houses these young men have built there are modern in every sense and are well designed by Architect Maxmillian R. Johnke, who is an expert in getting artistic appeal and salability into houses of moderate price.

The two houses illustrated above, while very dissimilar in exterior appearance, have approximately the same floor plan. This plan has much to recommend it, with a well-proportioned entrance hall, 12 by 20 foot living room with

3 exposures, well-placed downstairs lavatory, and a 10 by 13 foot kitchen which is fully and expertly equipped. There is space in the kitchen for a table.

The white brick home illustrated above is like a small-scale French Manor house—compact, yet attractive and well proportioned. Exterior is of brick and stucco.

Included in the quality materials and equipment used by Stich and Gibson in their Hempstead Park Acres houses are: National oil burning boilers with Trane Convector radiators, Kohler and Standard plumbing fixtures, Celotex and Insulite insulating board sheathing, Bangor slate roofs, Anaconda copper tubing, Armstrong linoleum in kitchens, U. S. Quarry tile in baths, U. S. Gypsum Rocklath plaster base, Fenestra steel casement windows, Mohawk white stucco, Devoe & Reynolds paints, oak floors throughout, Colonial wallpaper.

Three Distinctive Kansas City Homes

THE Dierks Lumber & Coal Company, Kansas City, Mo., wishing to promote wider use of correct design in small homes, recently commissioned William S. Loth, prominent architect of that city, to design 25 attractive homes in the moderate cost bracket. These were subsequently published in book form under the title, *Distinctive Small Homes of the "New Decade."* Dierks believes, and rightly so, that a house attractive in appearance and efficient in use can be built at no greater cost than one poorly designed, and in many cases substantial savings can be effected.

Three of these designs which have been built are shown with floor plans on these pages. They are located in and around Kansas City; Leo Brady built the "Beechwood," W. H. Shackelford & Son were builders of the "Woodside," and Joe Hoffman was the builder of the "Fairwood."

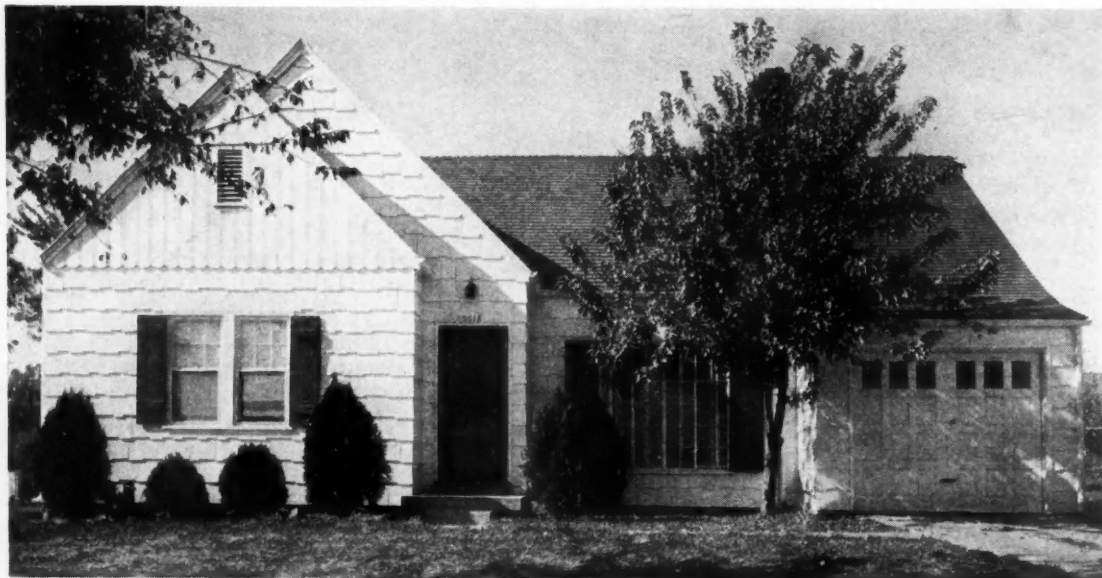
The book in which these houses are published contains a number of pages on financing, getting good value, sound construction and other information useful in the contacting of the buying public by building industry men. It promotes better building generally and proper use of lumber for small homes; a sample specification (a part of the Dierks service) covering standard practice in the Kansas City territory and furthering the cause of high value is as follows:

Specification for the "Beechwood"

EXCAVATION: Excavate for basement, piers, footings, driveways, front entrance, etc., to depth shown on drawings; and do any other excavating required to fully and correctly carry out the work.

STONE FOUNDATION: Foundation to be to height shown, of good, sound, native stone, laid on level beds with headers every two feet in length and height and to a thickness of 18". All interstices are to be thoroughly filled in with spawls and mortar and carried up straight and plumb, and to be perfectly level on top, ready for superstructure. Exposed portions above grade lines are to be neatly hammered and tuck pointed upon completion. The inside of the wall shall be broomed with lime mortar.

THE BEECHWOOD shown below has a practical and livable five-room and attached garage plan, as indicated at the right.



THIS house features a breakfast nook separated by a counter from the efficient U-shaped kitchen; dressing table and closet in bath, living porch off dining room, and direct access to garage from the kitchen and basement.

Provide 10" x 12" clean-out doors for ash pit where a fireplace is provided, and 8" thimble for furnace.

FOOTINGS: Under all supporting columns place a 24" x 24" x 12" reinforced concrete footing. Additional footings may be as required where deemed necessary.

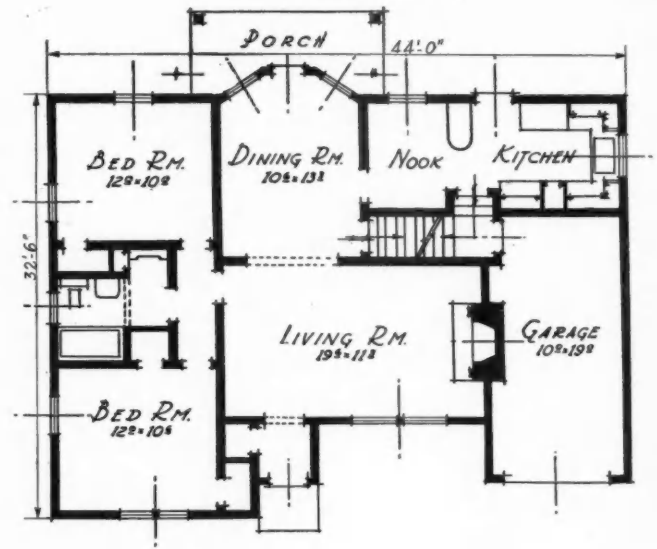
GRADING: After the approval of the FHA has been obtained on the foundation walls, the rough grading shall be done, holding the black dirt apart, to be distributed about the premises as directed.

DRAIN TILE: Provide 4" farm tile around the outside of walls of excavated portions. This tile is to be covered with crushed rock and to be carried to a sump drain in the basement.

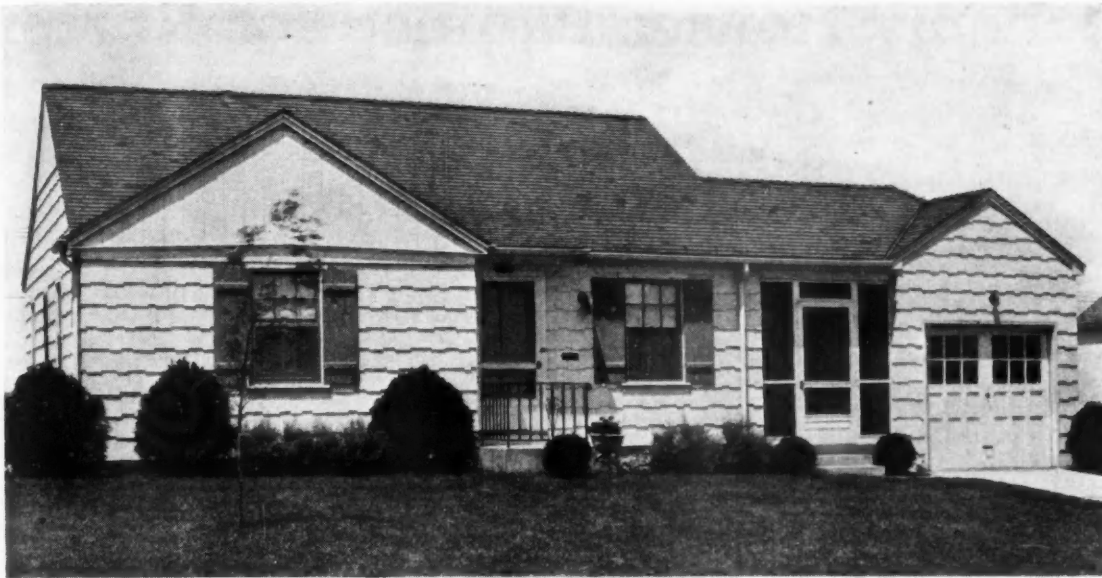
IRON WORK: Carpentry contractor is to set all steel girders, columns, etc., and is to be included in his contract. All iron shall receive a shop coat of mineral paint before erection. Sizes are to be as shown. 5/16" bearing plates shall be under all I beams where they frame into the foundation wall.

CARPENTRY AND FRAMING: All framing lumber shall be Yellow Pine, Dierks, Grade & Trade Marked No. 2 Dimension. Board lumber for sub-flooring, sheathing, rough sheathing, etc., shall be Yellow Pine, Dierks, Grade & Trade Marked No. 2.

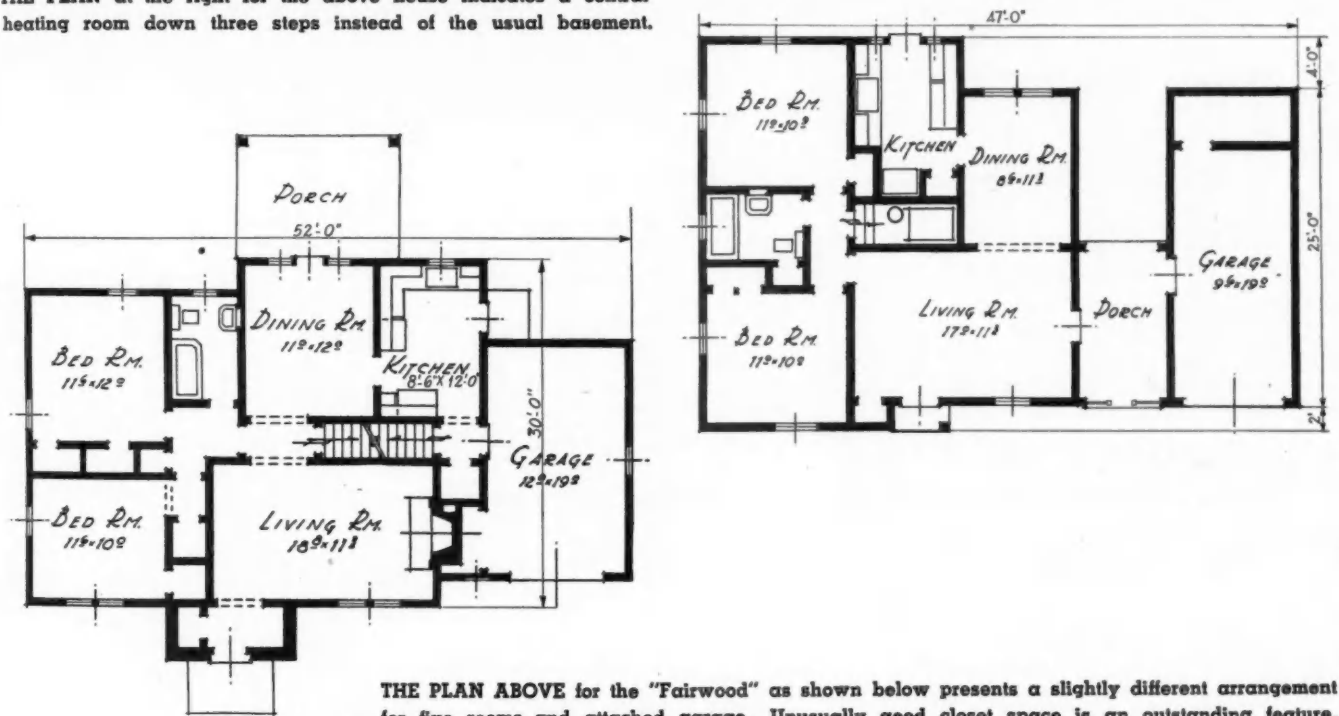
(Continued to page 86)



THE WOODSIDE, designed by Architect William S. Loth, Kansas City, Mo., and like the other two Dierks small homes shown here, has the exterior styled in No. 1 24" red cedar shingles.

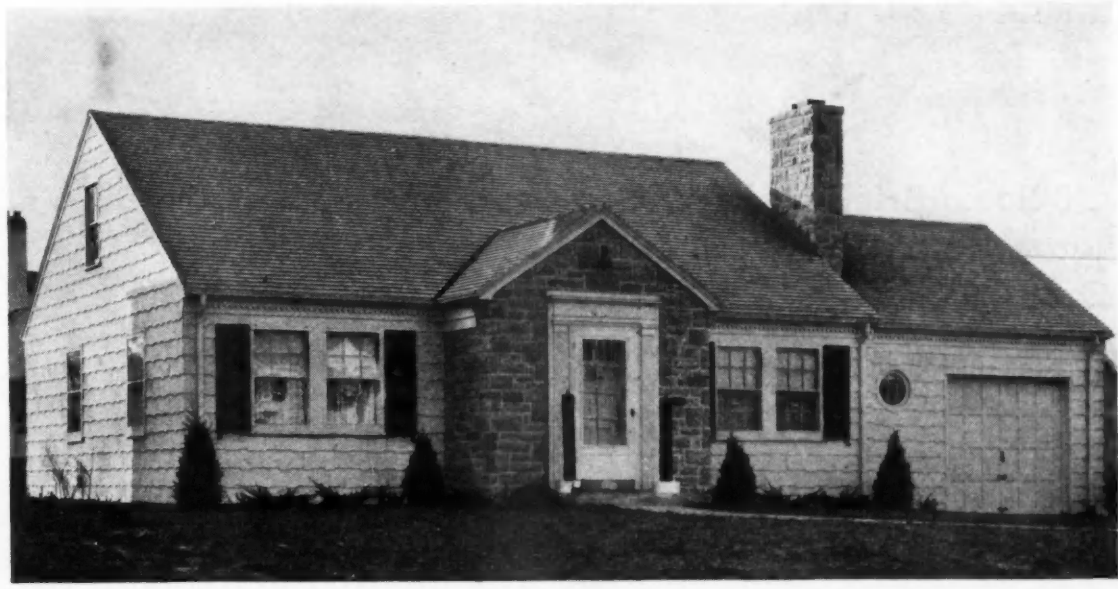


THE PLAN at the right for the above house indicates a central heating room down three steps instead of the usual basement.

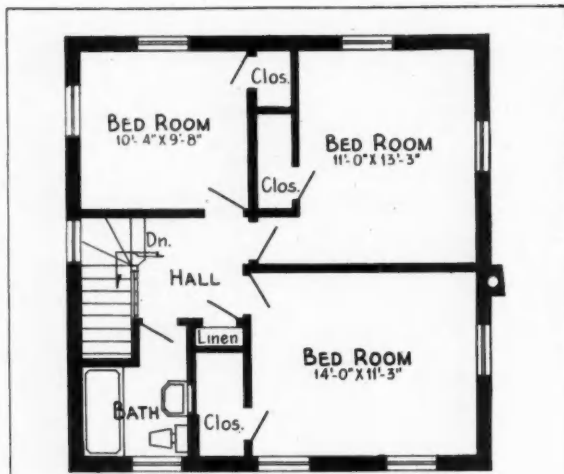


THE PLAN ABOVE for the "Fairwood" as shown below presents a slightly different arrangement for five rooms and attached garage. Unusually good closet space is an outstanding feature.

THE FAIRWOOD at the right has an attractive stone faced entrance to relieve the straight front and plain roof lines of this design; large chimney picks up the stone detail in a most pleasing way.



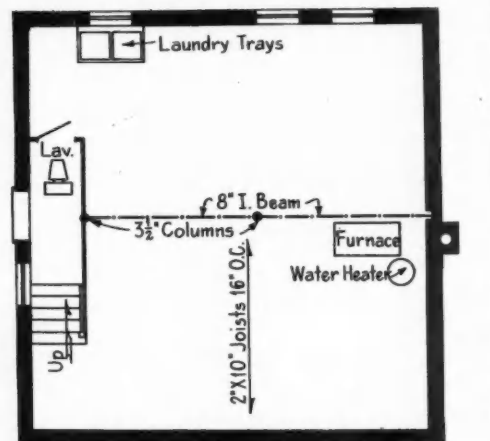
Economy Houses Planned for Narrow



SECOND FLOOR PLAN



FIRST FLOOR PLAN



BASEMENT PLAN

IN CHICAGO, William H. Rix & Co., home builders, have developed and built a number of moderately priced homes which, while planned for typical narrow lots of 40 feet and under, still retain desired features of livability. Two of a group of these houses are presented here, the one on this page being one of the smaller designs worked out by this builder, and the other more elaborate, both as to exterior and plan features.

The brick house shown below contains within its 26' by 26' 8" overall size six adequate rooms, bath and full basement with extra lavatory. Reversing the trend of the 20's, during which time the average small house in Chicago was of the bungalow type with rooms strung one behind the other, necessitating going through several of them to get from front to rear, this little house has a connecting stair hall. From it there is access to living room, guest closet off stair landing and, to the rear, kitchen broom closet, grade entrance and basement.

ENTRANCE and stair hall arrangement in the above plan allows for first floor convenience and privacy not usually found in small houses; framing is economical.

6-Room Brick Has Large House Features, Only 26' x 26' 8" Plan

COLONIAL detail, simply handled, gives character to this Rix house planned for modern living, with space for a breakfast nook, ample bedrooms and good closets.



City Lots

On this page is illustrated one of the most popular houses in Chicago. The basic plan was originally worked out for the People's Gas Company house demonstration three years ago, and since that time has been improved upon and refined; it has probably been built several hundred times in the Chicago area alone.

Stone front detail, large living room bay, curved dormer heads breaking through the eaves, iron work and projection of hip roof provide an exterior attractive to many buyers. It conceals the usual boxiness of a simple narrow lot design. In plan, the six rooms are well arranged for good circulation, plenty of light and air, and modern convenience. Again the side entrance arrangement allows direct access to the rear of the house without going through the living and dining rooms; the first floor lavatory is well placed.

Equipment and living features include a well lighted breakfast bay overlooking the rear, good work space and arrangement in kitchen.

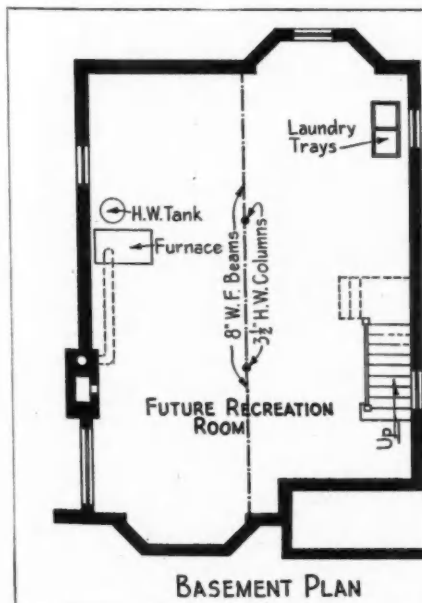
Some of the materials and construction items used in these Wm. H. Rix & Co. houses are: Dampproofed poured concrete basement walls and solid masonry construction of exterior walls; Hines Precision kiln-dried framing lumber; rock wool batts in sidewalls and Balsam-Wool over the second floor ceiling; three-coat plaster on U.S.G. Rocklath; Bruce oak flooring; Flintkote thickbutt asphalt shingles; Standard Sanitary fixtures; Sunbeam gas-fired winter conditioning, I-XL kitchen cabinets.



THE ABOVE house presents a more elaborate solution to the narrow lot planning problem than the one opposite; basic room arrangement is maintained within 25-foot width.

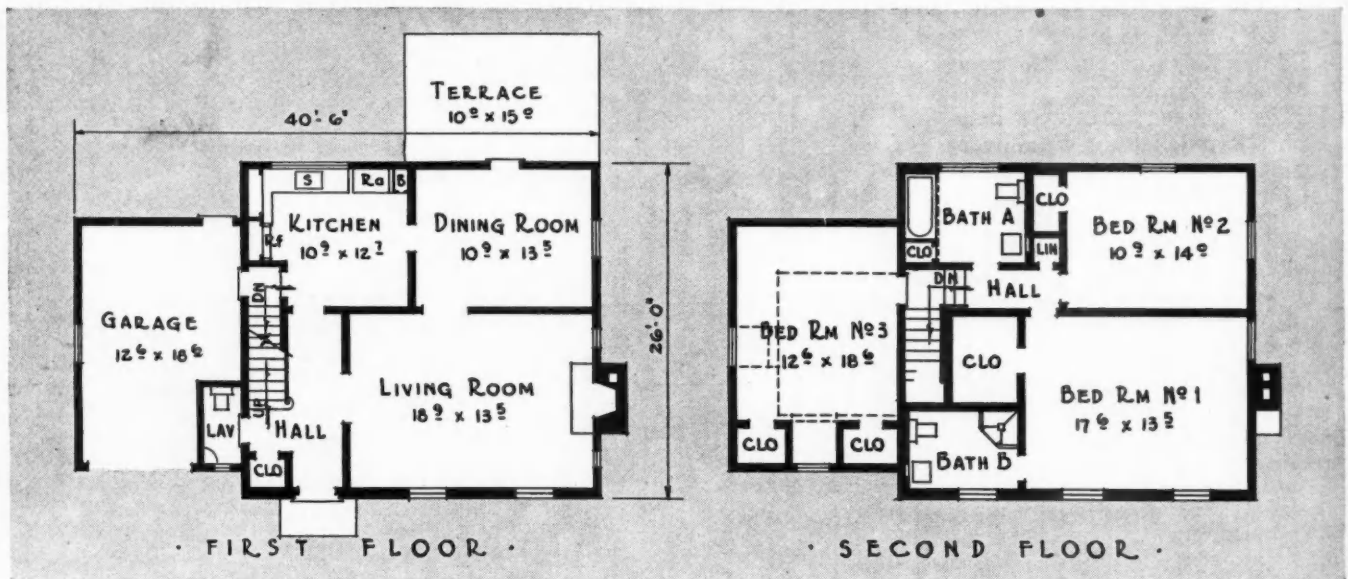
**Good Circulation,
Plenty of Light
and Air Within
Attractive Exterior**

PLAN FEATURES include space for large future recreation room, connecting hall between front entrance and kitchen, breakfast bay, access to rear terrace and handy lavatory.





WHITE BRICK and shingle variation of popular Mott Brothers design. House has 6 rooms, 2 baths, lavatory.



One Good Plan, Three Salable Designs

THESE three attractive, salable exteriors for one unusually good floor plan are the product of the Mott Brothers building organization of New York City. The houses are built according to Mott Brothers specifications and are designed by the Mott Brothers staff. This floor plan provides six good rooms with two baths upstairs and a lavatory downstairs. The attached garage fits nicely into the plan and has direct entrance into the house. The living room is spacious and well laid out,

with good window placement. The hall, stair and lavatory arrangement is good, and there is a direct entrance to the rear of the house without passing through the living room. Upstairs the floor plan provides spacious and comfortable rooms, with a master bedroom 17' 6" x 13' 5" which has its own private bath. Bedroom No. 3 over the garage is conveniently placed near the stairs and could be used as a maid's room. The three exterior treatments are nicely handled and do not appear alike.



FRENCH PROVINCIAL design for basic plan has white stone, brick and stucco exterior.

Photos by Cyril Lamplough



ANOTHER MOTT BROTHERS Colonial house, located in Flower Hill, Long Island, using plan on opposite page.



TRIM appearance of the State Motel, Texas, as seen above from the entrance, attracts tourists. L. L. McCandless, contractor.

Texas Motor Court Has Modern Appeal

ON U. S. Highway 81 in Texas, one of the tourist courts most successful in attracting overnight guests is the State Motel. Within its clean-cut, well kept group of connected buildings, there are 15 living units and the office, all substantially built with concrete floors and 8-inch walls of concrete brick and tile finished with portland cement paint. An older house already on the plot has been modernized and incorporated into the layout.

The unit plan is shown on the opposite page, and consists of L-shaped living room with a large closet, and bath; the latter is



LOOKING down the paved court between the two rows of units of the State Motel in Texas, it will be noted that there is plenty of space to turn in under the car shelters.



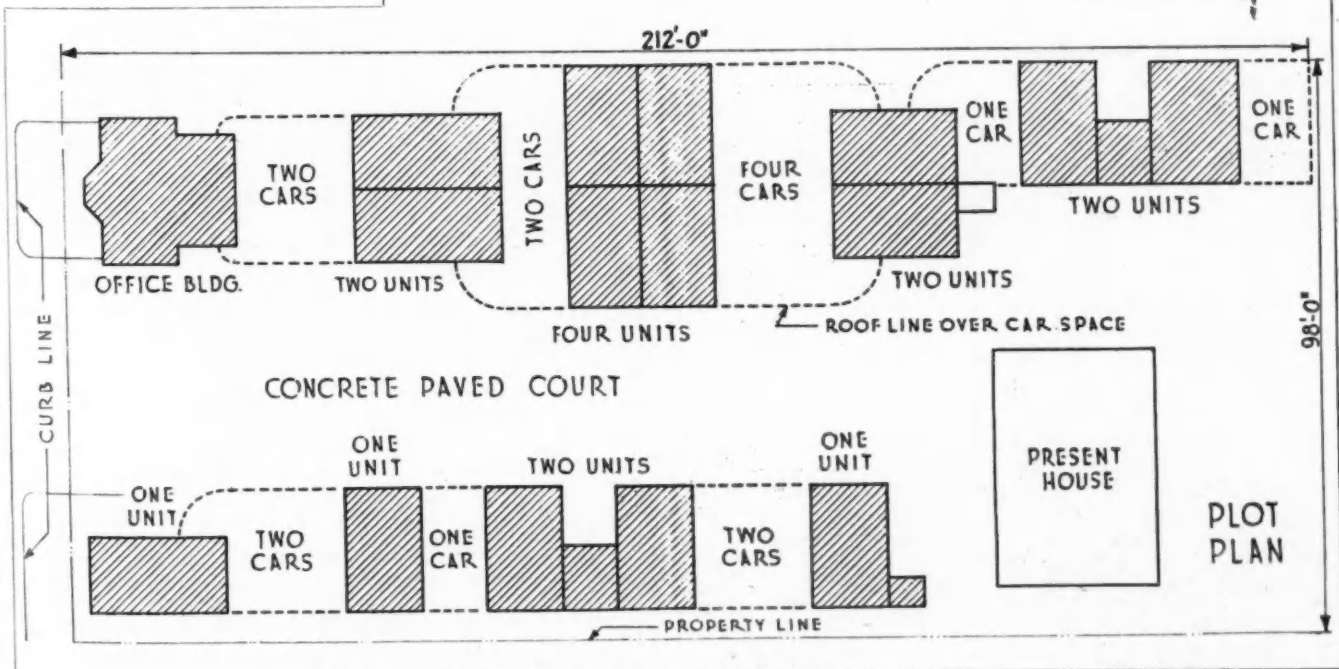
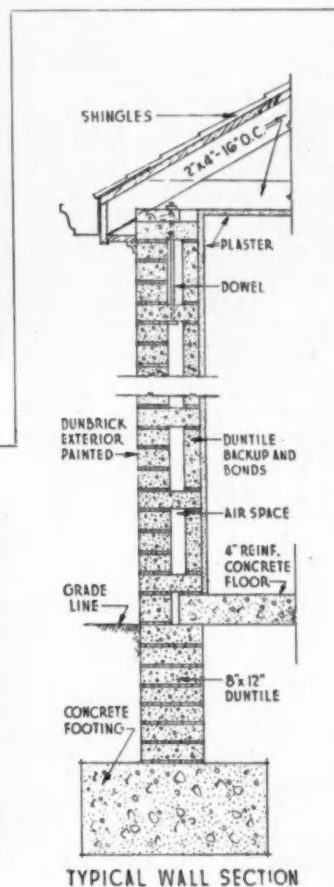
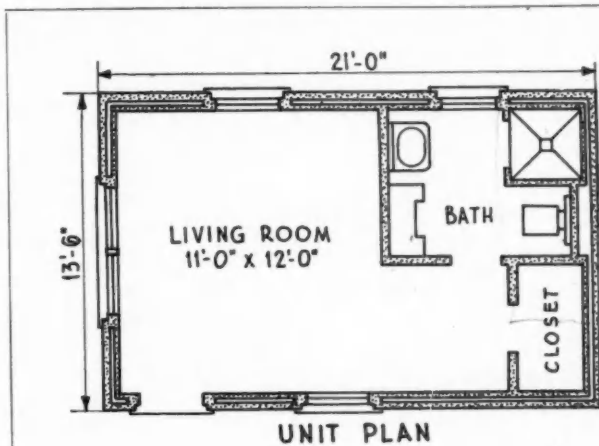
THE office building faces on the highway and has a wide mar- quise along one side for the pro- tection of the stopping motorists.



EASY to clean interiors, modern baths, wall-to-wall carpeting, Venetian blinds and streamlined furniture please guests at State Motel, Texas

equipped with shower stall, lavatory, toilet, and dressing table. The tile trim and wall heater can be glimpsed in the interior view. Interior walls are plastered directly on the concrete; wallboard tile are used on the ceiling. Furnishings throughout are modern.

The units are grouped together in such a manner that when the space between was roofed over, it provided a suitable car shelter.



PLOT plan, unit plan and typical wall section above indicate arrangement and construction of this modern tourist court.

Using THE STEEL SQUARE to Lay Out Valley and Jack Rafters

**This Article in the Series Deals
With the Methods of Figuring and
Cutting These Structural Members**

By Gilbert Townsend

PREVIOUS articles of this series have explained the use of the steel square in laying out common rafters and hip rafters. In roofing over a building of rectangular plan without projecting wings or "ells," there are no valley rafters, but as soon as these wings are added, valley rafters result. The roof framing plan shown in Fig. 1 has valley rafters marked V, as well as hip rafters marked H, and it will be seen that in this plan the valley rafters look just like the hip rafters, that is, they make the same angle with the ridge as do the hip rafters. They also rest on the wall plates in the same way. This is true in any roof frame where all the parts have the same pitch or slope—called roofs "of equal pitch."

Valley Rafters

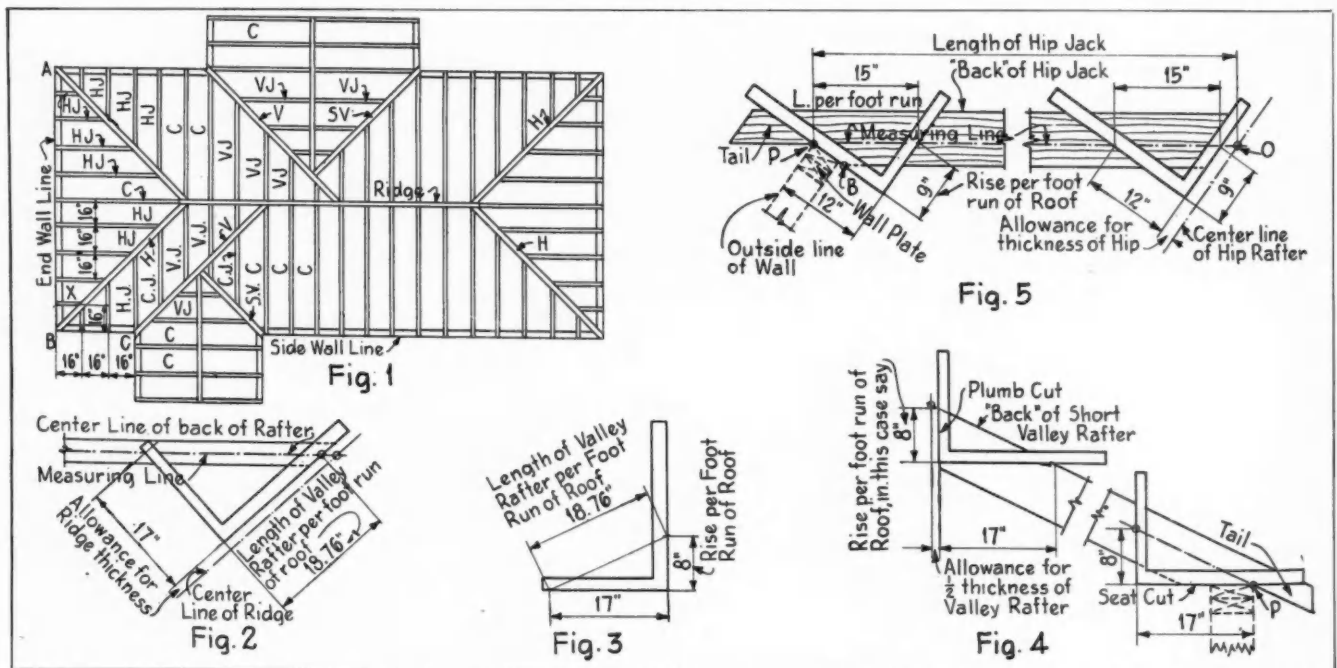
All parts of the top edge or "back" of a valley rafter will lie below the roof surface, or the surface formed by the under side of the roof boarding, so there need be no question of "backing" such as was explained in a previous article dealing with hip rafters. The lower ends of the valley rafters rest on (or are cut over) the wall plates in exactly the same way as do the lower ends of the hip rafters and the upper ends of the valley rafters bear against the side of the ridge board just as do the hip rafters. The methods employed for making the seat cut, the side cut and the plumb cut for valley rafters in roofs of equal pitch are exactly the same as for hip rafters. These methods

were explained in the last preceding article of this series and the explanation will not be repeated here. Fig. 2 and Fig. 3, however, show how the steel square can be used to mark off the side cut at the upper end of the valley rafter where it bears against the ridge. Fig. 3 shows how the "Length of Valley Rafter Per Foot Run of Roof" is found and Fig. 2 shows how this "Length" is used on the blade of the square together with 17 inches on the tongue of the square in order to mark off the seat cut across the "back" of the valley rafter. In order to do this, it is necessary to have a steel square with a tongue 18 inches long instead of the usual 16 inches.

The short valley rafters marked S. V. in Fig. 1 have their lower ends resting on the wall plate as shown at the right hand side of Fig. 4 and their upper ends framing into the sides of the longer valley rafters as shown at the left hand side of Fig. 4. In plan view (Fig. 1) they are at right angles to the longer valley rafters, the sides of which are plumb, and therefore there is only a simple plumb cut to be made. The plumb cut and seat cut are shown in Fig. 4.

Jack Rafters

In addition to the common rafters and the hip and valley rafters in any ordinary hipped roof or hip-and-valley roof there are the shorter rafters which fill in the triangular spaces between the wall plates and the hip rafters and between the valley rafters and the ridges. These rafters are of course shorter than the common rafters, (marked C. in Fig. 1), which extend from the plate all the way up to the ridge board, and this is the reason why they are called "jack" rafters. There are three kinds of jack rafters as shown in the framing plan in Fig. 1, as follows:—Hip-jacks, marked H.J., which have their lower end resting on, or cut over, the wall plate while the upper end rests against a hip rafter; Valley-jacks, marked V.J., which have the upper end resting against



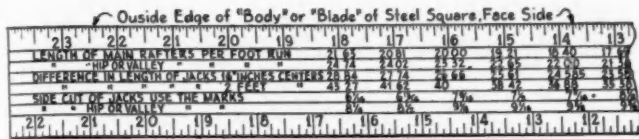


FIG. 6 RAFTER TABLES

the ridge-board, while the lower end bears against a valley rafter; cripple-jacks, marked C.J., which have the lower end resting against a valley rafter and the upper end bearing against a hip rafter and which have no connection with either the wall plate or the ridge board.

Hip-jacks have a seat cut at the lower end where they rest on, or are cut over, the wall plate and a plumb cut and side cut at the upper end where they bear against the hip rafter. Fig. 5 shows how the seat cut is made with the aid of the steel square. Select the point P far enough from the left hand end of the piece of stuff to allow for the overhanging tail of the rafter at the eaves of the roof and far enough from the dressed top edge of the stuff—the back of the jack rafter—to give the required width to the tail to correspond with the similar tails on the adjacent common rafters. The point P will be the point in which the upper outside corner of the wall plate intersects the side of the jack rafter as the rafter rests on the wall plate. It will be assumed that the rise-per-foot-run of the roof is known. It will be the same for the jack rafters as it is for the common rafters. In the case of the jack rafter which we are dealing with let it be nine inches rise in twelve inches run corresponding to a roof of three-eighths pitch. Having located the point P on the side of the stuff, draw or scratch a "Measuring Line" on the stuff parallel to the dressed top edge which will be the "back" of the rafter. Place the square on the side of the stuff as shown in Fig. 5 with the 12 inch mark in the inch line on the outside edge of the blade or body exactly on the point P and the 9 inch mark in the inch line on the outside edge of the tongue exactly on the "Measuring Line" further along to the right away from the point P in the direction of the top end of the jack rafter. With the square in this position, a line scratched on the side of the stuff along the outside edge of the blade or body of the square from point P to point B on the lower edge of the rafter will be the line for the seat cut. This is practically the same procedure as that which was described in a previous article of this series, dealing with the seat cut for common rafters.

At the upper end of each hip-jack rafter there will be two cuts to make, a side cut and a plumb cut, but before making them it will be necessary to find out the length of the rafter and to measure off this length along the rafter from the point P to the point O in Fig. 5.

Length of Hip-Jack Rafter: Since the hip-jack rafters fill up the triangular spaces in the roof framing layout which occur between the wall plates and the hip rafters, the jack rafters are not all of the same length. Starting with nothing at the corner of the building where the hip rafter starts to slope upward the jack rafters are spaced at equal distances apart, 16 inches or 24 inches center to center, and the farther they are from the corner the longer they are. The increase in length of each successive rafter over the one beside it is the same for all jack rafters for any particular spacing of rafters and pitch of roof. The increase in length is, in each case, the same as the length of the first, or shortest, rafter—the rafter

nearest to the corner of the building. If the roof is one of equal pitch a steel square which has the Rafter Tables on it can be used to read off directly the length of the shortest rafter or the "Difference In Length of Jack" for spacings of either sixteen inches or twenty-four inches and for a "rise-per-foot-run" of two inches, or eighteen inches, or any number of inches in between. On the face of the blade or body of a square which is equipped with the Rafter Tables there is a series of figures arranged in columns beneath the numbers in the inch line on the outside edge, as shown in Fig. 6. In the third line from the top are figures which give, in inches, the difference in length of jacks when the jacks are spaced 16 inches on centers. The fourth line from the top gives figures showing the difference in length of jacks when they are spaced 24 inches on centers. These figures show the length in inches of the first or shortest jack rafter and (what is the same thing) the difference in length between the first and second jack, between the second and third jack and so on for that roof pitch of which the rise-per-foot-run in inches is indicated by the number at the head of the column in the inch line on the outside edge of the face of the blade or body of the square. The length of any jack rafter, therefore, can be found by multiplying the number of inches given in the rafter tables by a number indicating the position of the jack in the framing plan or on the roof with reference to the corner of the building in the case of a hip-jack or with reference to the intersection point of the ridge with the valley rafter if it is a valley-jack. Multiply by one for the length of the first jack which is also the shortest, by two for the second or next longest jack, by three for the third jack, by four for the fourth jack from the corner and so forth.

How to Find Actual Jack Length

The result will not be the actual length of the jack rafter, but will be the theoretical "length" from the point where the outside upper corner of the wall plate intersects the side of the jack rafter (as the jack rafter rests on, or is cut over, the wall plate) up to the point where the "Measuring Line" of the jack intersects the center line of the hip rafter. This is shown in Fig. 5 where the distance is marked "Length of Hip Rafter." From this theoretical "length" must be subtracted from $\frac{3}{4}$ to $\frac{7}{8}$ of the thickness of the hip rafter and to this theoretical "length" must be added an amount sufficient to allow for the projection of the "tail" of the jack rafter over the wall plate at the eaves—if the roof has overhanging eaves.

Example: To find the length of the fourth hip-jack rafter in a roof frame when the roof has a rise-per-foot-run of 8 inches and the jacks are spaced 24 inches on centers. Look on the face of the body or blade of a steel square and if it has the Rafter Tables on it, find in the inch line on the outside edge the figure 8 corresponding to the "rise-per-foot-run" of the roof. Under this figure 8 there will be a column of figures as shown in Fig. 7 and Fig. 6. In the fourth line down in this column of figures under the 8 you will find the figure 28.84 as shown in Fig. 7. This figure is supposed to indicate that the difference in length of the jack rafters (or the length of the shortest jack rafter nearest to the corner of the building) is twenty-eight and eighty-four one hundredths inches or two feet four and eighty-four one hundredths inches. Sometimes these figures are given in inches and sometimes in feet and inches. Now to get the length of the fourth shortest rafter the figure must be multiplied by four as follows:—28.84 inches times 4 equals 115.36 inches, which is nine feet seven and one-third inches. From this theoretical "length" must be sub-

(Continued to page 79)

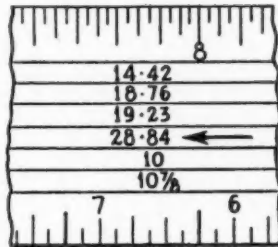


FIG. 7

Practical Pointers for the Estimating of Prefinished Wall Paneling

By Mark Seibert

Industrial Designer



The Author

THE drawing up of a correct estimate is of vital importance to all parties involved—the customer, the builder and the carpenter. Over-estimating frequently causes the builder to lose the job, while under-estimating may easily result in hard feelings, annoying delays and, worst of all, a dissatisfied customer.

An important rule is: never guess at the price of a job! Always wait until you have had an opportunity to estimate the job, then quote your customer the price of the complete installation after familiarizing yourself with the decorative scheme.

MEASUREMENTS: Before starting to estimate, make a pencil sketch of the floor plan of the rooms. Show doors, windows, bathtub, etc., and the exact measurement of each wall section, including width of doors and windows. It's a good plan also to measure ceiling height, as your customer may decide to have both walls and ceiling covered and not merely the wainscoting.

Wall Layout Sketch Is Helpful

WALL TREATMENT: It will help the carpenter to understand your estimate and how to cut the sheets if each wall is sketched out; i.e., laid down as though hinged to the floor (see illustration below). Then draw in the desired treatment. If a material such as Marlite or a paneling of similar quality is used, keep in mind that the panels may be 4 feet wide and from 4 to 12 feet long. Sometimes a wall requires an entire panel. Then again, a panel will cover two or three wall sections. It's a good idea not to figure the panels too close. Panels 8' long and shorter are much easier to handle on the job. Where there is wall space below windows (and above windows and doors where upper walls are treated) always figure the windows and upper part of doors as solid areas. This is because panels, such as Marlite, must be notched out to fit under and over the windows and upper part of door.

CEILING LAYOUT: If the ceiling is to be covered, you should decide which layout best meets the requirements of the job. Of course, the layout is governed largely by the size and shape of the ceiling. Sometimes you will find it advisable to put a border around the ceiling in order to insert full size panels

between the border, thereby reducing waste to a minimum.

FIGURING MATERIAL REQUIRED: Each panel of prefinished wall material should be keyed to the layout in order to show your carpenters at a glance just where it is to be used. Example: panel "A" on the accompanying layout should be marked on the list of materials and indicated on the wall section for which it was estimated. Panels "B," "C," etc. should be indicated in the same manner.

CUTTING PIECES "ON PAPER": When estimating a job which seems quite complicated, simply follow the same procedure as outlined above for figuring bathrooms. Determine the quantity of each size panel and of each color required—just as you would for a simpler job. Then, after the quantities have been computed, the next step is to reduce the list to standard wall size panels. On a piece of paper draw a 4' x 8' panel (or any other size) and within its bound draw as many of the various size panels required as possible, then draw another panel, and so on, until there is a sufficient number of standard wall-size panels to provide all the special size pieces required to do the job (see illustration). In other words, you figuratively "cut" the necessary pieces to exact size with pencil and paper!

Costs Vary with Local Conditions

ESTIMATING INSTALLATION: The cost of installing prefinished wall paneling must necessarily be determined by your experience. Installation costs will, of course, be subject to such varying conditions as: local labor rates, mechanic's ability and experience in applying this type of material, condition of existing walls, whether installation is complicated or simple, etc. For the first several jobs, therefore, it is suggested that you get a carpenter to take the job on a square foot basis. After you have installed several jobs and have kept a record of your costs, you will then be in a position to estimate the cost of the average installation.

Cutting 4' x 8' Royal Blue panel

(L)	16" x 5'-9"	16" x 2'-1"	(M)
(K)	16" x 5'	WASTE	
(H)	4' x 5'	(N)	
(J)	4' x 8'		

List of Marlite pieces required

Quantity	Size	Color	Cutting Scheme
2	4' x 5'	plain cream Marlite	A & B
2	2' x 5'	"	C
1	4' x 6'	"	D
2	2' x 8'	"	E
1	4' x 5'	"	F
2	4' x 5'	"	Ceiling
2	4' x 5'	plain Royal Blue Marlite	H
2	4' x 8'	"	J
1	16" x 5'	"	K
1	16" x 5'-9"	"	L
1	16" x 2'-1"	"	M
1	16" x 6"	"	N

NOTE: Reduce order to standard wall-size panels

SHOPCRAFTER'S Corner

Things To Build for Profit or Pleasure

How to Build a Garden Pool for Water Plants and Goldfish

A FORMAL pool is exceptionally attractive and can be built complete for the homeowner who wishes to dress up his garden. The pool may be rectangular, from three by six feet on up, or it may have semi-circular ends. If the ground is firm, outer wood forms are not absolutely necessary, as the excavated wall will serve that purpose. Whatever the plan, excavation should be made six inches deeper and wider on all sides than the inside dimensions of the pool. Lay the overflow and supply pipes before pouring the concrete.

Excavation completed and inner forms set up as in the cross-sectional drawing, concrete should be mixed with greatest care. The most important part of the mixing is to use the proper amount of water per sack of cement—for dry sand and pebbles, 5½ gallons, and, for moist sand and pebbles, 4½ gallons. A measuring box, holding one cubic ft. of dry contents, and a bucket marked in quarts and gallons, will insure getting the right proportions. First mix dry 1 part portland cement. 2 parts clean, sharp sand, 2½ to 3 parts clean gravel. Mix thoroughly until the color is uniform—no gray or brown streaks. Now add correct amount of water and mix until sand and pebbles are thoroughly coated with cement paste. The resultant concrete should be plastic, holding its shape well but not crumbly. If too stiff, use slightly less sand and gravel; if “runny” add sand and gravel until the desired consistency is obtained. It should be placed within half an hour, and once the work is begun it should not be halted before completion. Otherwise there will be a leaking joint where the first concrete has set before the work was continued later.

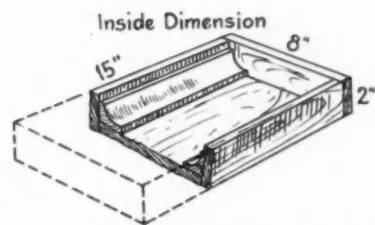
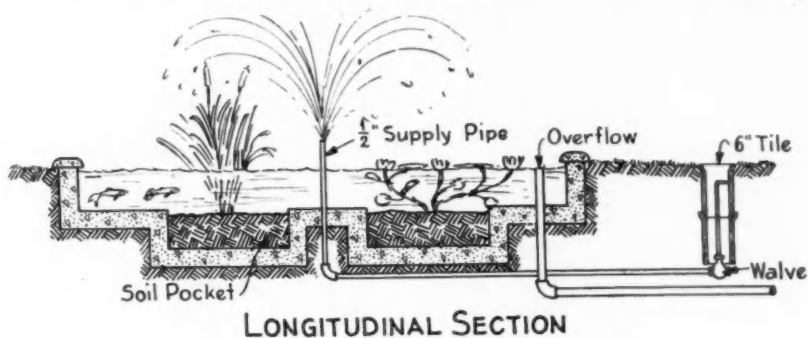
To make a neat parapet, a moulding box can be made as shown and the rounded edges will add a decorative effect. Where curved forms are required, use 20-gauge galvanized iron, with stakes on the outside holding it in place.

In curing, do not permit newly placed concrete to dry out. Protect it from sun and drying wind a week or so. Cover with burlap and sprinkle often enough to keep it moist.

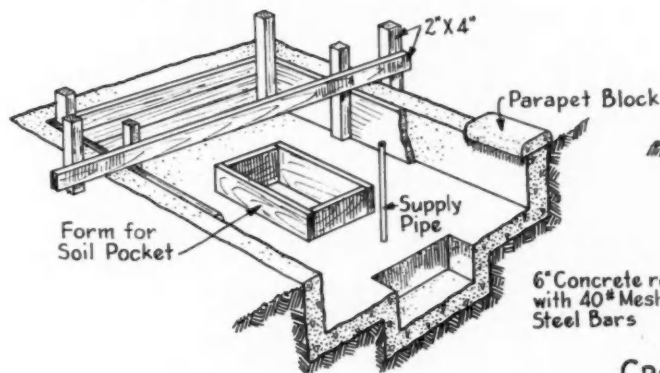
Soil pockets should be filled with richly fertilized loam, and lily bulbs set in. Do not be discouraged if the soil discolors the water at first because eventually, with the growing plants, it will become “balanced” and remain crystal clear even though the water is not changed frequently. The supply pipe will aerate the water for goldfish if a spray nozzle is fitted.



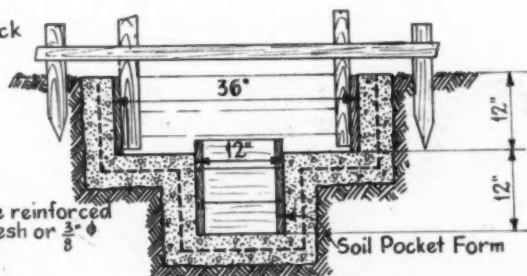
FORMAL pool, Pasadena, Calif., built similar to details below.



MOULD FOR PARAPET BLOCKS



ISOMETRIC SECTIONAL VIEW



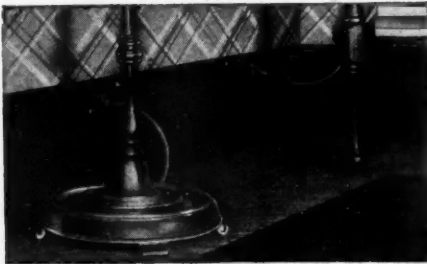
CROSS SECTION SHOWING HOW FORMS ARE SUPPORTED

SERVICE TO READERS

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WHAT'S NEW IN BUILDING MATERIALS

AB101 The new "Plug-in" Strip method of circuit wiring, developed by National Electric Products Corp., Pittsburgh, Pa., provides adequate outlets every six or eighteen inches at convenient heights all around the entire wall of the room. The strip is easily installed



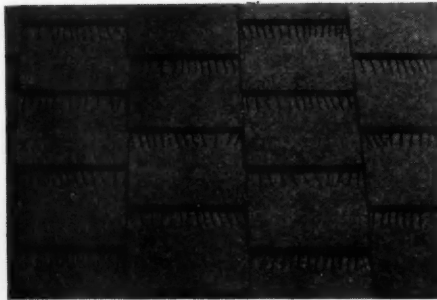
"Plug-in" Strip provides frequent outlets.

directly on top of the baseboard or beneath the baseboard trim, making a decorative effect with outlets hardly noticeable. "Plug-in" Strip comes in six-inch, one-foot, eighteen-inch, two-foot, three-foot, six-foot and nine-foot lengths, finished in black, and can be painted to match any color.

AB102 Fireproof, water-repellent, dark mineral wool . . . which stops heat 40 times more effectively than solid concrete . . . has been encased by the Eagle-Picher Sales Co., Cincinnati, O., in paper to form new-type home insulation blankets and batts. Flexible, crinkled paper covers three sides; a tough, treated paper vapor barrier protects the fourth. Paper covering speeds up installation work, lowers application costs. More important, it holds the insulation permanently in position. Strong tacking flanges. Knife or shears cuts it. Three thicknesses, convenient sizes. Designed to fit standard framing. Makes homes up to 15 degrees F. cooler in summer; slashes winter fuel bills as much as 40 per cent.

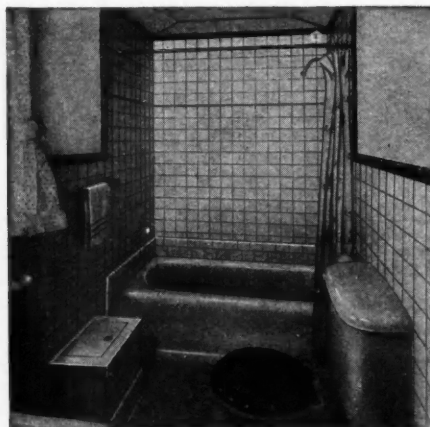


"Eagle" Paper-Encased Insulation, Quilt and Batt Form.



Ruberoid's "Shadow-Thik" Asphalt Shingles.

AB103 A new form of relatively low-cost asphalt shingle, designed to combine unusual strength and high weather resistance with the element of beauty so generally demanded by modern home builders, has recently been introduced by The Ruberoid Co., New York City. The name of the shingle is "Shadow-Thik."



Modern Bath Finished in "Yankee" Tile.

AB104 Yankee Fiber Tile—obtainable in its 7 standard colors (black, white, green, ivory, orchid, cream, and blue) and 17 custom colors of outstanding durability—is available in sheets ranging from 4' x 4' to 4' x 12' in size. Can be procured in both scored and plain sheets. Material is procurable from factory warehouse situated in Detroit (Yankee Fiber Tile Mfg. Co.) and warehouse stocks of various wholesalers in many localities.

AB105 "Pecan Flooring For Permanence, Economy and Beauty," an 8-page folder, illustrates the natural colors and beauty of Pecan Flooring and gives the grading rules.—Perfection Oak Flooring Co., Inc., Shreveport, La.

AB106 How to build a 20 ft. sail boat out of water-proof Douglas Fir Plywood is clearly shown in a large working drawing sheet giving complete details, bill of materials and full directions. This is one of five boat plans available, each designed by an expert.—Douglas Fir Plywood Assn., Tacoma, Wash.

AB107 "Upson Strong-Bilt Panels" is a new 16-page brochure on the new room-size Upson board units. Photos show many interesting examples of use including unique effects. Practical construction and installation directions are included.—The Upson Co., Lockport, N.Y.

AB108 "Certain-teed Ways To Make Your Home Stay Young," a 24-page brochure, partly in color, presents in readable "customer language" the reasons for good home building with such Certain-teed products as shingles, siding, structural insulation.—Certain-teed Products Corp., New York City.

AB109 "Enjoy Yourself In Your Basement" is an informative circular on the use of asphalt tile for basement recreation rooms. Printed in color, the folder shows several colorings of Armstrong's Asphalt Tile recommended for basements. A design for a shuffleboard court in asphalt tile is also included.—Armstrong Cork Co., Lancaster, Pa.

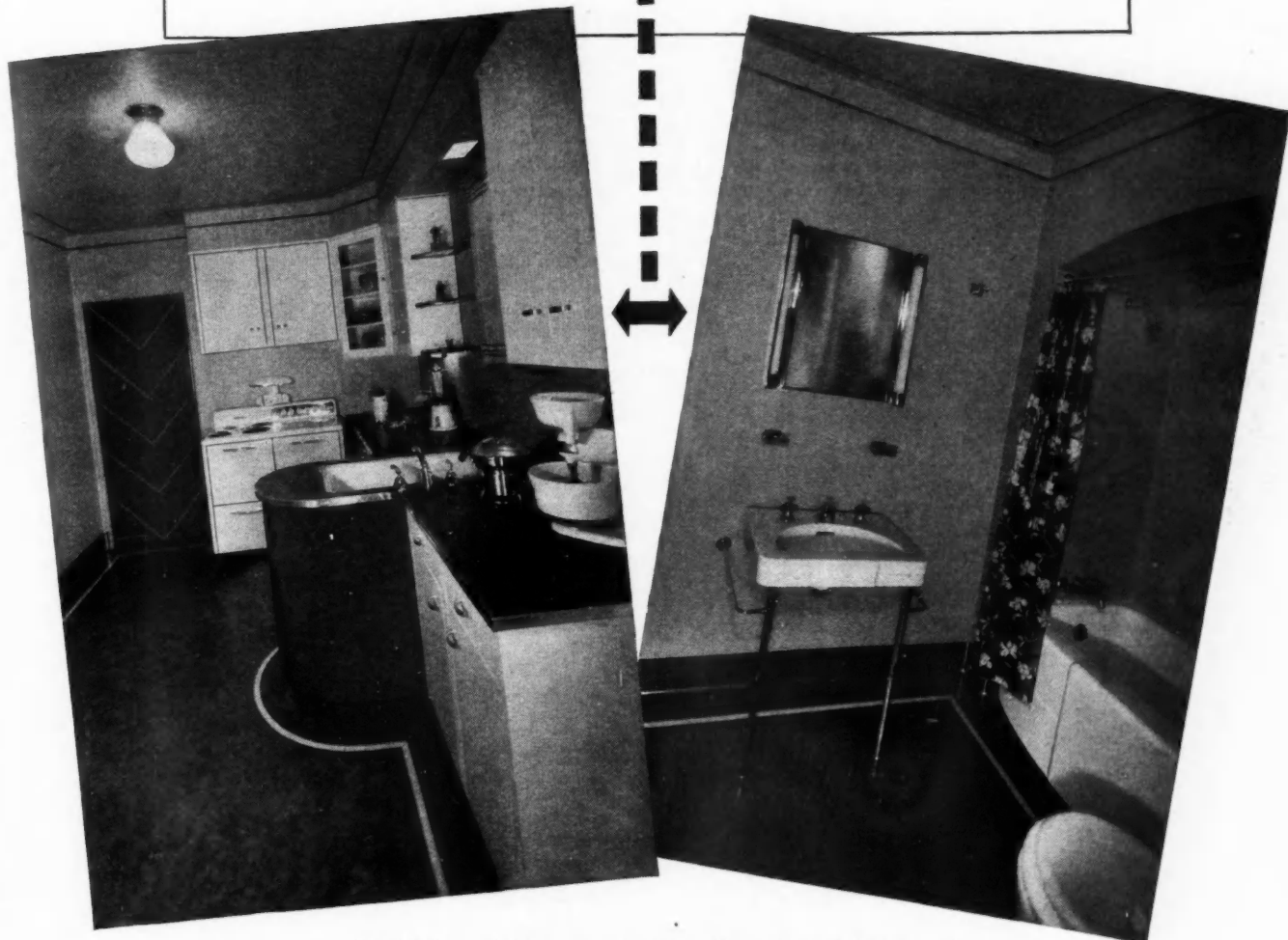
AB110 Savings and loan financing of homes, an important subject to the prospective home builder or buyer, is covered in a clear cut way in a 16-page booklet prepared by the Education Committee of the United States Building and Loan League, which is a nation-wide organization of local savings and loan associations. League headquarters are at 333 N. Michigan Ave., Chicago.

AB111 "Proved Plans For Building Barn Profits" is a new illustrated handbook for farm builders presenting numerous barn framing plans and recommended stable layouts, together with approved items of Starline stable equipment.—Starline, Inc., Harvard, Ill.

Readers' Service Department Continued to Page 66

FOR QUICK, CONVENIENT SERVICE, USE COUPON, PAGE 70

THE "ALL-SURFACE" BEAUTY TREATMENT
NAIRN LINOLEUM
 IDEAL FOR FLOORS, WALLS, DOORS AND CEILINGS



This kitchen and bathroom are striking illustrations of the unusual decorative effects made possible by Nairn Linoleum on every surface.

IN Nairn Linoleum, the home builder finds the perfect combination of beauty and practicability for all residential specifications, particularly bathrooms and kitchens. No other material offers such unlimited opportunities for new and individual decorative effects . . . no other meets the homeowners requirements so completely.

To the floor and wall question, Nairn Floors and Nairn Wall Linoleum provide the ideal solution. Beyond that, the use of Nairn Linoleum may be extended to include interesting treatments for doors and ceilings, enabling the builder to do a thoroughly modern job on every surface. And from the selling angle, Nairn Lino-

leum is unequalled in its appeal to the prospective home owner.

Nairn Linoleum is permanent. Economical to install, requires little maintenance. Its extra-smooth surface is sanitary, easy to clean. Available in a wide range of patterns to harmonize with any decorative scheme. Fully guaranteed, when installed by Authorized Contractors.

CONGOLEUM-NAIRN INC. KEARNY, N. J.

NAIRN LINOLEUM

Reg. U. S. Pat. Off.

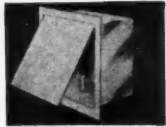
For Floors and Walls

SERVICE TO READERS

EACH ITEM in this department is numbered for convenience of readers. Please use the coupon on page 70 for requesting further product information or new catalogs. Mail coupon to **American Builder Reader Service, 105 W. Adams St., Chicago;** or write direct to these manufacturers mentioning your profession, occupation or connection with building industry.

EQUIPMENT ITEMS FOR MODERN BUILDINGS

AB112 A new remote control kitchen fan is announced by the Autovent Fan & Blower Co., Chicago. By pushing a conveniently located switch a

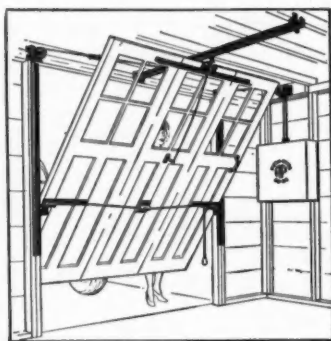


Inside and outside doors open automatically



special door operating motor goes into action opening inside and outside ventilator doors and at the same time the fan motor starts. This remote control kitchen fan comes in one standard size, 10 inch diameter fan in a 12" x 12" casing or wall sleeve which is adjustable to any wall thickness. Wall sleeve and outside door are finished in rust resisting aluminum. Inside door and frame are enameled white to go with any kitchen color scheme. When the fan is turned off, motor operated doors silently close.

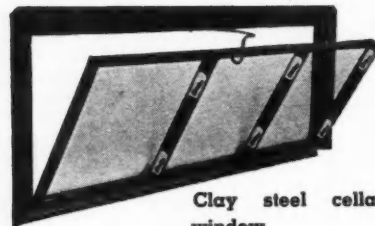
AB113 "It's A Push-Over" says Allith-Prouty, Inc., Danville, Ill., in announcing its Allith "50-50" garage door hardware. This hardware counterbalances and controls a one piece door of



Allith 50-50 Push-Over Garage set

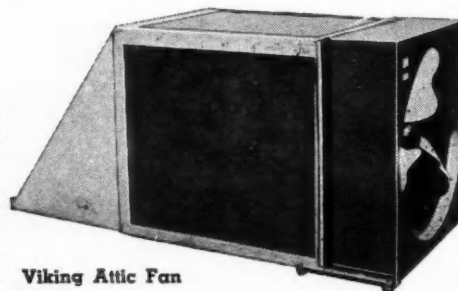
the up-and-over type and comes in several weights and capacities for handling doors 8 feet, 9 feet and 10 feet high by widths ranging from 8 feet 11 inches to 16 feet. The center overhead track guide and the counterbalancing weight (without springs) are well liked features of this modern garage door set, obtainable from local hardware and lumber dealers.

AB114 A new low priced all-steel basement-sash frame is offered by the Clay Equipment Corp., Cedar Falls, Iowa. It is of one-piece welded construction, has a dependable latch for locking the window either shut or in a tilted open position, giving indirect ventilation. The sash can be easily removed without tools for full window opening. Screen and storm sash are furnished as additional equipment when desired and are easily installed without nuts or bolts. This new basement window comes in six stock sizes from 33¼ inches wide by 14½ inches high to 39¼ inches wide by 20½ inches high. All sash are three light.



Clay steel cellar window

AB115 The Viking Attic Package—which should go big in this hot weather—contains all the parts necessary to make a summer cooling installation in the attic of an average home. It consists of the standard Viking CirCoolator Fan, sound proofed vent box, automatic ceiling shutter, fusible safety links and switch for fire protection, leatherette collar for connecting the fan unit to the vent box, rubber mounted fan support, and all fittings. Offered by the Viking Air Conditioning Corp., Cleveland, O., this Viking Attic Fan and package is designed for attic installation in the average home. By expelling the hot stagnant, inside air and drawing in the cool night air, the Viking Attic Fan brings cool comfort even on the hottest night.



Viking Attic Fan Package

AB116 Tubular locks in matched sets for exterior and interior doors are featured in the "Handy Reference Catalog" of residence builders hardware by the National Brass Co., Grand Rapids, Mich. This is a 16-page well illustrated handbook featuring numerous goodlooking designs and explaining the labor saving installation features of tubular locks.

AB117 "To Dry Air" is a folder of information on how to end condensation in basement game rooms, stock rooms and other places where excessive moisture in the air causes mold, mildew or warping. It shows how calcium chloride absorbs moisture from the air and illustrates a simple container when using calcium chloride for this purpose.—Solvay Sales Corp., 40 Rector St., New York City.

AB118 "Planning Homes For Better Living" is a 28-page study by the Architectural Engineering Service of the General Electric Home Bureau, 570 Lexington Ave., New York City. Important rooms of a house are analyzed.

AB119 "Why Try To Heat The Whole Outdoors" is a clever little demonstration of the value of Penvernon Winter Windows. Fuel savings as well as comfort are featured in this study.—Pittsburgh Plate Glass Co., Pittsburgh, Pa.

AB120 "Qualitybilt Colonial Front Entrances," a new 4-page data sheet by Farley & Loetscher Mfg. Co., Dubuque, Ia., illustrates 10 attractive moderately priced Colonial type entrances, each one guaranteed to give architectural distinction to even the smallest home.

AB121 Bathroom accessories in porcelain enameled metal and an accompanying line of medicine cabinets and mirrors, all carrying the trade name "Snow-Wite," are illustrated and described in a new set of data sheets by the American Enameled Products Co., Waukesha, Wis.

AB122 "Our Dream Kitchen Just The Way We Planned It" is an illustrated 12-page brochure on Berloy steel kitchen cabinets. Accompanying is the "Berloy Visual Plan Sheet," 6 pages of blueprint data to assist in kitchen planning.—Berger Mfg. Division, Canton, O.

AB123 "Donley Devices For Home Owner and Builder" is a 44-page illustrated handbook on fireplaces and fireplace furniture, outside and garden fireplaces and grills, package receivers, coal chutes, mail boxes, basement windows and other cast iron metal specialties.—The Donley Bros. Co., Cleveland, O.

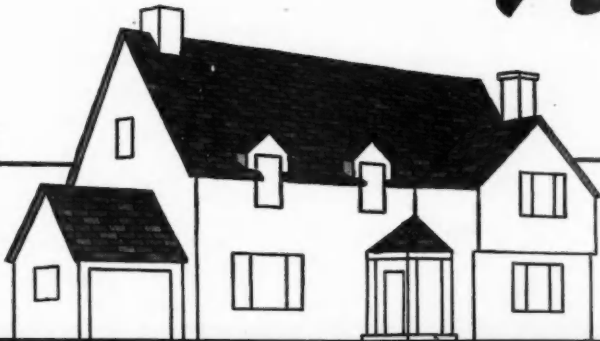
AB124 "Answer The Demand For More Closet Space With K-Venience Clothes Closet Fixtures" is the title of catalog No. 440, Knappe & Vogt Mfg. Co., Grand Rapids, Mich. 20 pages of inspiring illustrations and prices of wardrobe extension carriers, skirt hangers, shoe racks, tie racks, hat racks, etc.—all popular sales items which appeal to buyers of homes.

Readers Service Department Continued to Page 68

FOR QUICK, CONVENIENT SERVICE, USE COUPON, PAGE 70

IF YOU THINK ALL ASPHALT ROOFS ARE ALIKE—

Read this!



ONE asphalt roofing is definitely *unlike* all others. The difference is important, because it lies right in the asphalt coatings—the vital part of any roofing.

That roofing is Barber Genasco, made only by Barber Asphalt Corporation. The difference is the addition of genuine Trinidad Native Lake Asphalt, the remarkable natural weatherproofer from the famous asphalt lake on the southern Caribbean Island of Trinidad.

Barber calls Trinidad Native Lake Asphalt *The Vital Element* because it has an unusual and vital ability to withstand the ravages of the weather. Because it is absolutely uniform in quality.

Barber Genasco Roofings have an extra distinction this year. They've been newly "color-styled" by Howard Ketcham, a leading color expert. And Barber has just recently introduced the new Magnatab, a 240-lb. asphalt shingle that meets all F.H.A. specifications. Who says all asphalt roofings are alike?

If you would like to have more information about a complete line of asphalt roofings that really are different, we'll be glad to answer your inquiries. Address: Barber Asphalt Corporation, Barber, New Jersey.

Nationally advertised Barber Genasco Products, made with The Vital Element, include: Bonded and other types of Built-up Roofings, Shingles, Sidings, Roll Roofings. Other Barber Products include: Waterproofing Asphalts and Fabrics, Resurfacers, Asphalt Protective Products (Plastics and Liquids), Spandrel Beam Waterproofing (Spandrel Cloth and Cement).

FOR FURTHER
INFORMATION



BARBER GENASCO QUALITY ROOFINGS

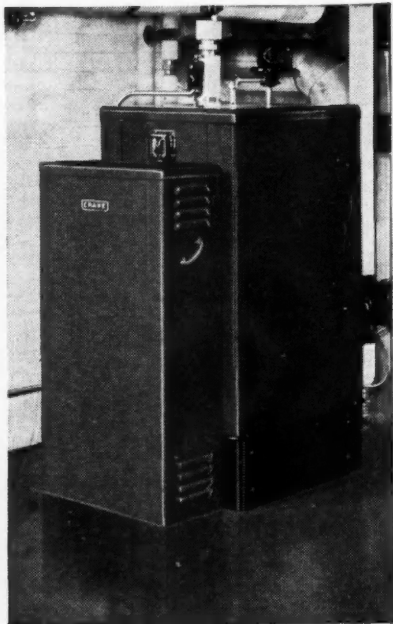
SHINGLES • SIDINGS • ROLL ROOFINGS • BUILT-UP ROOFINGS

SERVICE TO READERS

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HEATING & AIR CONDITIONING PROGRESS

AB125 Today's emphasis on the small home makes the introduction by The Crane Company, Chicago, of this new "Conservoil Heating Unit" extremely timely. Designed especially for the new home in the low cost bracket or

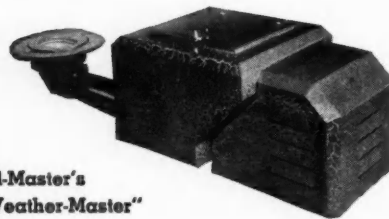


Crane Conservoil heating unit

for the replacement market where dollars count, this complete boiler and oil burner unit offers efficient automatic heat on an extremely reasonable basis. The burner, which is furnished with the Unit is mounted on a flange at the front of the boiler. The boiler is compact in size and is provided with controls which give fully automatic heating and assure the maximum efficiency from intermittent firing. These controls include a room thermostat, a boiler limit control (pressure or temperature) and flame control or stack switch. An ample supply of hot water for domestic use is assured by a 66 gallon trombone type coil heater which is furnished with the boiler.

Dowagiac's "Mighty Midget" Oil Burning Air Circulator

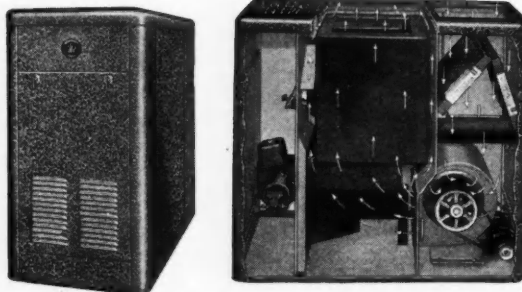
AB126 The new "Weather-Master" Stoker of the Kol-Master Corp., Oregon, Ill., operates to burn coal at two rates to suit outside weather conditions. It provides coal feed in excess of burning rate in moderate weather and after long standby periods and during hold-fire periods. It eliminates fly ash nuisance by low burning rate and high feeding rate with thin fuel bed. It auto-



Kol-Master's "Weather-Master"

matically increases burning rate when fuel bed is at correct depth and reduces burning rate when fuel bed tends to grow thin. All adjustments are made when burner is installed with no owner adjustments required or possible.

AB127 The Dowagiac Steel Furnace Co. of Dowagiac, Mich., announces an oil burning appliance room unit for the small inexpensive home. It is a modification of the "Mighty Midget" unit illustrated, and has similar construction except that the blower and filters are arranged under the heating unit, making this new "Hi-Boy" 26½ inches wide by 38 inches deep and 71½ inches high. It has a rated capacity of 80,000 BTU at the register and will heat up to six rooms and bath. The "Mighty Midget" line has three sizes ranging from 100,000 to 200,000 BTU at the register. All are finished in beautiful blue Hammerloid baked enamel and "dress up" a basement or living room.



AB128 "How To Select Perfect Heat For Your Home" is a well written little booklet of 16 pages from the H. C. Little Burner Co., Inc., San Rafael, Cal. It features the H. C. Little oil burning floor furnaces and "Cottage" units, of both the gravity type and forced air type, for small homes. An oil burning storage tank domestic water heater is also included.

AB129 The manufacturing facilities and distribution system of the Holland Furnace Co., Holland, Mich., are attractively presented in an 8-page reprint from "Sweet's." Items of Holland equipment featured include the Automatic Furnace Air Conditioner for oil or gas, the Automatic Gravity Furnace, Holland Vaporaire Heating Systems and the Holland Conversion Oil Burner, Gas Burner and Bituminous Coal Stoker.

AB130 The Coleman Gas Floor Furnace is presented in catalog No. 1, twenty-eight pages in two colors. Typical heat installation floor plans and photographs of houses actually heated serve as a valuable guide to other builders.

AB131 Proof that home buyers like the little Caloric Pot-Type Oil Heater is offered in an attractive folder, "18 Homes Sold in Two Days," a record of a prominent home developer-builder in the East.—Caloric Gas Stove Works, Philadelphia, Pa.

AB132 A new 10th edition of Catalog 88 of the Kewanee Boiler Corp., Kewanee, Ill., presents late models of the Kewanee residence Type R boiler for bungalows, homes and smaller buildings. This is an impressive catalog of 16 pages in full color and with all dimensions and mechanical specifications and ratings.

AB133 "Bennett Fireplace Supplies" is a beautiful 28-page catalog pictorially rich in fireplace designs and suggestions giving authoritative fireplace and flue construction directions and explaining the Bennett Fireplace Unit of steel to circulate warm air and increase fireplace heating efficiency.—Bennett Fireplace Co., Norwich, N. Y.

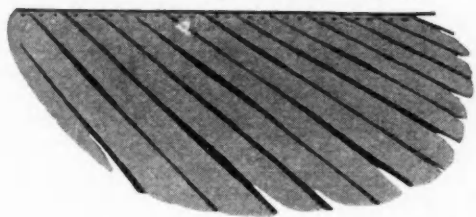
AB134 "York-Heat" produced by York Oil Burner Equipment is the subject of 2 attractive brochures from the York Oil Burner Co., Inc., York, Pa.

AB135 Trane Convector Bulletin S-380 is available in two editions, one with a French fold cover for presentation by architects, engineers, contractors and builders to their preferred clients, the other with regular trimmed flush cover punched for the convenience of Trane binder holders. With 24 pages heavy enamel stock printed in 4-color process, it shows striking views of Trane Convector applications in residences, both elaborate and moderate, and in public buildings and commercial buildings.—The Trane Co., La Crosse, Wis.

Readers' Service Department Continued to Page 70

FOR QUICK, CONVENIENT SERVICE, USE COUPON, PAGE 70

No one would think of nailing
flooring at the ends only . . .



Warping can be eliminated in doors, too ... use a third butt

Don't blame green lumber for warped and twisted doors. No door can be expected to remain true when supported at top and bottom only.

Light interior doors ($1\frac{3}{8}$ ") warp more quickly than heavier doors. The third butt will keep them in line, keep them swinging freely with latch and lock clicking smoothly.

Figure your jobs with "Three Butts to a Door" - avoid the necessity of costly re-hanging later. The Stanley Works, New Britain, Connecticut.

STANLEY

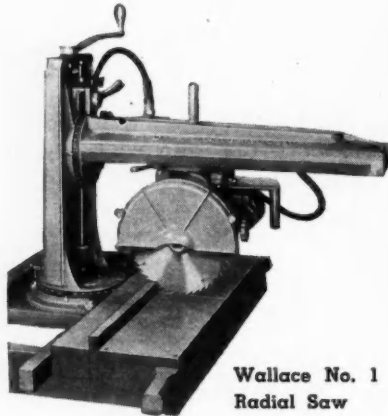


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NEW MODELS, POWER EQUIPMENT & TOOLS

AB136 For reducing costs on framing operations, as well as cabinetwork and trim, the Wallace No. 1 Radial Saw, a product of J. D. Wallace & Co., 136 S. California Ave., Chicago, can save from \$75 to \$200 on \$4,000 to \$8,000 contracts. The machine is quickly and easily set up to do cross-cutting, mitering, ripping, shaping, routing, dadoing, and many other jobs such as the cutting of tile, brick



Wallace No. 1
Radial Saw

and metals with abrasive wheels. Cuts $3\frac{1}{2}$ " deep with 10" saw blade. Rips to center of 48" panel. Spindle speed, 4900 r.p.m. Motors of one, one and one-half, and two horsepower. The Wallace No. 1 Radial Saw is easily portable and can be carried by two men. Available for the Radial Saw is an angulator which permits the cutting of rafters without marking—ridge cut, plate cut, and plate plumb cut—faster than the material can be laid out for hand sawing. Rafters for an entire house are cut in about two hours' time.

AB137 A floor nailing machine, known as the "Roy Universal" is being distributed nationally by Di Natale Floors, Inc., 39 Warren Ave., Charlestown, Mass. It cuts floor laying time 50 per cent, besides making a tighter, smoother floor, its users say. The shoe of the machine conforms to edge and tongue of flooring strips and cannot damage them. When trigger of machine is pulled, one



Roy Floor Nailer Saves 50 per cent

nail drops into shoe and under plunger in exact driving position. Then, actually, only one or two blows on the machine plunger with Roy hammer are needed to drive it into place and set it. Spring automatically and quickly returns plunger to original position ready for the next hammer blow. Nails cannot bend whether plunger is struck a square or glancing blow. Filling of race-way and operation of machine is learned in few minutes.

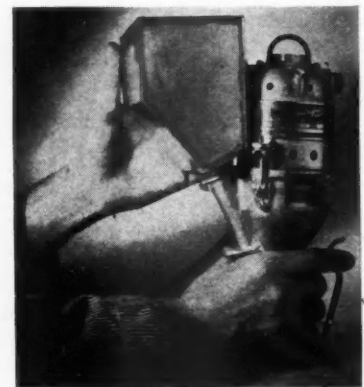
AB138 A new bulletin No. 1039 from David White Co., Inc., Milwaukee, Wis., is a 20-page illustrated guide especially for contractors and builders. It covers the models of levels and transits which have proven most popular and serviceable among contractors and builders.

AB139 The Lufkin General Catalog 12-B is a pocket size book of 260 pages covering a very complete line of steel tapes, woven tapes, tape-rules, spring joint boxwood rules, limber rules, miscellaneous rules and precision tools such as squares, protractors, gages, calipers, etc. Much useful data in tabular form is also included. 7 pages are devoted to alphabetical index.

AB140 "Stanley Safety Saws" is the title of an 8-page data sheet illustrating the electric hand saws of the Stanley Electric Tool Division, Stanley Works, New Britain, Conn. Several sizes are offered, together with numerous attachments and accessories to extend the working range of this power equipment.

AB141 Homelite Portable Pumps and Homelite Portable Electric Plant, gasoline engine driven, are featured in two new colorful folders from the Homelite Corp., Port Chester, N. Y. The pumps are much used by contractors and come in three sizes with capacities ranging from 4,000 gallons to 15,000 gallons per hour. The Homelite Electric Plants are useful for illuminating night construction operations.

AB142 Jas. H. Matthews & Co., 480 Canal St., New York City, report a lively interest in their Airless Electric Hand Painting Machine. Centrifugal action, instead of air pressure is operating principle of this new painting machine. In the field of decorative and protective painting, brush application can be cut 80 per cent by this machine, users testify. Practically any surface can be covered with one coat. It paints five times faster than brush. Finished work is smoother. Paint is applied at will by trigger touch. Compressors, hose, etc., are not required. This machine will handle practically any paint or other type of coating that will flow. Average material consistency is the same as for brush application.



Centrifugal Electric Hand Painter

CLIP AND MAIL TO CHICAGO

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

(Aug., 1940)

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

Numbers

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Name

Street

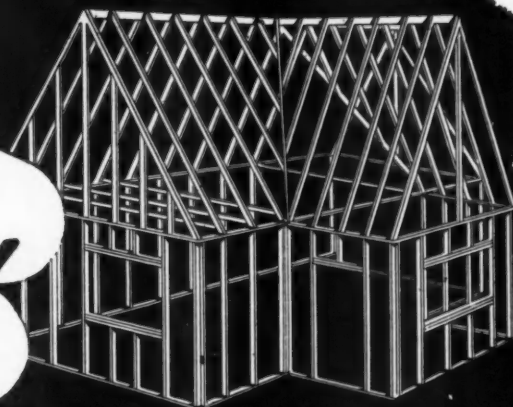
City

State

OCCUPATION*

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

Openings need
Insulation, too!



SILENTITE IS THE "Insulated" WINDOW

WHEN you use insulation sheathing, or other wall insulation, you aren't entirely insulating the wall. Unless the windows are "insulated" too, your wall isn't as efficient as it might be. A complete job of insulation means the use of modern "insulated" windows.

For over 8 years, Curtis has been making SILENTITE—America's trouble-free window. Over 150,000 homes are giving better service and greater enjoyment because their SILENTITE windows won't stick, jam, rattle or leak heat. And these owners

report savings in fuel bills up to 25%—savings that SILENTITE helped make.

A few of the outstanding, patented features which have made SILENTITE America's fastest selling modern wood window are listed here. They'll help you furnish lasting window satisfaction to your customers.

1. Lifetime springs replace weights and cords; 2. Sash slides smoothly in metal channels; 3. Sturdy, built-in weather-stripping is proved by test far superior to ordinary weather-stripping; 4. All wood

parts are given Curtis toxic dip; 5. The beautiful designs of Miterite trim add to room beauty; 6. "Pre-fit" sash speeds up installation; 7. Narrow mullions admit more light and greatly aid charm and decoration.

Write for complete information on the entire SILENTITE family which includes double-hung windows, casement windows, circle and basement sash. We'll send you literature on other Curtis woodwork, too. If you live in Canada, write to W. C. Edwards & Co., Limited, 991 Somerset Street West, Ottawa, Canada.

CURTIS WOODWORK IS RECOMMENDED BY LEADING ARCHITECTS EVERYWHERE

1866
CURTIS
 WOODWORK
SILENTITE
 PRE-FIT
 the "Insulated" window

CURTIS COMPANIES SERVICE BUREAU
Dept. AB-8, Clinton, Iowa

Please send me your new window book, "Let's Decorate with Sunbeams."

Name.....

Address.....

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

THERE IS ONLY ONE SILENTITE AND ONLY CURTIS MAKES IT
Its patented features aren't available in any other window

News of the Month

Building Activities and Meetings

Residential Building Volume Continues to Set Best Record Since 1929

FOR the third successive month, residential contract awards in 37 eastern states, according to F. W. Dodge, have each recorded the largest monthly volumes since 1929. June figures stood at \$135,274,000 for 20,584 dwellings, as compared with \$111,896,000 on 15,942 units for June of last year. This represents a gain of 20.9 per cent in value, and 29.1 per cent in the number of projects.

Statistics for the four classes of construction are as follows:

37 Eastern States	June 1-30, '40	June 1-30, '39	May, 1940
Residential	\$135,274,000	\$111,896,000	\$145,912,000
Non-Residential	91,995,000	92,845,000	90,164,000
Public Works	74,433,000	73,607,000	81,261,000
Utilities	23,024,000	9,968,000	11,577,000
Total	\$324,726,000	\$288,316,000	\$328,914,000

Figures for the first six months of 1940 show a satisfactory gain over the same period of last year in view of the fact that the first three months were below '39—\$690,572,000 representing 105,109 projects for 1940 as compared with \$644,527,000 on 86,448 units.

Frank Carnahan Dies

"IT IS with sincere regret that we make note of the sudden passing of Frank Carnahan. After a particularly strenuous day at the office on Friday, July 12, he went home and, during the evening was taken with a sudden heart attack—dying within fifteen minutes," was the sad word recently received from Roger S. Finkbine, president of the National Retail Lumber Dealers Association.



Funeral services were held Monday afternoon, July 15, at Gawler's Funeral Home, Washington, D. C., the Reverend Irving Ketchum officiating, and interment took place at Cedar Hill Cemetery. Honorary pallbearers were Messrs. S. D. Baldwin, of Jersey City, N. J.; D. A. Campbell, of Lebanon, Ky.; G. E. De Nike, of Newark, N. J.; H. M. Gaines, of Lansing, Mich.; Congressman John M. Houston, of Newton, Kans.; G. W. LaPointe,

Jr., of Menomonic, Wis.; L. P. Lewin, of Cincinnati, Ohio; and A. A. D. Rahn, of Minneapolis, Minn. Active pallbearers were Messrs. P. S. Collier, of Rochester, N. Y.; R. S. Finkbine, of Des Moines, Iowa; Laurence Kiefer, of Washington, D. C.; H. R. Northup, of Washington, D. C.; Harry H. Steidle, of Washington, D. C.; and Douglas Whitlock, of Washington, D. C.

Frank Carnahan was born on May 6, 1884, at Peoria, Illinois, was educated in the public schools there, and married Mrs. Anna Hatch Petersen, also of Peoria, in 1910.

His first business connections were with railroads in the Middle West. He went to Washington in 1918 as traffic manager for the National Lumber Manufacturers Association, and later served as traffic representative for a number of national lumber associations.

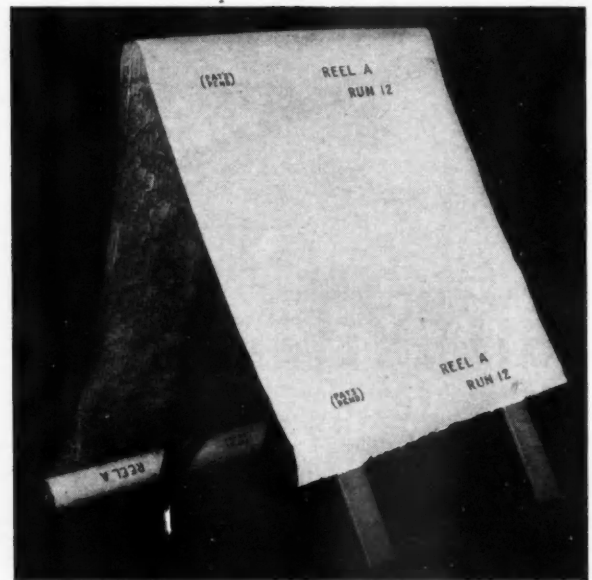
Upon reorganization of the National Retail Lumber Dealers Association in 1932, he was appointed executive secretary, with an office in Washington, and upon organization of the Retail Lumber and Building Material Code Authority under the NRA, he was made secretary of that organization.

Under the leadership of Frank Carnahan, the National Retail Lumber Dealers Association became a potent factor in the nation, both in protecting the interests of the dealers in the halls of the Congress, as well as in the development of trade promotion activities and the reorganization of home financing. Frank's opinion was sought continuously by both leaders in legislation and within the administration in Washington on matters having to do with the industry which he served.

Adopt New Wallpaper "Shade Control" Process

AN INNOVATION called Shade Control has been incorporated into the 1941 line of the Statter Wall Paper Mills, Crystal Lake, Ill. It was discovered that constancy of shade could be relied upon if all the wallpaper printed from a Jumbo reel would have some identifying mark on each and every roll. The only problem the company was faced with, after obtaining the explanation of shade variance, was a proper method for applying printed recordings on the back of the wallpaper. Therefore, over a year ago the new Shade Control method was tried on two of the company's patterns, and the response from the trade was so satisfactory that it was adopted for the 1941 line.

The new Shade Control recordings are printed on the back of the sheet between the cutting lines; this means that they are never trimmed off, yet they are of such a nature that they will not show through on the face of the sheet after the paper has been hung. When the paperhanger makes a purchase of wallpaper from his dealer, it will have these recordings on the back of the paper. As long as each roll of wallpaper has the same recordings, the paperhanger can proceed to hang a room of paper and know that there will be no off-shade strips to spoil the job.



RECORDINGS on back of wallpaper rolls assure perfect matching job.

Semi-Annual Real Estate Survey Shows New Low Home-Mortgage Costs; Market for Home Sites Improving

THE Thirty-Fifth Semi-Annual Survey of the Real Estate Market, made by the National Association of Real Estate Boards, shows among other important trends that a remarkable degree of standardization is being reached in the cost of home loans.

Other findings are that there is an undersupply of one-family dwellings in 47 per cent of the cities, while only 4 per cent have an oversupply. Condition remains about the same as it was six months ago, when 45 per cent showed undersupply. The smallest cities are the ones most frequently reporting shortage. The largest cities begin to report oversupply. Business-property demand exceeds supply in only 11 per cent of the cities and supply is in excess of demand in 25 per cent. Six months ago the figures were respectively 12 per cent and 24 per cent.

Home mortgage costs again are the lowest in history. The commonest interest rate for loans on new homes is 5 per cent. The 4½ per cent rate is dominant in only 22 per cent of the reporting cities, but six months ago it led in only 18 per cent of the cities. Decided feeling is shown that preference given to new homes in FHA financing has tended to depress prices for older properties.

The biggest cities have awakened their subdivision market, 70 per cent of them having more movement now than a year ago in

(Continued to page 74)

CHRISTIAN SCIENCE CHURCH
 Dalhart, Texas
ARCHITECT
 Townes and Funk, Amarillo, Texas
CONTRACTOR
 R. F. Matthews, Dalhart, Texas

Lehigh Normal Cement was used for all concrete where normal curing time met the conditions. Lehigh Early Strength was used for concrete where quick curing expedited the job. Lehigh Mortar Cement was used for laying up all brick and tile.



A LEHIGH CEMENT to meet your job requirements

Check List	LEHIGH Normal CEMENT	LEHIGH Early Strength CEMENT	LEHIGH Mortar CEMENT
For Concrete for any use where Normal Curing Time Fits the Needs	✓		
For any Concrete needed in a Hurry		✓	
Where Time Saved waiting for Concrete to cure will Save Money		✓	
For Concrete of Maximum Density		✓	
For Mortar Joints with all Types of Building Units			✓
For Stucco			✓

LEHIGH NORMAL CEMENT

For any use of cement where normal curing time will suffice.

LEHIGH EARLY STRENGTH CEMENT

In 24 to 48 hours it equals the strength of normal cement at seven days. Service strength concrete 3 to 5 times faster.

LEHIGH MORTAR CEMENT

The "all-purpose" masonry cement. Only one bagged material to handle—less work at the mortar box.

Use the Lehigh Cement which suits the needs of the job. Like hundreds of other contractors you'll find the use of three cements improves job efficiency, cuts costs, gives you the results you want. For many jobs, different portions of the work may be suited by all three Lehigh Cements; for others, two or one may meet the requirements. But, for every job use a Lehigh product.

LEHIGH PORTLAND CEMENT COMPANY
 Allentown, Pa., Chicago, Ill., Spokane, Wash.

NEW! TEMLOK DE LUXE STRUCTURAL UNITS

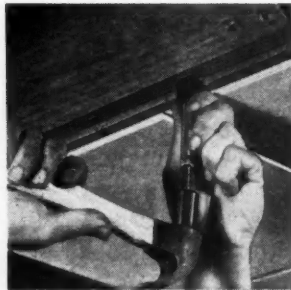
*Give Your Customers 50% More
Insulation at No Increase in
Cost of Finished Job*

HERE'S a brand-new addition to Armstrong's Temlok Line which offers you the sales-and-profit advantage of a $\frac{3}{4}$ " thick insulating interior finish, in dimensions based on the standard 16" spacing of framing members.

Fifty per cent thicker than material customarily used, Temlok De Luxe Structural Units—made in panels (16" x 16", 32", 48") and planks (16" x 8', 10', 12')—provide better insulation because of their greater thickness and lighter density. This increased thickness provides greater strength, which permits "dry wall" installation with Tem-Clips against furring strips 16" o. c. (instead of 8" o. c.)—or direct to framing members, if true and even. This saving in installation cost more than offsets the slightly higher cost of the $\frac{3}{4}$ " insulation! (These units may be efficiently installed against plaster, gypsum board, and similar bases with Armstrong's Temlok Adhesive.)

Add this new, increased insulating value to the regular plus features of Armstrong's Temlok De Luxe — decoration, high light reflection, noise-quieting, rapid installation—and you'll quickly see why these new Temlok De Luxe Structural Units offer such exceptional sales-and-profit possibilities. These units are standard in the always popular cream and white colors. The smooth, finished bevel, an exclusive Armstrong feature, is a further selling advantage.

Near-by stocks are on hand at all times to assure you prompt delivery and efficient service. Write now for complete facts about Temlok De Luxe Structural Units. Address Armstrong Cork Co., Building Materials Div., 979 Concord St., Lancaster, Pa.



Installation of Temlok De Luxe Structural Units with Armstrong's Tem-Clips direct to 2" x 8" joists 16" o. c. Tem-Clips provide permanent, invisible, mechanical support.



The male edge of the "next" unit is pushed against the sharp prongs of the Tem-Clips which have been nailed in place against the female edge of the unit already installed.

ARMSTRONG'S TEMLOK INSULATION

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

NEWS— (Continued from page 72)

this field. Home site buying is livelier than last year in 54 per cent of all the cities, receded in only 8 per cent.

Home building in the reporting cities over the past six months is going on at the rate of 12 detached dwellings per 10,000 of population.

The survey covers 256 typical cities in every section of the country. It is compiled from confidential reports by the Association's local member boards.

Asked to report the commonest rate at which loans are now being made on new moderately priced homes, exactly half the cities say it is 5 per cent and 62 cities out of every 100 cite a rate no higher than 5 per cent, while 75 cities out of 100 give a rate no higher than $5\frac{1}{2}$ per cent and 98 out of every 100 list a rate no higher than 6 per cent.

6 Per Cent Home-Mortgage Costs Survive in Only Minor Fraction of Cities

Less than a fourth of the cities (23 out of every 100), any longer have the old 6 per cent rate as the commonest rate. And only 2 cities out of 100 have interest costs for the ordinary home buyer as high as $6\frac{1}{2}$ per cent. These are all cities of under 25,000 population and all in the Southeast, South Central or Southwest regions. For the first time in the history of these surveys not one city reports any rate higher than $6\frac{1}{2}$ per cent.

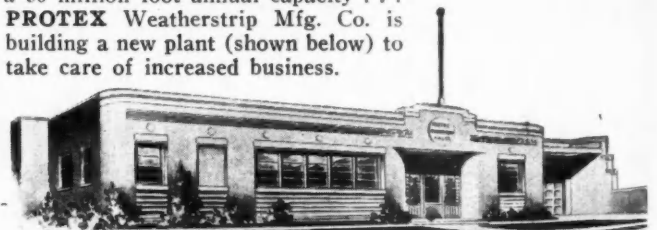
Mortgage-money supply is the best in real estate history, the survey shows. Every city of over 200,000 population reports capital available in excess of loans—though sometimes it is seeking only FHA-insured loans. Competition of lending agencies for loans has in places reached the point where some insurance companies are paying 1 to 2 per cent commissions for loans, and only 4 per cent of all the cities, and those all small communities, have loans hunting capital. This is only half as many as was the case six months ago. But in one-fifth of the cities of the country the home buyer ordinarily still pays 6 per cent for his money, the Association's sampling shows.

In 22 cities out of 100 he now can get financing at $4\frac{1}{2}$ per cent, but there is only one city in 100 where 4 per cent money is commonly available.

New England has made the greatest spurt of any region of the country as compared with a year ago, with 65 per cent of its reporting cities showing higher real estate market activity, not a one down in either sales volume or prices, 41 per cent experiencing shortage of business space, 87 per cent with increased subdivision activity. However, the largest proportion of cities with rising business rents is in the Southeast, and Southeast cities are the most frequently capital-hungry. Best-off region in capital supply is the South Central, once the lenders' stepchild. There 90 per cent of reporting cities show mortgage money in excess of available loans, and not a one has a money dearth.

NEWS BRIEFS—

THE appointment of HAROLD R. NORTHUP as Secretary of the National Retail Lumber Dealers Association, Washington, D. C., effective August 1, has been announced by the Executive Committee of the Association . . . The Bryant Heater Co. and the Koppers Co. have worked out details for perfecting and marketing a COKE STOKER . . . MILCOR Steel Co. has announced the appointment of George Schneider as manager of its newly reorganized Heating and Ventilating Division . . . CERTAIN-TEED'S "Lucky Forties Club" coast-to-coast membership has passed the 2,500 mark . . . CELOTEX has appointed M. D. Grow as sales promotion manager . . . D. C. BURNHAM has been named manager of plate glass sales, Pittsburgh Plate Glass Co. . . . OREGON Plywood Corp., a newly formed firm, has acquired a site at Sweet Home, Ore., on which to build a modern plant with a 50 million foot annual capacity . . . PROTEX Weatherstrip Mfg. Co. is building a new plant (shown below) to take care of increased business.



How to create
FIRST IMPRESSIONS
 of lasting sales importance

YOU'RE bound to spur rentals and sales if you make sure that your prospects get favorable first impressions of the interiors of the homes you show them. You can do this easily—with an attractive entrance hall floor of Armstrong's Linoleum.

This hallway shows just one of the countless design possibilities in this linoleum. But don't stop there. You'll go a long way toward clinching the deal if you can show the woman-of-the-house colorful, clean-easy Armstrong's Linoleum in the kitchen and bathrooms, too.

Women know Armstrong's Linoleum—know its durability, its resilient comfort, and its ease of maintenance. Twenty-three years of Armstrong advertising have taught them these points.

Add the sales-appeal of Armstrong's Linoleum to your houses. Then tell prospects about it.

Over two hundred scuffproof colors and patterns are available. Get all the facts. See "Sweet's" or write for color-illustrated idea booklet. Armstrong Cork Company, Floor Division, 1218 State Street, Lancaster, Pennsylvania.



The Armstrong Bureau of Interior Decoration will help you design a floor like this one. The colors they selected here are a No. 043 Monobelle field and white and chartreuse insets. The petal designs were created with Armstrong's Custom-Craft Dies.

ARMSTRONG'S FLOORS
LINOLEUM

Rubber Tile - Linotile (Oil-Bonded) - Asphalt Tile - Cork Tile - Linowall Wall Covering



MIAMI BATHROOM CABINETS *and* ACCESSORIES

BUILD IN Extra Quality

Where it SHOWS to Advantage!

The beauty of many fine bathrooms is marred by cheap and inadequate cabinets. For only a few dollars more you can install a bathroom cabinet that will match beauty and luxury with the finest bathroom equipment that money will buy. Over 140 cabinet models—also complete lines of accessories from which to choose. Write Dept. AB for Catalog.

NOS. 2010, 2020

... Gothic Top model with non-rusting, stainless steel framed, all-mirror door. Popular priced. Stays brilliantly beautiful forever. Available in two sizes.

NOS. 400-BF, 400-CF

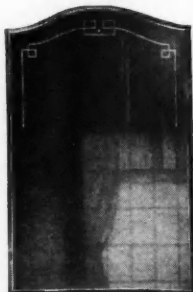
No. 400-BF has a one-piece, black enamel frame around the full mirror door.

No. 400-CF has a one-piece stainless steel frame. Both are budget models suggested for the moderate priced bathroom.

NOS. 660, 670

A Venetian Type, all-mirror door, cabinet designed for the home where quality is an important factor, but where price must be considered.

Recommended for installation in downstairs lavatories. Two sizes.



THE MIAMI CABINET DIVISION
THE PHILIP CAREY COMPANY
Middletown, Ohio

LETTERS from Readers on All Subjects

Facts, opinions and advice
welcomed here

No Records Available on Most Jobs

Gravenhurst, Ont., Can.

To the Editor:

Keep up the good work—it's smart ideas that make the big difference. Would it be possible to give average labor costs, or time, and let us apply local rates on your TruCost units and in other cases also?

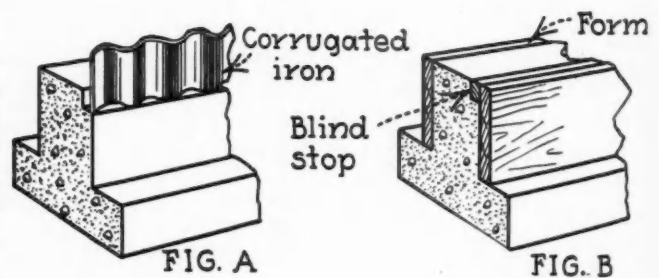
It is in labor estimates that greater losses occur than in any mistakes in material lists. I know these vary in different localities, but there is an efficiency average. If you could do this it would encourage young builders to tackle work with which they are not familiar, that would mean progress for them.—H. W. NIX, Builder.

Foundation Gives Tight Fit for Corrugated Iron

Burton, Kansas.

To the Editor:

When constructing buildings with corrugated iron, such as granaries, garages, engine houses, coal sheds, warehouses, etc., a good way to make a weather tight job is to nail a blind stop around the outside edge and top of form as shown in Fig. B. Also, if stop is held with nails through the form as shown, building can be completed before removing outside forms. This method provides an excellent guide for the iron without any resulting damage to green concrete. Common practice even though lapped over foundation leaves a lot of air holes for snow and dust to blow in, whereas, a tight job is had with iron resting on step as in Fig. A.—ABE L. HEIDEBRECHT.



Experiment to Show Power Tool Savings

Dayton, Ohio.

To the Editor:

We are interested in obtaining complete plans on a sample house from which we propose to build two units—one house to be constructed without power equipment, the other progressively precut using power equipment throughout.

By progressively precut we mean that the DeWalt saw, which will be used, is to be operated by a working foreman precutting material only far enough in advance to keep his crew busy nailing.

At times it takes considerable sales effort to convince some of the old-time contractors that power saw equipment can be economically used on single house construction. We propose, therefore, to compile definite data together with motion pictures covering the two methods. These motion pictures and data are to be used at the various clinics we hold at lumber yards for the benefit of their contractor customers.

We have considered for this purpose a house shown on page 62 in the June issue, *American Builder*. We would appreciate your advising us if these plans are available for us to use and the cost of same.—HOLTSON MACHINERY & EQUIPMENT CO., by J. B. Holtson.

Background of Good Homes

Chico, Calif.

To the Editor:

I am not in the house building business any more but am trying to do a job that goes with the building of homes. I do think the modern home has a lot to do with building children into good citizens. It is safe to say 95 per cent of our delinquent cases that come to the Probation Officer are very poorly housed. I feel that the *American Builder* is trying to help do the job.—
LISH POOL, Butte County Probation Officer.

Simple Check Filing System Saves Builder's Time

To the Editor:

Saving time in the office routine work in contractors' offices is only one of the features claimed for the check filing system described in this letter. It also affords the treasurer, or whoever controls the finances, a visible record of all outstanding checks at any time, and enables him to quickly reconcile his cash balance with that of the bank each day, if so desired.

The system is simplicity itself, but requires a modified check. The present form of standard sized check (usually about 3" x 8 1/4") now employed by any firm can be used by simply adding the stub to the check, as shown to the right, which is four inches long and, when printed with the check, is separated from it by perforation.

The printing on the stub provides place for date of issue; name of drawee; date of invoice, or invoices, being paid; amounts of the invoices, deductions and net amount of check to be issued. The latter information is for the person who will type the checks.

When the check is taken from the pad (checks are blocked in pads of one hundred each), the stub is folded over the back of the check on which has been printed the same form as on the stub for a description of the items to be paid. A piece of carbon paper is then inserted below the double line at top of the form and all information put on the stub, making a complete record of the check payment, is transferred to the back of the check—except, of course, the office memorandum above the double line on the stub showing date of issue, and name of drawee.

Above the listing on the back of the check is printed:

NO RECEIPT NECESSARY

This check is in payment of the following invoices. If incorrect, please return.

The stub of the check being longer than the check is wide, the check number it represents will show plainly above the index card when placed in the check file drawer, as illustrated below.

After the checks are typed and the amounts cut in by the check protector, checks and stubs are returned to the bookkeeper to be examined for correctness and then given to the treasurer for signature.

(Continued to page 78)

THE standard check at the right has a four-inch stub added to it which folds under at perforations so that information filled in on the stub is duplicated on the back of check with carbon paper above the place where endorsement is made. Stubs are filed as on page 78.



No. 27328			
To			
For			
DATE	BILL	AMOUNT	PERCENT
			CASH ON HAND
			NET

MANUFACTURING OPPORTUNITY



FOR YOU IN YOUR CITY — One that is complete and proven — Successful in other localities. Ready for you now to cash in big on the wide building upturn under way and the definite trend to more permanent, lower cost production.

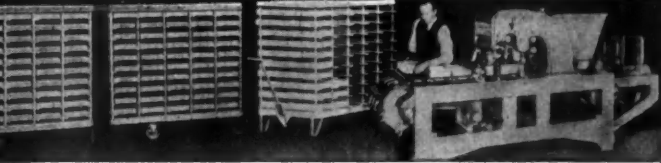
THIS OPPORTUNITY offers attractive earning power and future. Present manufacturers have proven and pioneered the way for you by establishing substantial businesses of their own. Today millions of products have been manufactured, thousands of buildings have been built with this material.

THIS OPPORTUNITY is the result of exclusive line production machinery which we will furnish. With it, plus other exclusive advantages, you will be able to supply the entire building trade with more attractive and permanent construction with savings at every step, from manufacturing to the completed job.

YOU WILL BE SUPPLIED with new processes and formulas to enable you to manufacture products in 40 beautiful colors, shades and textures. Your product will be capable of meeting all known building requirements.

YOU WILL BE GRANTED manufacturing franchise covering your locality, protecting your market, business and future, with available engineering and advertising service for early expansion of your business.

YOU SHOULD INVESTIGATE while your territory is still open. Arrange to visit the nearest manufacturer and talk to the owner about this outstanding opportunity. So fill in coupon today. Perhaps the first step to a successful, profitable enterprise for you.



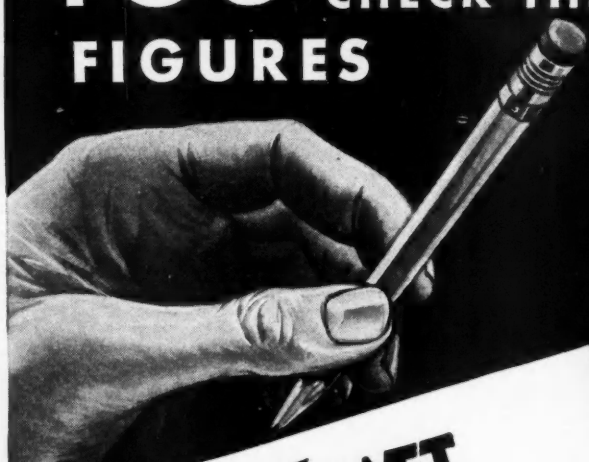
W. E. DUNN MFG. CO. 8-40
450 W. 24th St., Holland, Michigan

Show me through your free books all about this outstanding and complete manufacturing opportunity for me in this territory.

How I can visit a nearby manufacturing plant and see how better buildings are being built for less with your new material.

Name _____
Address _____
City _____ State _____

All right...
YOU CHECK THE
FIGURES



SISALKRAFT
 SISALKRAFT costs little, if any, more than the
 cheapest papers, when you figure the *applied* cost.
 Many builders are finding they can use this BEST
 building paper in even the lowest-priced homes.
 Here's why:

- SAVES LABOR** ✓
 One man can apply SISALKRAFT, even in heavy
 wind. It won't tear . . . goes on quickly.
- SAVES TIME** ✓
 Can be pulled around corners—stands fast, rough
 handling without time wasted patching.
- SAVES MATERIAL** ✓
 No batten strips, few nails, are needed to hold
 it in place. And *no* waste. Less piecing and
 lapping.

SISALKRAFT
REG. U.S. PAT. OFF.
 Is Low in *Applied* Cost

PRACTICAL BUILDERS KNOW

It's not the cost per roll, but the *applied* cost that counts. Windproof, moisture-proof SISALKRAFT costs almost no more in the average home than the flimsiest building paper.

Write for details.

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

LETTERS—

(Continued from page 77)

Before filing the stubs in the check file drawer, however, the record of the transaction is made in the proper records.

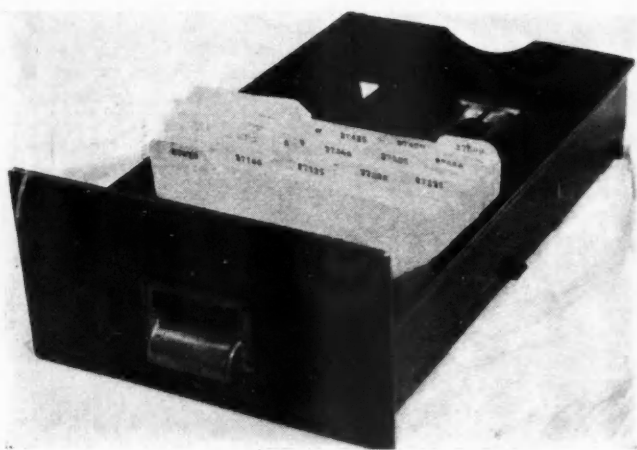
As the checks are returned from the bank, they are sorted numerically and the corresponding stubs in the drawer are removed and the canceled checks are put in their places.

The stubs remaining in the drawer represent all of the outstanding checks. A listing of them can be made at any time, facilitating immediate reconciliation with the bank's balance, or for any other purpose.

If accounts are carried in more than one bank, a separate filing system is maintained for each bank.

Needed to operate the system, aside from the check form used, would be a metal cabinet (for protection and safety), with drawers of suitable size, one 5½" high, 10" wide and 17" long holding about 3500 checks.

The numerical index, with divisions of twenty-five units, makes reference to any check a simple matter, either in the live current file, or in the "dead" file of stored checks.—E. A. Frances.



CHECK stubs are filed in drawer for easy reference.

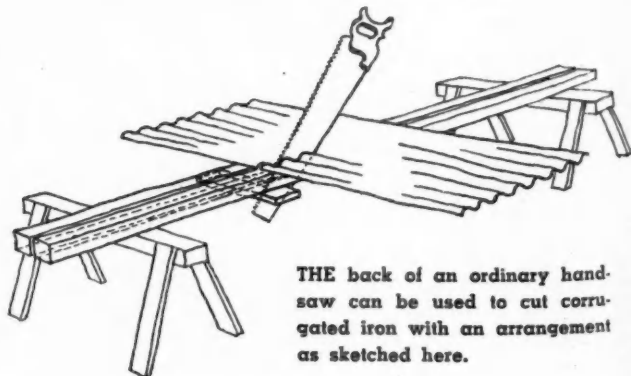
Cutting Iron Sheets

Lead, S. Dak.

To the Editor:

The other day we had a few sheets of No. 24 ga. galvanized corrugated iron to cut for a small lean-to house. Our regular power cutter was tied up on another job, so that we were unable to get it on this job.

Mr. E. C. Engel, carpenter for the plant, solved the problem of cutting the sheets with the gadget shown in the accompanying sketch. He nailed 2 pieces of 4 x 4 to two ordinary saw horses, leaving about 1/8-inch between them. Then he nailed a short 1 x 2 cleat on the under-side, laid his corrugated sheet on the 4 x 4's, inserted a common handsaw in the slot, and bore down on the saw handle. The sheet cut as pretty as anything you ever laid eyes on, and rapidly too. He used this rig to cut all the corrugated iron for this small house with no more trouble. The saw cuts more easily if the back edge is sharpened slightly on an emery wheel, but will do equally good work with no sharpening at all.—K. PYLE, Draftsman, Homestake Mining Co.



THE back of an ordinary hand-saw can be used to cut corrugated iron with an arrangement as sketched here.

The STEEL SQUARE—

(Continued from page 61)

tracted seven-eighths of the thickness of the hip rafter to allow for the framing to this member. Also there must be added to the theoretical "length" a sufficient amount to allow for the length of the "tail" of the rafter at the eaves.

The procedure described above is for jack rafters which are spaced 24 inches center to center. When the jack rafters are spaced 16 inches on centers the "difference in length" would be found by looking in the *third* line in the column of figures under the figure 8 instead of in the *fourth* line. This would show 19.23 inches, which, multiplied by four, would be 77 inches or six feet five inches.

Finding Length of Jacks Without Rafter Tables

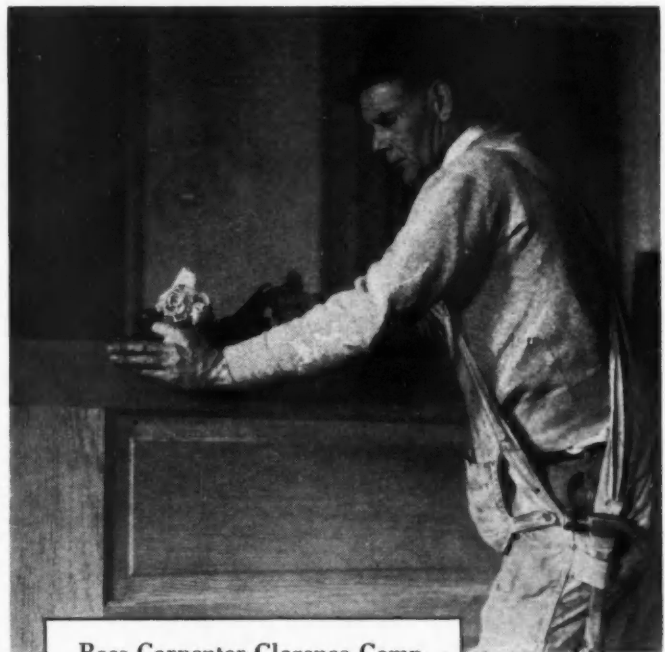
The Rafter Tables are of use only when the spacing of the jacks is either 16 inches or 24 inches center to center. Although one of these spacings is most likely to be used for the roof framing, there might be cases where the spacing would be 20 inches, or perhaps the rafter tables might not be available. In such a case it would be necessary to find the lengths for the jacks by some other method and for this the steel square can be used. In any hipped roof of *equal pitch* the hip line marked H in the plan view (Fig. 1) is at an angle of 45 degrees with the end and side wall lines (A-B and B-C in Fig. 1) and therefore any point on the hip line in plan view is just as far from the end wall line as it is from the side wall line. The plan view shows the spacing of the hip rafters. It follows from these two facts that the "run" of the first hip rafter from the corner (marked X in Fig. 1) will be the same as the *spacing* of the hip rafters, that is, sixteen inches in Fig. 1. Also the *difference* in the runs of the various hip rafters, if they are all equally spaced, will be equal to the spacing. The difference in the *lengths* of any two hip rafters next to each other will be equal to the difference in the runs in feet (which is the same as the spacing in feet center to center) multiplied by the length-per-foot-run for the rafters, and this in turn can be found from the rise-per-foot-run of the roof which is always known for any particular roof. The length-per-foot-run can be found from the rise-per-foot-run by means of the steel square. In the first place it is given in the Rafter Tables (illustrated by Fig. 6 and Fig. 7) as the first dimension listed in the column of figures underneath the figure in the inch line corresponding to the *rise-per-foot-run* of the roof. In Fig. 7 it is 14.42 inches for a roof whose rise-per-foot-run is 8".

Figuring Length Per Foot of Run

If the Rafter Tables are not available it can be found by placing a rule on the steel square diagonally across from the 12 inch mark on the outside edge of the blade or body of the square to the figure on the outside edge of the tongue corresponding to the *rise* of the roof *per-foot-of-run*. The distance measured with the rule diagonally across between these two points will be the length of the rafter *per-foot-of-run*. In Fig. 5 this length is 15 inches for a roof whose rise-per-foot-run is 9 inches and it would be 17 inches for a roof whose rise-per-foot-run is 12 inches. This would be the actual difference in the length of jack rafters if they were spaced one foot apart center to center. If the jack rafters were two feet apart center to center the difference in length between any two of them spaced side by side would be two times 14.42 inches (28.84 inches) or 2 x 17 inches (34 inches)

(Continued to page 80)

THE RIGHT WOOD...



Boss Carpenter Clarence Campbell likes the way the Western Pines work.

... means a good job!

Carpenters and builders like the Western Pines for both exterior and interior doors. They like the ease with which Western Pines work, the way their tough fibers hold screws. Locks and hinges are quickly fitted and when hung, the door swings easily—fits snugly, for thoroughly seasoned Western Pines are light in weight and hold their shape.

THE WESTERN PINES WILL DO YOUR NEXT JOB BETTER—TRY THEM

Western Pine Association, Yeon Building, Portland, Oregon

*Idaho White Pine

*Ponderosa Pine

*Sugar Pine

***THESE ARE THE WESTERN PINES**

*Set up FORMS
in a Hurry*
with A STANLEY
SAFETY SAW

**EXCLUSIVE
DUPLEX HANDLE
MAKES IT EASY
TO USE IN ANY
POSITION**



THE STANLEY W8 Safety Saw is ideal for all around construction work. Powerful motor and 8" blade cut through $2\frac{3}{4}$ ", bevel cut to $2\frac{1}{16}$ " at 45° . All Stanley Safety Saws have approved guards. The pivoted Duplex handle has two grips and two triggers making the saw easy to handle in any position.

Five other Stanley Safety Saws, from W60, $1\frac{7}{8}$ " capacity, to CC16, 6" capacity—the largest portable saw made. Ask your Stanley distributor for demonstration, or write for literature. Stanley Electric Tool Div., The Stanley Works, 133 Elm St., New Britain, Conn.

STANLEY ELECTRIC TOOLS
"COST LESS PER YEAR"

The STEEL SQUARE—

(Continued from page 79)

or two times 15 inches (30 inches), which would be added to the length of the shorter jack to get the length of the longer jack.

This difference in length between two adjacent jack rafters can be found with the steel square directly as shown in Fig. 8 where the spacing is assumed to be 16 inches and the rise-per-foot-run 8 inches. Lay the square down flat on a smooth surface such as a large piece of brown paper spread out on the floor or on a table top. Draw a line along the outside edge of the blade or body (line a-w in Fig. 8). Make a mark, a, at the twelve inch division on the outside edge of the blade and a mark, b, at the eight inch division on the outside edge of the tongue. Lift the square and draw the line a-b representing the top edge or back of the jack rafter. The distance a-b will be nearly $14\frac{1}{2}$ inches and the line should be extended some distance beyond the point b. Now replace the square in the position shown by the dotted lines, with the outside edge of the blade exactly along the line a-w but with the sixteen inch division (corresponding to the spacing of the jacks) at the point a. Mark the point m where the outside edge of the tongue of the square crosses the line a-b (extended) and measure off the distance a-m which will be found to be $19\frac{1}{4}$ inches. This is the difference in lengths of jack rafters when the spacing center to center is sixteen inches and the rise-per-foot-run of the roof is eight inches and it agrees with the figure given in the rafter tables.

Now suppose that the jack rafters are spaced 20 inches apart center to center—a condition that is not given in the Rafter Tables—and that the rise-per-foot-run for the roof is 9 inches. Fig. 9 shows how the diff-

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Head of the Building Trades Department, Frank Wiggins
High School, Los Angeles, California

and Clell M. Rogers

Mathematics Instructor, Venice High School, Venice,
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Based on a series of articles by Mr. Wilson entitled *How to Estimate Accurately*, which appeared in *American Builder and Building Age* last year, the material has been revised and expanded into this book. Many of the original illustrations have been changed and the number of helpful tables and mathematical short cuts have been increased by Mr. Rogers.

This new book clearly explains the "taking-off" of a bill of materials required for the construction of a house and the rules and methods of making an accurate estimate of costs. The constructional order of quantity survey is used. Many skilled carpenters who have taken Mr. Wilson's evening school courses in estimating have helped in making the explanations given in this book clear and practical.

The seven chapters cover: Estimating Fundamentals, Foundation Material, Framing, Exterior Finish, Interior Finish, Hardware, Building Information and Tables. An index makes for easy reference.

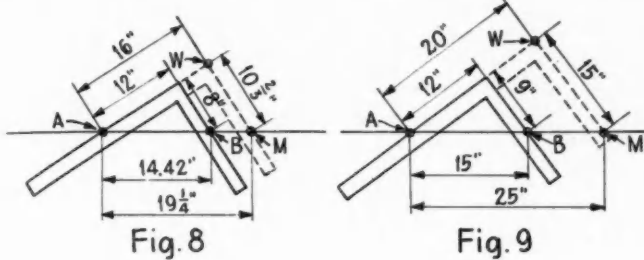
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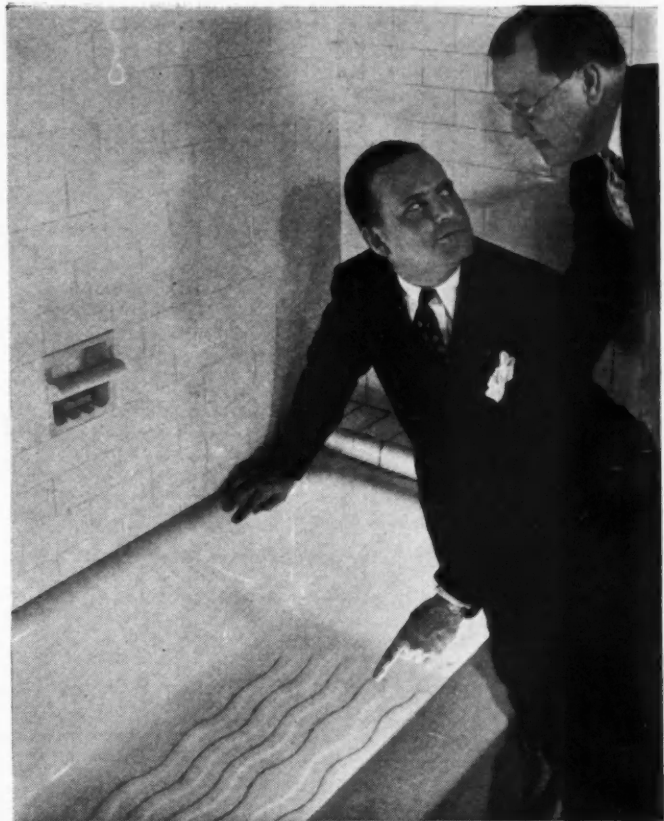
erence in lengths of the jacks (which is the same thing as the length of the shortest jack) can be found with the aid of the steel square under these conditions.

As before, and as shown in Fig. 9, draw line a-w along the outside edge of the square and mark the twelve inch division on the outside edge of the blade (point a) and the nine inch division on the outside edge of the tongue (point b). Lift the square and draw the line a-b and extend it to the right beyond the point b. Distance a-b will be found to be exactly fifteen inches in this case.



Replace the square with the outside edge of the blade or body exactly on line a-w (as shown by the dotted lines in Fig. 9) but with the twenty inch division on the point a instead of the twelve inch division. Locate the point m where the outside edge of the tongue of the square (as shown by the dotted lines in Fig. 9) crosses the line a-b (extended) and measure off the distance a-m which will be found to be 25 inches. This is the "difference in length of jack" or the length of the shortest jack for 20 inch spacing and 9 inch rise-per-foot-run. As explained before this "length" is theoretical. To get the actual length of the shortest jack rafter add to it an

(Continued to page 82)



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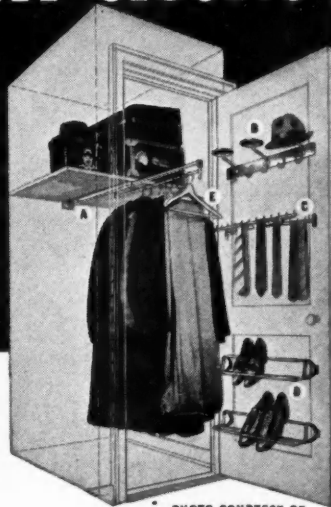


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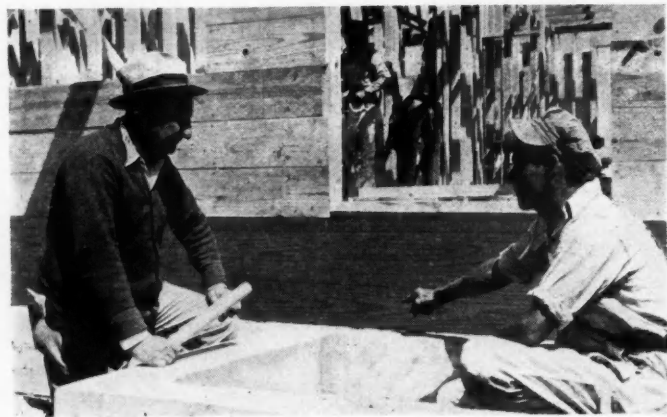
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The STEEL SQUARE—

(Continued from page 81)

amount sufficient to allow for the "tail" of the rafter, if there is one, and from it subtract from $\frac{3}{4}$ to $\frac{7}{8}$ of the thickness of the hip rafter to allow for this rafter.

Getting Side Cut and Plumb Cut

At the lower end the hip jack rafters rest on the wall plate but at the upper end they bear against the hip rafters. The jack rafters are at right angles to the wall plate in the framing plan, but they frame into the hip rafters at an angle which, in the case of roofs of equal pitch, is 45 degrees in the plan view showing the runs of the rafters. The actual angle at which the jack rafters frame into the hip rafters is not 45 degrees. In order to fit the jack to the hip rafter a side cut is required on the jack as shown in Fig. 10. This side cut can be made quite easily with the help of the steel square as follows:—

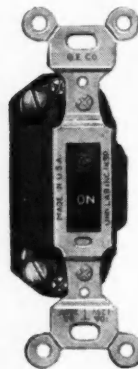
Look in the rafter tables on the square and there the fifth figure from the top one in each column is the figure to use in laying out the side cut on hip jacks for roofs whose rise-per-foot-run appears at the head of the column in the inch line on the edge of the square. For a roof of equal pitch whose rise-per-foot-run is 8 inches, this figure will be 10 as shown in Fig. 7. To make use of this figure in marking off the side cut for a hip jack rafter, take the piece of stuff from which you propose to cut the rafter, dress one edge which is to be the "back" of the rafter and draw or scratch a "measuring line" down the center of the back. After having found the theoretical "length" of the jack by the method just explained, make a mark on the measuring line to represent the point in which the center line of the back of the jack intersects

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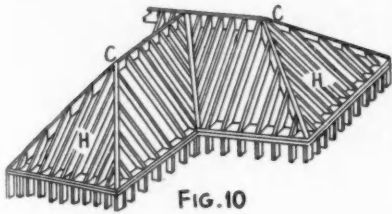


FIG. 10

the center of the hip rafter. Measure back from this mark an amount to allow for the thickness of the hip rafter, as explained before, and make another mark on the measuring line

which will be the point in which this measuring line intersects the *side* of the hip rafter. Lay the square down on the dressed edge of the stuff, as shown in Fig. 11, so that the 12-inch division on the outside edge of the tongue comes exactly on the mark mentioned above (point o in Fig. 11) and so that the 10 inch division on the outside edge of the blade also comes exactly on the measuring line further over to the left at point B in Fig. 11 (away from the upper end of the jack rafter). With the square in this position draw a line across the dressed edge of the stuff (the "back" of the jack rafter) along the outside edge of the tongue of the square and this line will mark the "side cut" to be made in order to fit the jack against the hip rafter. If rafter tables are not available, the same result can be accomplished with the steel square by using 12 instead of 10 on the blade and the length-per-foot-run (14.42 in this case) on the tongue or to reverse the square as shown in Fig. 14. The way to get this length-per-foot-run is explained in connection with Fig. 5.

The mark on the dressed edge of the stuff (the back of the jack rafter) indicating the side cut will intersect the two edges of the back of the rafter at the points C and D in Fig. 11. These two points should be carefully marked. In order to mark off the plumb cut on the two sides of the rafter, the piece of stuff should be laid down

(Continued to page 84)

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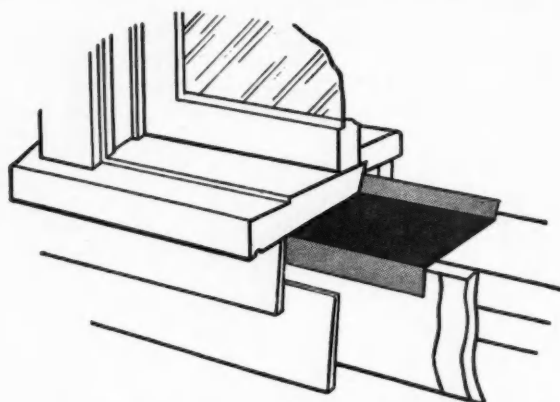


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The STEEL SQUARE—

(Continued from page 83)

on its side and the steel square should be applied to the sides as shown in Fig. 12 and Fig. 13, with the inch division on the outside edge of the tongue corresponding to the rise-per-foot-run (8 in this case) exactly on the point C (or D) and the 12 inch division on the outside edge of the blade also exactly on the edge of the "back" of the rafter but farther over to the left in Fig. 12, that is, farther away from the upper end of the hip jack. With the square in this position, a line scratched on the side of the stuff along the outside edge of the tongue of the square will give the mark for the plumb cut as shown in Fig. 13 by the line C-E and in Fig. 12 by the line D-F. With these two lines marked off on the two sides of the jack rafter and the side cut marked off across the "back" of the rafter (line C-D in Fig. 11) the end of the stuff can be cut to fit against the hip rafter.

Cuts for Valley Jacks

The valley jacks bear at the upper end against the ridge board and at this end they require only a simple plumb cut similar to that illustrated in Fig. 2, cut square across the thickness of the rafter. At the lower end the valley jacks rest against the valley rafter and the side cut and plumb cut which must be made at this end of the jack rafter are similar to the cuts at the upper ends of the hip-jack rafters, and are made in the same way. The theoretical "length" for valley jack rafters can be found the same as was explained in the case of hip-jacks and from this theoretical "length" must be subtracted an amount at each end of the jack to allow for the thickness of the ridge board at the upper end and for the thickness of the valley rafter at the lower end.

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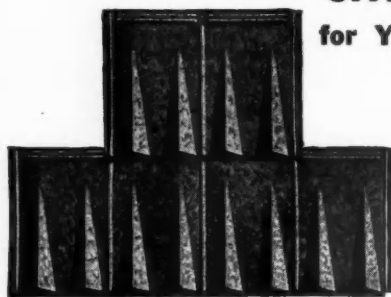
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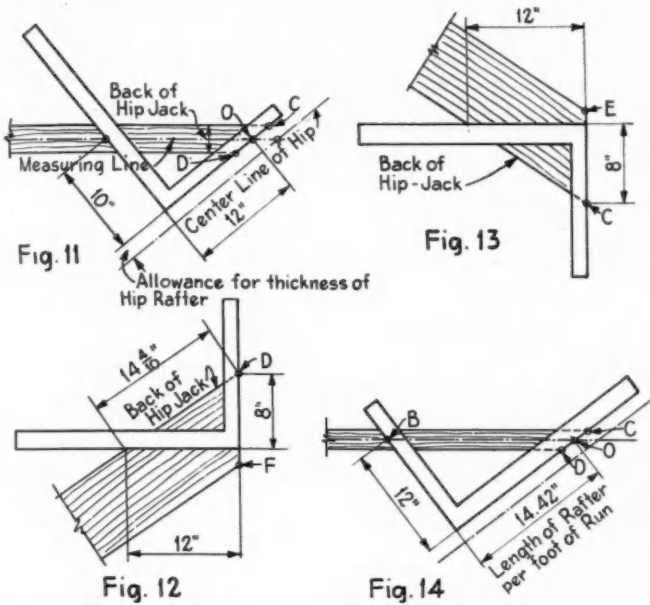


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The cripple-jacks have their upper ends resting against the hip rafter like the hip-jacks and their lower ends resting against the valley rafter like the valley-jacks. Therefore the cripple-jacks will have side cuts and plumb cuts at both ends of each cripple-jack. These cuts at the upper ends of the cripple-jacks will be just the same as the cuts at the upper ends of the hip-jacks and the cuts at the lower ends of the cripple-jacks will be exactly like the cuts at the lower ends of the valley jacks. The steel square can be used in each case just as was explained in connection with the other jack rafters. The next article in the series will explain various other uses of the steel square.



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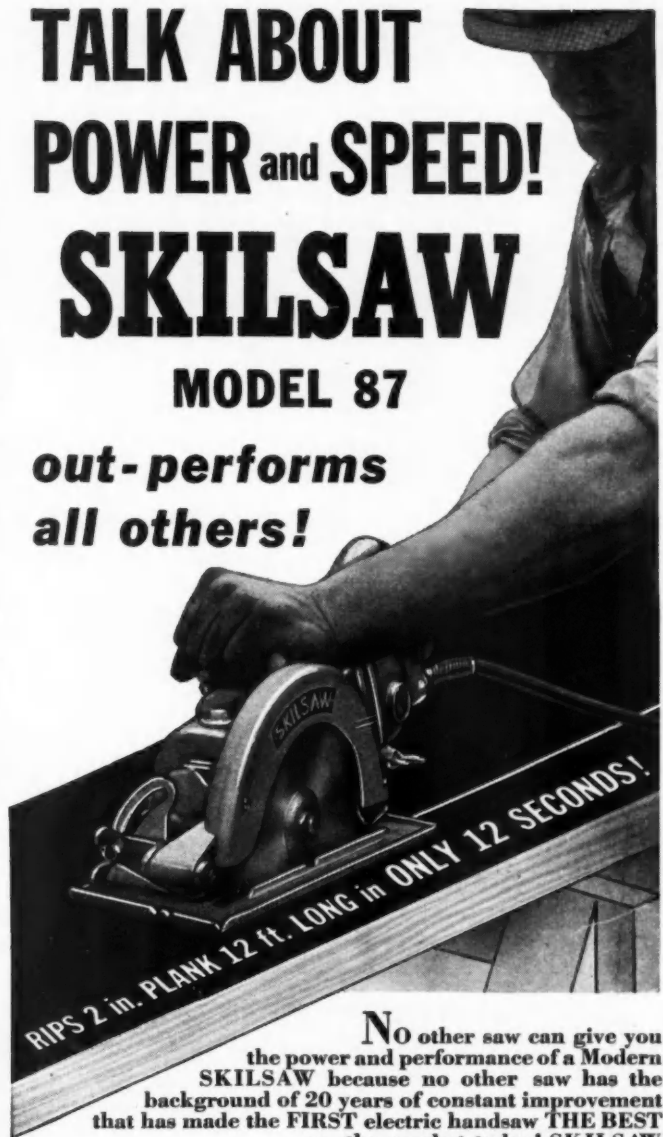
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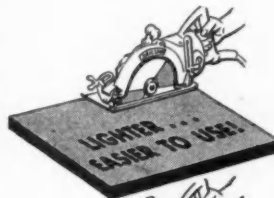
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(Continued from page 52)

First floor joists to be 2 x 10 Yellow Pine, Dierks, Grade & Trade Marked No. 2 S4S 16" c.c. Ceiling joists shall be No. 2 x 8 Dierks, Grade & Trade Marked Yellow Pine S4S, 16" c.c. All studs for exterior and interior walls shall be 2 x 4 Yellow Pine, Dierks, Grade & Trade Marked No. 2 S4S, 16" c.c. with a single plate on the bottom and a double plate on the top. Roof rafters shall be 2 x 4 Yellow Pine, Dierks, Grade & Trade Marked No. 2 S4S 16" c.c. braced every 4 feet with 2 x 4s as detailed. Roof Sheathing to be 1 x 4 Yellow Pine, Dierks, Grade & Trade Marked, No. 2 S4S, spaced to receive wood shingles. Sub-flooring shall be 1 x 8 Yellow Pine, Dierks, Grade & Trade Marked No. 2 S4S, laid on a diagonal to the joists and well nailed to every bearing. Exterior boxing shall be 1 x 8 Yellow Pine, Dierks, Grade & Trade Marked No. 2 S4S, laid on diagonal with studs. Where this boxing is laid on a horizontal it shall be supplemented by the use of 1 x 4 corner braces. All exterior shingles shall be No. 1 24" Royals exposed 10" to the weather and shall be laid over a layer of waterproof felt paper. All exterior trim shall be of "C" or Better. Roof shingles shall be No. 1 16" 5/2 vertical grain Red Cedar.

Inside stairs to basement shall be as shown and to have 2 x 8 No. 2 S4S treads and two 2 x 10 No. 2 S4S stair horses. Two 2 x 4 No. 2 S4S handrails shall be installed one on each side of stair.

A 2 x 6" mud sill shall be bolted to the foundation by the use of 1/2" bolts, spaced 8' o.c.

Scuttle To Attic: A door shall be provided in the ceiling of a closet, where no stairs are provided to give access to the attic space.

Flooring: All flooring with the exception of the kitchen, shall be 25/32 x 2 1/4", 3/4", or Plank, tongue and grooved select red oak. Where linoleum is specified, it shall be laid over Dierks Grade & Trade Marked Yellow Pine Linoleum Flooring. Upon completion of laying, all floors shall be machine sanded to a smooth surface.

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BRICK WORK: The masonry contractor will build brick chimney of No. 1 common brick, laid on 1 to 3 mortar. Ash Grove, or equal, mason's cement shall be used. Joints shall be 5/8" flush stroke. Where a brick flue is not shown, it shall be supplemented by the use of a "Transite" flue.

The lining of the fireplace where shown is to be set by this contractor, using fire clay or "sairset" mortar or equal and standard fire brick. A dome damper of approved make shall be installed. Flues for furnace and fireplace shall be lined full height of chimney with standard grade flue tile. Mantel face where shown to be of black structural glass and hearth to be of 4 1/2" x 4 1/2" black tile.

Concrete Work Well Specified

CONCRETE: Masonry contractor will build concrete slab under living room fireplace where shown to receive hearth; also construct garage slab and necessary steps, platforms, drives and walls as shown on accompanying drawings.

Minimum Thickness: A minimum of 4" in thickness shall be used for all concrete. Porch slab and garage floor slab shall be reinforced with 1/2" deformed bars, spaced 18" o.c.

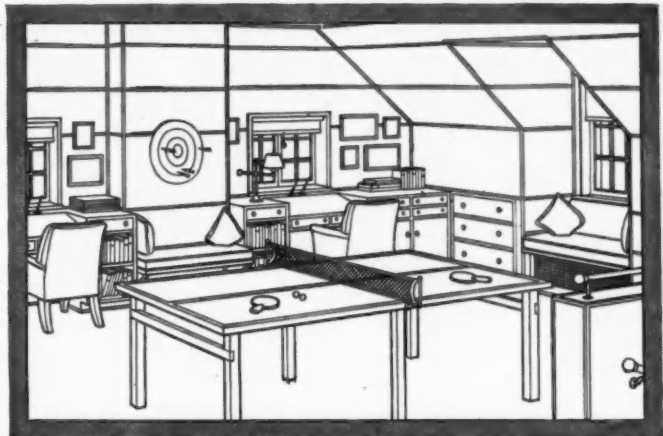
Walks, drives and porch slabs shall be composed of one part Portland cement to two parts sand and four parts crushed limestone. Top finish for all walks must be marked off in blocks every four feet in length. All walks and drives must be reinforced with C-1010 wire mesh or shall be poured on a 4" fill of cinders or slag.

Basement Floor: The entire basement floor area shall be covered with 3 1/2" of concrete tamped and graded to floor level. Over this pour a 1/2" topping composed of one part Portland cement and 1 1/2 parts sand and trowel to a smooth, even surface. Where noted on the drawings, floors shall be poured level for a future recreation room. Bearing posts, if of wood, should rest on concrete base 3" above finished level of basement floor.

LATH & PLASTER: All lath shall be red cedar, spaced 3/8" apart, with broken joints every six lath. Metal lath shall be used where a tile wainscoting is specified. This lath shall be 24 gauge

(Continued to page 88)

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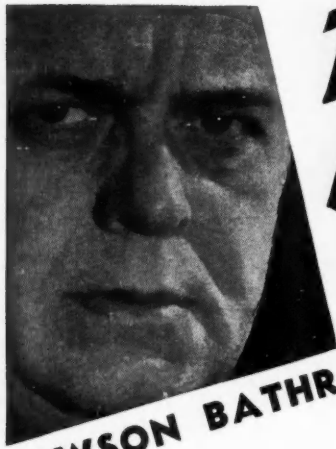
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Before buying, get the new CMC catalog of Mixers. Tilters from 2 1/2 to 10 cu. ft. Non-tilts to 1 yard size, 1 and 2 bag Hoe Type. Pumps, Hoists, Power Saws, Carts and Barrows.

**CONSTRUCTION MACHINERY COMPANY
WATERLOO, IOWA**

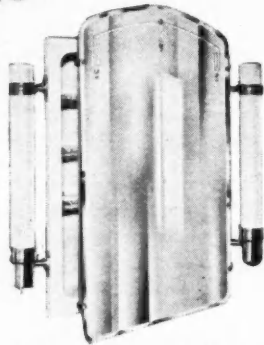


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This "Time Proof" Lawson Cabinet of vitreous porcelain finish on one-piece seamless steel body is the answer to that eternal question—"Quality at a Fair Price."

Other Lawson Cabinets are offered in a wide variety of styles and price ranges with and without side lights—in vitreous porcelain and baked enamel finish!



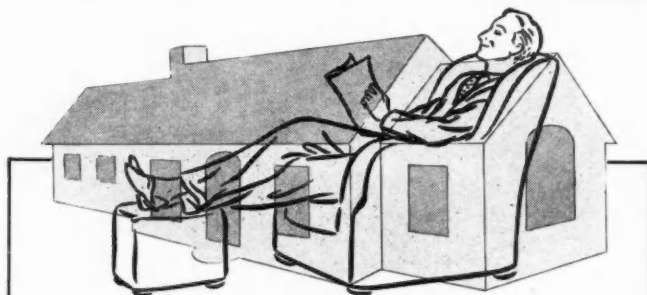
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Producers of Quality Products Since 1816

BATHROOM EQUIPMENT DIVISION, Dept. AB-5, Cincinnati, Ohio
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WHEN you build houses to sell, your "live" prospects want to know that the heating equipment you have selected will give them efficient, fuel-saving, trouble-free service—year after year. ★ Pre-sold for you by national advertising, PAYNE Gas Fired Furnaces are engineered for weather-control under most rigorous climatic conditions — and their sound construction assures a lifetime of satisfaction. To investigate versatile PAYNEHEAT, see your PAYNE Dealer or Gas Company. Or write us.

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These Partners Double-Prove Payneheat

PAYNEHEAT Payne FURNACE & SUPPLY CO., INC.
BEVERLY HILLS • CALIFORNIA

Three Distinctive Homes

(Continued from page 87)

expanded metal. 6" strips of expanded metal lath shall be used in all internal angles. All exposed corners shall be protected by the use of external metal corner beads. Expanded metal lath approximately 8" x 12" shall be applied over the wood lath on all intersecting corners. The sides of all headers of all openings are to be covered with Slater's felt before lath is applied. All side-walls and ceilings of all principal rooms, halls, closets, etc., shall be plastered, with the exception of where tile is specified. All plaster work is to be three coat, consisting of a scratch coat, a brown coat and a finish coat of lime putty, to be well troweled to a smooth, even surface. Acme or Red Top plaster, or equal, shall be used and shall be mixed to conform with the manufacturer's directions.

SHEET METAL WORK: Valleys shall be of tin, 20" wide. Flashing and counter flashing shall be installed where necessary. Counter flashing in connection with all brick work is to be recessed 1" in the brick joints. Over the top of all brick moulds on exterior frames, there shall be a flashing extending up behind the sidewall finish and nailed to the boxing.

Gutters: Gutters shall be of 26 gauge, galvanized iron and graded to downspouts as shown.

Downspouts: Downspouts are to be as shown on plans, 3" round galvanized iron and carried in vitreous tile to the storm sewer. Where no storm sewer exists they shall terminate on concrete splash blocks to carry water at least three feet away from foundation walls.

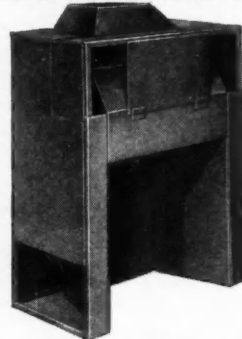
Termite Shields: Termite shields shall be provided where deemed necessary in full conformity with the FHA rules and regulations, and shall be laid directly on top of the foundation wall before bolting mud sill to wall.

PLUMBING: This contractor will obtain and pay for all permits necessary to execution of this work. He shall do all necessary excavating and when underground work is in place, shall do all refilling and tamping.

Sewer: All plumbing connections shall be made into the sanitary

Majestic

EVERYONE WANTS A FIREPLACE THAT



Really HEATS

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—and Majestic Circulator Fireplaces answer the demand! "Radiant Blades" give Majestic's Master Circulator 91% more heat radiating surface! They're easy to install, fit any

mantel design, simplify construction, save time, labor and materials. They assure more warmth with less fuel, and will not smoke! With a Majestic you avoid call-backs — their correct design insures 100% customer satisfaction. Write for details.

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Huntington, Ind.



Extensive Line of Quality Building Necessities

sewers as provided. Where sanitary sewer does not exist, a septic tank shall be installed by this contractor, of ample size and with sufficient laterals. This tank shall meet with the full approval of the FHA requirements and of the State Board of Health.

Water Service: Tap the water main at a convenient point and bring a 1" copper line in with inside cut-offs. Extend a 1/2" pipe to the hot water heater, also run pipes from the hot and cold water supplies to the bathroom and kitchen through a 1/2" supply pipe. All water pipes shall be of galvanized iron. Floor drain shall be as shown and two hose bibs installed on the exterior of the house as desired. Hot and cold runs shall also be as shown for laundry in basement.

Fixtures: All plumbing fixtures shall be of Standard, Crane, or equal.

Kitchen: A 20 x 30 AR sink is to be installed in the kitchen with a duplex strainer and a swing spout combination faucet.

Main Bath: One 5' recess Pembroke tub with pop-up waste, diverter for shower, shower rod, white duck curtain and hooks; one compact closet combination with white sheet covered seat. One 20 x 24 enameled iron white lavatory with chromium legs and pop-up waste.

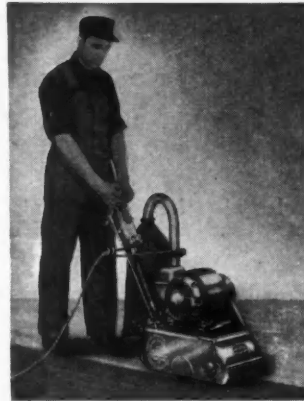
All exposed fittings throughout are to be chromium plated.

A 30-gallon insulated automatic hot water heater shall be provided.

Proper Heating Assured

HEATING: Install complete a "Sunbeam," "Fraser," or equal, furnace to be gas fired, forced air, complete with all pipes, registers, grills, filters, etc. Hot air registers and cold air returns shall be provided for all main rooms. No cold air returns shall be taken from the kitchen or bath. Upon completion, furnace and all exposed ducts shall be painted by the heating contractor. A written guarantee shall be furnished the owner to the effect that the heating plant will heat the house to a temperature of 70 degrees, with an outside temperature of 10 degrees below zero. Furnace shall be equipped with safety pilot and to have the approval of the American Gas Association.

LINOLEUM: All linoleum shall be of Armstrong, or equal, standard grade, inlaid, for which an allowance of \$2.05 per square (Continued to page 92)



MAKE BIG MONEY WITH AN AMERICAN FLOOR SANDER

Be your own boss and make big money with an American floor sanding machine. As much as \$25.00 a day is not an unusual amount—hundreds of floor surfacing

contractors are doing it and so can you. When "New Building" activity is slow there is always a large number of floors in older homes to be resurfaced and finished. With the many outstanding time and money-saving features, American machines for years have been the favorite of floor surfacing men.

Investigate the wonderful possibilities of this work today. Be sure to sign and send in the coupon below for complete details and prices—no cost or obligation to you.

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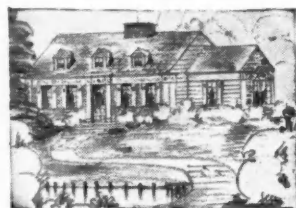
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MANY DESIGNS TO FIT MANY HOMES

IT'S EASY TO MATCH THE ARCHITECTURE WITH

McKinney

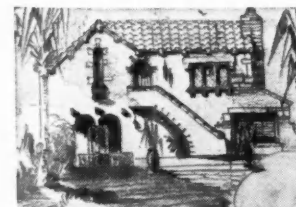
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McKinney designs are definitely related to architectural style. Every piece offers a pleasing proportion in size and weight that blends into the particular architecture for which it is intended.

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75

YEARS OF DESIGNING AND MANUFACTURING GOOD HARDWARE

FIRST IN WAR—FIRST IN PEACE FIRST IN THE HANDS OF BUILDING MEN

AMERICAN BUILDER hopes with all other clear thinking Americans that this country can avert war. We agree with the majority of American people that the practical way to do this may be to have a system of defense that is impregnable. Already the government has taken steps for obtaining such defense—so the safety of American homes may be preserved and the American way of living continue.

In its 62 years of service to American builders, AMERICAN BUILDER has seen other times which seemed equally threatening. Nevertheless the American standard of living has continued and progressed. The building industry has contributed a major share for this progress and we believe it shall continue to do so.

BILLIONS FOR DEFENSE MEANS MORE MILLIONS FOR BUILDING

The government's program of spending from five to six billions on National Defense each year for the next five years is certain to stimulate activity in the building field.

Before this program was announced, it already had been predicted that the building industry in 1940 would reach boom proportion. Now it is inevitable that there will be a boom in home building, particularly for small homes, during the next five or six years.

AMERICAN BUILDER is closely in touch with all government developments that will stimulate home building. We shall report on these developments and continue to supply building men with pictures and plans of practical new homes—practical because they have been proven structurally sound and quickly salable.

A subscription to AMERICAN BUILDER, therefore, can be more valuable to you now than ever before. It will bring you all the latest news and information of the entire building industry, job pointers, sales and advertising assistance—and in the course of a year you will be given more than a hundred pictures and plans of fast selling homes, many complete with elevations and interior views. Moreover by subscribing now, you will receive a free copy of Recommended Homes as described below.

GET *The Builder's* 1940 PLAN BOOK

This year American Builder offers new subscribers, and those who renew their subscriptions, an exceptionally valuable plan book, Recommended Homes. You are given 129 pictures and plans, with many elevations and interior views, of homes that have been built and sold, that have proved their value with profits to the builder. Following is a partial list which will give you an idea of how useful this book could be to you.

SMALL LOW COST HOMES

Prize winning small home from Houston, Texas that features "air-conditioning" from attic fan . . . Successful Connecticut development of small all-gas homes showing plans, elevations, and approximate "all inclusive" costs . . . Attractive home built in Little Rock, Arkansas heated by three floor furnaces . . . "All American" home from Hackensack, New Jersey that fits in practically any surrounding . . . Three comfortable bedrooms and airy 12 x 18 living room with fireplace feature popular San Gabriel development home . . . Minimum cost "Dri-Bilt" home built of Douglas Fir Plywood . . . Dallas bungalow with individual heaters . . . Special air-tight construction for Portland, Oregon plywood home . . . 3 cottages that can be built from same serviceable floor plan, either Cape Cod, Modern, or Dutch Colonial style.

HOMES OF 6 TO 7 ROOMS

Completely modern air-conditioned home with traditional Colonial lines . . . All gas Dutch Colonial prize winner from Columbus, Ohio . . . "Spirit of New England," a prize winning design built in White Plains, New York . . . All electric Detroit home with modern work-saving plan . . . Charming modern home built in St. Paul with modern basement cleverly decorated to resemble old hay loft . . . Attractive Philadelphia home compactly designed featuring all electric standard units . . . Speculative home

built in Montclair and sold immediately upon completion . . . Prize winning six-room house from Rochester, New York . . . Altedena, California home, all gas equipped, red wood exterior, also showing several views of charming interior . . . Modern plan and equipment for unusual Detroit home.

LARGER HOMES

"Double Life Time" home built in Stamford, Connecticut showing interesting construction details for long life . . . Modified classic home featured by Celotex Corporation . . . Rambling Colonial design built among tall trees on half-acre plot at Glen Head, Long Island . . . Beautiful California ranch style home with 15 x 24 living room opening on flagstone terrace . . . Unusual attractive Colonial with winter air-conditioning and attached garage from Brookline, Massachusetts . . . Unusual modern "Motor Home" with striking lines . . . Early American home built in Indian Hill Estate, Wilmette, Ill.

SPECIAL FEATURES

The inside cover of Recommended Homes shows a chart for quickly figuring monthly payments on F.H.A. loans for amounts from \$1,000 to \$16,000 over periods of 5 to 25 years. There are useful job pointers, such as the page on "Textures and Coursing for the Surfaces of Concrete Walls" . . . "8 Practical Salable Suggestions for the Modernizing of Basements" . . . Also, Recommended Homes brings to you the 15 New York World's Fair houses with plans, details, and construction data for "Town of Tomorrow" homes. Thousands of visitors to the World's Fair have seen these homes and perhaps obtained ideas which they would like to include in a home of their own—so that you might find it well worth while to have complete information on these homes constantly at hand.

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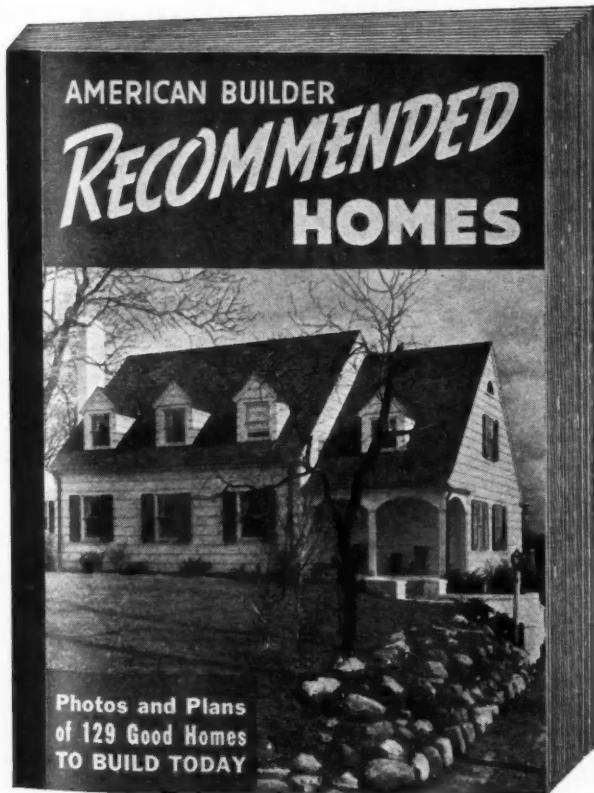
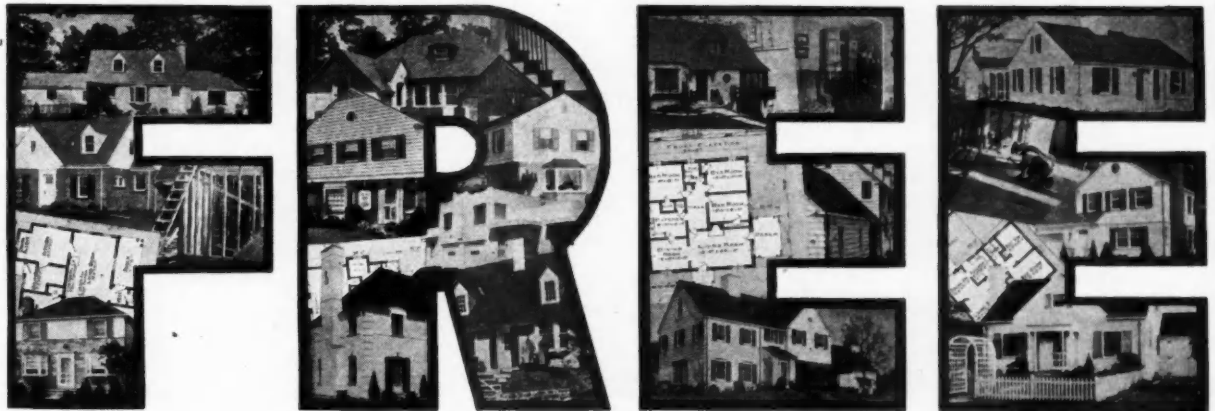
8-40

"Build Now
For Security"

B. L. Johnson*

*Editor
American Builder

*Chairman
National Homes
Foundation



178 Pages 8 3/8 x 11 1/4 Crammed From Cover to Cover With Pictures and Plans of the Fastest Selling Homes in America

Recommended Homes should be of immediate value to anyone interested in the home building industry—and a valuable source of reference for many months to come. It shows 129 new homes with many pictures of interiors as well as exteriors, plus a wealth of construction information and job pointers. We will send you Recommended Homes free and postpaid immediately upon receipt of your subscription remittance for American Builder, at the rate shown above.

IMPORTANT ANNOUNCEMENT

The entire editorial staff of American Builder is now at work on a hard hitting campaign for the benefit of the entire building industry. This campaign is a result of the enormous expenditures the government will make for national defense which in turn will stimulate unusual activity in the building industry. The keynote of this campaign is BUILD NOW FOR SECURITY—showing the builder how he can prove to rent payers that today an owned home will save money and offer at the same time the safest possible investment. The Editors already have launched nation-wide publicity with the aid of newspapers and general magazines to help the builder educate the public to the benefits of home ownership. You cannot afford to miss the assistance and information regarding this important campaign which only readers of American Builder will receive in the coming issues.

PEERLESS FIREPLACE DAMPERS



- No smoke
- No heat loss
- No back draft
- Lifetime Service

LIFETIME service afforded by Peerless Dome Dampers means a lifetime enjoyment of the fireplace. All three models—Rotary, Poker or Chain Control, are built of heavy stove plate cast iron—as permanent as the fireplace itself. They seal the flue when fireplace is not used—a necessity for efficient use of air conditioning units.

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Select either Feed Chute or Batch-hopper for Faster and Easier Loading.



Handy
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5 1/2 cu. ft.
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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.

STEP UP CONCRETE PRODUCTION with a Smith 5 1/2 foot Gated Batch-hopper. Enables you to get one batch ready while the previous one is being mixed and discharged. Speeds up the job materially.

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.

THE T. L. SMITH COMPANY
2849 N. 32nd St. Milwaukee, Wis.

SMITH MIXERS

THE BOULDER DAM MIXERS

Three Distinctive Homes

(Continued from page 89)

yard laid over felt, shall be made. This contract shall include the linoleum on the kitchen floor and wherever noted on the drawings.

TILE WORK: Bathroom floor shall be ceramic tile, as selected. Walls shall be tiled to a height of 4'0". This contract shall also include the tiling of the kitchen drain board, back splash and closed ends. All wall tile shall be laid over metal lath and concrete. Floor tile in bath shall be laid over a concrete base. Sub-flooring shall be cut and laid between the joists to allow for approximately 3" of cement mortar. A marble threshold shall separate the tile from the flooring adjoining.

PAINTING: The painter shall carefully examine all parts of wood or metal to be painted to assure there are no imperfections before painting begins.

Exterior Work: All exterior trim shall be painted with three coats of lead and oil. All exterior sidewall shingles shall receive two coats of a prepared paste paint. All exposed metal on the exterior shall receive two coats lead and oil in addition to a coat of mineral paint and shall be finished to match adjoining colors. Roof shingles shall be given one brush coat of creosote stain to color desired.

Interior Work: All interior work, including trim, doors and windows, shall be smooth sanded, and shall receive a coat of primer, a second coat of half and half and a final coat of enamel. All nail holes shall be puttied and the finished job left in a workmanlike manner.

Floors, after being smooth sanded, shall receive a coat of filler, a coat of shellac and a single coat of varnish. Upon completion of job, floors shall be cleaned and well waxed with an approved wax.

All cases, hot air grills, etc., shall be painted to match the adjoining trim. Kitchen walls and bath walls above tile shall be given two coats of lead and oil to color as desired in a stippled finish.

MILLWORK: All interior millwork shall be DIERKS Standardized Trim and regular equal standard millwork and shall be

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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Book Service Department

AMERICAN BUILDER AND BUILDING AGE

30 Church Street

New York, N. Y.

smooth sanded at the mill before being delivered to the job. Windows to be to sizes as shown, with an Andersen, Kinzua, or equal, frame, and shall be weatherstripped on the job. All interior doors shall be of the six panel, raised panel type. The front door shall be as detailed. All interior casing shall be as detailed on the drawings. A one-member base and shoe shall be carried in all rooms, the living room and the dining room shall have in addition, a 3½" cove cornice and picture mold. All closets shall be fitted with a pole, shelf and hook strip. Linen closet shall be of shelves from floor to ceiling, spaced 18" apart.

ELECTRIC WIRING: All electrical wiring shall be done in full accordance with the local building ordinances. All outlets and switches shall be located on the job in accordance with the desires of the owner and for which an allowance of 75 outlets or \$60.00 shall be made. This allowance shall include a front door bell and a rear door buzzer. All switches to be the toggle type and all convenience outlets duplex.

Insulation and Weatherstripping Are Important

INSULATION: Four inches of USG, or equal, mineral wool insulation shall be installed, covering the entire first floor ceiling area. This wool shall be laid in between the ceiling joists by experienced men only. Any damage or removal of this insulation by other trades, shall be repaired or replaced upon completion of the job.

WEATHERSTRIPPING: All exterior openings, including doors and windows, shall have metal weatherstripping. Interlocking sills shall be used on exterior doors with spring bronze on side jambs and heads.

WALLPAPERS: All rooms, unless where otherwise specified, shall be papered with a wallpaper as selected by the owner, for which an allowance is made of \$.75 per roll in the living room and dining room, and \$.50 per roll in the bedrooms.

SCREENS: All windows shall be equipped with half length screens of 16 mesh pearl wire. These screens shall slide on zinc

(Continued to page 94)

WAGNER

TRACKS AND HANGERS

NO. 100 TRACK



NO. 15 TRACK



A complete modern line for every purpose. No. 1500 series Roller Bearing Hangers operate in both No. 100 and No. 15 Track. One Hanger — two tracks. Simplifies installation. Assures satisfaction. Write for literature.

NO. 1503 HANGER



NO. 1500 HANGER



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One of the most USEFUL items ever developed for the building industry. These all-metal legs fold for easy transportation—never wear out—set up in seconds with any 2 x 4 or 2 x 6. Save material—save time. Alligator grip holds legs securely. 2 heights—24" and 30". Ideal for temporary tables, stands, counters, etc. Hundreds of uses.

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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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In the last 30 years thousands of Builders and Painters have PROVED that Reliable Scaffold Brackets cut scaffolding costs in half, last for decades and are many times SAFER. RELIABLES are easy to erect and remove—leave no holes to be plugged. Amazingly superior in every way to wooden scaffolding. You owe it to yourself to know all about these remarkable brackets.

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EVERY window frame, every outside door frame, every exposed building joint, should be calked with Pecora if you want to provide maximum weather protection. Pecora-protected houses use less fuel, maintain more uniform temperatures, are less subject to drafts and moisture leaks. Pecora Calking Compound will not dry out, crack or chip when properly applied. Available in bulk or cartridges. Used by leading builders everywhere.

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PECOMASTICS FOR STRUCTURAL GLASS INSTALLATION

Instructions for Fire Prevention

The Cleveland Fire Department and The Cleveland Safety Council are asking all citizens to make a personal inspection of their homes for the purpose of reducing fire dangers. Constant inspection is one of the best ways to keep from having a fire. Your home should be thoroughly inspected—EVEN THOUGH IT HAS BEEN INSPECTED MANY TIMES BEFORE.

Help Us—Help You—Prevent Fire

SMOKING materials carelessly used are among the most frequent causes of fires. Be careful in disposing of used matches and cigarette butts. Keep matches out of the reach of small children. Never smoke in bed.

TAKE no chances in leaving children alone in the house. They may be trapped should a fire occur. Fires often spread very rapidly. Save life first. Let the fire department save your property.

OILY rags or waste should be kept in closed metal waste cans outside the house. Never hang oily rags in a closet. The spontaneous ignition of oily rags has been responsible for many serious fires.

PREPARE for fire safety by using fire-resistive materials wherever possible. Fit all sparks on wooden shingle roofs by using fire retardant roofing. Construct chimneys of fire-resistive material. Have fire extinguishers handy. Have fire escape run for help on this floor. If you are on the second floor, get him down on the floor. Wrap him tightly in a blanket, beginning at the head to keep the flames away from the face, and beat out the fire with the blanket.

IF someone else's clothing catches fire, get him down on the floor. Wrap him tightly in a blanket, beginning at the head to keep the flames away from the face, and beat out the fire with the blanket.

SEN D your cleaning work to the dry cleaner. Never use gasoline or kerosene to start fires. Flammable liquids cause the greatest number of fatal home fires.

In a bulletin issued by The Cleveland Fire Department and The Cleveland Safety Council, attention is called to the warning to "prepare for safety by using fire-resistive materials wherever possible."

Lumber treated with Du Pont Chromated Zinc Chloride is fire retardant.

If you are selling lumber, planning to build or renovate, be sure to investigate the possibilities offered by Du Pont Chromated Zinc Chloride treatment. In addition to its fire retardant qualities, Du Pont Chromated Zinc Chloride treated lumber resists early decay, repels termites, is clean, odorless and paintable.

All parts of a building, particularly those near the ground and foundation, such as sills, joists, sub-floors, sheathing, outside steps and porch columns, are vulnerable to early damage from decay. Chromated Zinc Chloride preserved wood, especially at these points, adds durability and protects the property beyond the normal life of the investment.

For durability and protection to houses and other wooden structures, USE . . .



Chromated Zinc Chloride

TREATED LUMBER

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
GRASSELLI CHEMICALS DEPARTMENT
WILMINGTON • DELAWARE

Three Distinctive Homes

(Continued from page 93)

tracks. All doors shall be fitted with combination storm and screen doors. This contract shall also include the screening of the porch with 16 mesh pearl wire, with one door leading from the porch to the outside.

FINISH HARDWARE: All finish hardware shall be delivered to the building and packed and marked for each opening individually. An allowance will be made to the owner of \$50.00 to cover this contract. All door sets shall be as manufactured by the Schlage Hardware Manufacturing Company, or equal.

WINDOW SHADES: Furnish and install window shades on all openings. Choice of color to be as selected by the owner and for which an allowance of \$17.50 shall be made.

ELECTRICAL FIXTURES: Electric fixtures shall be as selected by the owner and for which an allowance of \$40.00 will be made.

SODDING AND SHRUBBING: The entire yard shall be sodded with bluegrass sod. Shrubby shall be installed for the front of the house by the contractor, for which an allowance is made to the owner of \$20.00.

How to Subdivide

(Continued from page 47)

creosote compound to prevent termites. No wood of any description is left under the slab. The only pipes under the slab are the waste lines from the plumbing fixtures, the water service coming in through the outside beam, and all service to bathroom and kitchen being overhead. Water pipes under slab have proven very unsatisfactory.

"The toe plates to receive the studs are of treated material to prevent decay, and are bolted to the concrete every six feet. This applies to inside partitions as well as outside walls. The framing material is all of No. 2, and, of course, all construction meets FHA

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"CHROMEDGE"

90 NEW TRIMS ADDED TO A FAMOUS LINE!

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COLUMBUS OHIO

minimum building requirements for this section.

"We have recently built a number of homes on which the exterior was asbestos siding over shiplap. The roofs have also been asbestos over shiplap, and both have proven very satisfactory so far. This type of construction has several advantages. One is that the roof can be of lower pitch. Another is that there is no initial cost of painting the side walls or staining the roof, nor is there any maintenance of same after construction. Another point is a saving in insurance rates. The lower pitched roof, on account of asbestos shingles, also gives the home a more attractive appearance.

"The interior walls are finished with one-half inch U.S.G. Sheet-rock, all joints being metal taped according to manufacturers specifications, and finished with a coat of stipple, then a sealer coat, and the third or last coat of flat oil paint. This type of finish has proven not only satisfactory from a construction standpoint, but is also attractive to the buying public.

"The floors have been finished in several different ways. The latest, and what we feel will be the most satisfactory method, is to apply waterproofing, consisting of first a coat of waterproof mastic, then a layer of 15 pound felt, another coat of mastic and another coat of felt. If the finished floor is to be of hardwood, we then apply another coat of mastic and a subfloor of 1 x 4 No. 2, cut into two-foot lengths and laid over the entire surface, allowing one-eighth of an inch between each board both at ends and sides, over which is applied a layer of 15 pound felt and then the usual hardwood floor of either clear plain red or white oak. This floor is laid as soon as possible to allow for any shifting before time to scrape and finish same. This method is considered better than using two-inch treated screeds over which the sub-floor and finished floor are laid.

"If it is desired to finish with carpet instead of oak floors, we omit the top application of mastic and apply a broad felt carpet direct to the top layer of felt, with waterproof glue. The purpose of the membrane waterproofing over the concrete is to prevent dampness, and so far it has proven very satisfactory.

"The inside finish and trim of the homes we have recently constructed has all been white Ponderosa Pine, which is easier to
(Continued to page 96)

SELL THE CRAW-FIR-DOR AND MAKE MONEY!



Customers like it... alert retail lumber dealers handle it... builders can install it in a few hours!

Every car owner is a good prospect

The *Craw-Fir-Dor* operates so easily a woman or child can open it even when snow is on the ground.

The *Craw-Fir-Dor* is definitely the leader in the overhead-type garage door field. This approved door is unsurpassed in construction and durability, in ease of installation and operation. The 8-panel design retails for only \$28, and this low price includes a free-spinning cylinder lock. The door is old-growth Douglas fir, pre-fitted for 8'x7' openings. Investigate the *Craw-Fir-Dor* today. If your distributor can't supply you, write Fir Door Institute, Tacoma, Wash.

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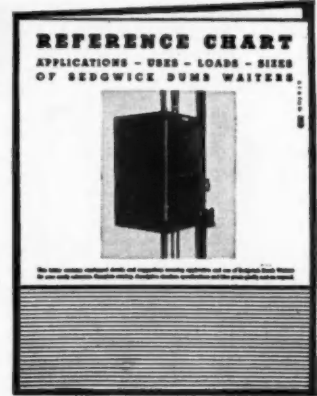
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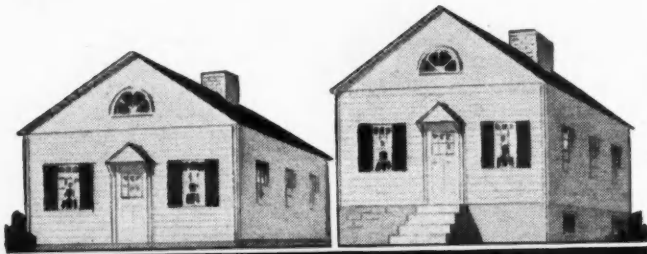
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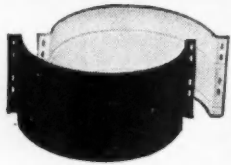
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RAISE GRADE LINE *at low cost with* DONLEY AREA WALLS



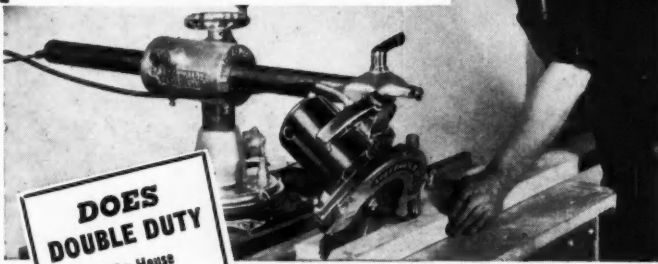
Raise that all-important grade line and your homes look as though they grew in place—look nestled in the ground instead of sticking up too high. You can raise the grade line at low cost—by using Donley Steel Area Walls. Users say these prefabricated units cut the cost of area ways by 50%—you just set them in front of the window and backfill.

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Let this double duty Speedmatic give you smoothly organized work and produce two-way profits. Get full information on efficient sawing methods—free copy of "How to Cut Costs and Increase Profits," yours for the asking.

PORTER - CABLE MACHINE CO. 1721-H No. Salina St.,
Syracuse, N. Y.

How to Subdivide

(Continued from page 95)

handle and all joints are much neater in appearance and it takes and holds the paint better than our native yellow pine. All windows are fitted with sash balances permitting the use of narrower trim.

"Bathrooms are usually finished with tile floors and base and tile around the tub recess to permit the use of a shower. The balance of the bathroom is Sheetrock, as previously explained.

"The kitchen floors are of linoleum, laid over 5/8" plywood, which permits an even surface and thus the joints will not show through the linoleum. This method does not require felt under the linoleum. It is somewhat more expensive, but decidedly better. The windows are usually 10 x 12, 12 light, screened with 16 mesh bronze wire. The drainboard and splash around the sink are of tile.

Provide for Addition of Attic Fan

"The usual procedure is to install louvres of sufficient size, and a grille in the hall to the attic, so that an attic ventilating fan may be installed later by the purchaser. The large louvres and the grille in the ceiling are unnecessary, unless the fan is used, but this procedure saves considerably more money than to make the changes when the fan is installed.

"Provision is made in one of the walls to vent a gas heater, the installation of which may be made at any time the purchaser desires. An unvented gas heater has not proven satisfactory in homes where this type of finish is used on the walls and ceilings. We do not like the idea of a floor furnace in a house of slab construction.

"The yard and premises of each home offered for sale are thoroughly graded, leveled, and shrubbery planted and all utilities connected and in use before the house is even offered for sale.

"The cleaning of the premises always includes the washing of windows, the cleaning of bathroom fixtures and all tile, dusting the house, and rewaxing the floors if the house has been open for inspection."

HOMASOTE BIG SHEETS

up to 8'x14'



HOMASOTE combines great structural strength with high resistance to air infiltration; and it is *weatherproof*. Its complete wall sizes—up to 8'x 14'—make it possible to cover the average wall in one piece; the surface provides an ideal base for paper or paint. With Homasote, you have no waiting for plaster to dry; your walls and ceilings are *permanently crackproof*. Homasote may also be used for exterior sheathing or exterior finish.

HOMCO represents an important development in insulating boards manufactured in small panels. Although the largest size of Homco is 4'x 14', it combines beauty of surface with greater structural strength, greater resistance to air infiltration and a low moisture absorption. Homco does not require a priming coat before painting. Like its big brother, Homasote, it is *weatherproof* and may be used on the exterior as well as the interior. Homco is superior in quality by any test—yet it is priced competitively.

Write for illustrated literature and prices

HOMASOTE COMPANY
TRENTON, N. J.



HOMCO
SMALL SHEETS up to 4'x14'

Finally, both Mr. Brace and Mr. Crain not only welcome the FHA minimum requirements in the building industry, but have felt for years that houses should be built at least as well as FHA standards indicate. In many instances, Garden Oaks building specifications are superior to FHA requirements. "We feel that the minimum FHA construction requirements are not unjust to anybody, and are, in fact, particularly beneficial to the home owner," concludes Mr. Brace.

* * *

30,000 Flock to Model Home

(Continued from page 49)

is the entrance hall lavatory arrangement.

De Paolo's demonstration house is unusually well-equipped and features among other things gas heating, cooking and hot water equipment.

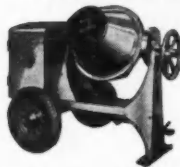
Important items of materials and equipment include the following:

- ROOF—Barber Genasco shingles.
- INSULATION—Kimsul blanket-type insulation, Kimberly-Clark Corp.
- WINDOWS—Andersen frames, Unique balance.
- GLASS BLOCKS—Pittsburgh Plate Glass Co.
- KITCHEN LINOLEUM—Armstrong Linoleum Co.
- WALLPAPER—Sherwin-Williams Co.
- PAINT—Pittsburgh Paint Co.
- GARAGE DOORS—Overhead Door Co.
- RANGE—Glenwood Certified Performance gas range.
- REFRIGERATOR—Servel Electrolux with 10-yr. guarantee.
- BATHROOM FIXTURES—Crane Co.
- HOT WATER HEATER—Whitehead automatic gas water heater with 20-yr. guaranteed Monel Metal tank.
- HEAT—Payne gas-fired winter air conditioning system.
- BASEMENT ENTRANCE—All-metal Bilco bulkhead, Bilco Mfg. Co.
- VENTILATING FAN—West Wind Co.
- TELEPHONES—Concealed conduit installation with telephone in kitchen and living room.



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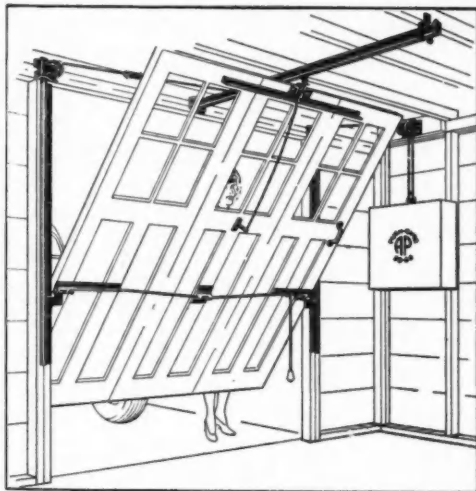
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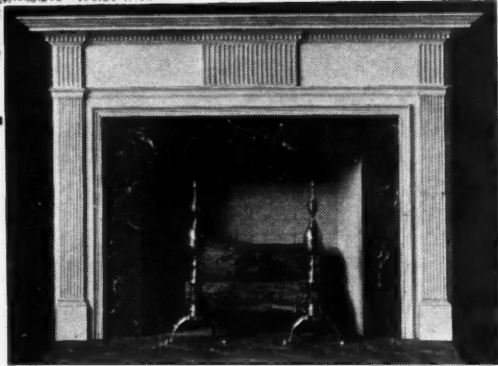
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**"TruCost" Estimating Figures
for Home Designs in this Issue**



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, August: Garden Oaks

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Cement Slab under House, 900 sq. ft.; Garage Floor, 180 sq. ft.; Outside Walls, 16.50 sqs.; First Floor, 9.00 sqs.; Ceiling, 9.00 sqs.; Roof Pitch, 5" rise per ft. run; Roof, 13.00 sqs.; Cornice, C & F, 150 lin. ft.; Partitions, 115 lin. ft.; Inside Finish OS Walls, 144 lin. ft.; Front and OS French Doors, 1 opg.; Rear and Grade Doors, 1 opg.; Garage Door 8 ft. wide, 1; Inside Doors and Cased Opgs., 11 opgs.; Windows and Casements, 12 opgs.; Gable Sash and Louvers, 2 opgs.; Porch Floor, 1.20 sqs.; Porch Ceilings, 1.20 sqs.; Porch Beam, 26 lin. ft.; Porch and Balcony Post and Newels, 4; Porch Roof, 1.40 sqs.; Porch Cornice, 26 lin. ft.

Page 47, August: Garden Oaks

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Cement Slab under House, 900 sq. ft.; Garage Floor, 180 sq. ft.; Outside Walls, 16.50 sqs.; First Floor, 9.00 sqs.; Ceiling, 9.00 sqs.; Roof Pitch, 5" rise per ft. run; Roof, 13.00 sqs.; Cornice, C & F, 170 lin. ft.; Partitions, 138 lin. ft.; Inside Finish OS Walls, 144 lin. ft.; Front and OS French Doors, 2 opgs.; Rear and Grade Doors, 2 opgs.; Garage Door 8 ft. wide, 1; Inside Doors and Cased Opgs., 10 opgs.; Windows and Casements, 11 opgs.; Gable Sash and Louvers, 2 opgs.; Porch Floor, .96 sqs.; Porch Ceilings, .96 sqs.; Porch Beam, 20 lin. ft.; Porch



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Manufacturers of Famous BILT-WELL Woodwork

and Balcony Post and Newels, 1; Porch Roof, .96 sqs.; Porch Cornice, 20 lin. ft.; Porch and Deck Rail, 8 lin. ft.

Page 48, August; De Paolo, Bldr.

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 96 lin. ft.; Trench Walls, 122 lin. ft.; Basement Floor, 575 sq. ft.; Garage Floor, 180 sq. ft.; Excavation per ft. deep, 25 cu. yds.; Outside Walls, 22.00 sqs.; First Floor, 6.00 sqs.; Second Floor, with fin. flg., 5.75 sqs.; Ceiling, 11.75 sqs.; Roof Pitch, 7" rise per ft. run; Roof, 10.12 sqs.; Hips and Valleys, 72 lin. ft.; Cornice, C & F, 160 lin. ft.; Cornice, 4", 96 lin. ft.; Partitions, 150 lin. ft.; Inside Finish OS Walls, 192 lin. ft.; Front and OS French Doors, 3 opgs.; Rear and Grade Doors, 2 opgs.; Garage Door 8 ft. wide, 1; Inside Doors and Cased Opgs., 15 opgs.; Windows and Casements, 28 opgs.; Gable Sash and Louvers, 4 opgs.; Chimney, 35 lin. ft.; Main Stairs, 1; Porch Floor, 1.60 sqs.; Porch Ceilings, 1.60 sqs.; Porch Beam, 44 lin. ft.; Porch and Balcony Post and Newels, 10; Porch Roof, 1.45 sqs.; Porch Cornice, 50 lin. ft.; Deck Rail, 33 lin. ft.

Page 51, August; Stich & Gibson, Bldrs.

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 113 lin. ft.; Trench Walls, 78 lin. ft.; Basement Floor, 750 sq. ft.; Garage Floor, 162 sq. ft.; Excavation per ft. deep, 30 cu. yds.; Outside Walls, 21.50 sqs.; First Floor, 7.50 sqs.; Second Floor, with fin. flg., 7.85 sqs.; Ceiling, 15.30 sqs.; Roof Pitch, 7" rise per ft. run; Roof, 10.24 sqs.; Hips and Valleys, 80 lin. ft.; Cornice, C & F, 115 lin. ft.; Cornice, 4", 115 lin. ft.; Partitions, 180 lin. ft.; Inside Finish OS Walls, 226 lin. ft.; Front and OS French Doors, 3 opgs.; Rear and Grade Doors, 1 opg.; Garage Door 8 ft. wide, 1; Inside Doors and Cased Opgs., 18 opgs.; Windows and Casements, 22 opgs.; Gable Sash and Louvers, 1 opg.; Chimney, 36 lin. ft.; Main Stairs, 1; Porch Floor, 1.50 sqs.; Porch Ceilings, 1.50 sqs.; Porch Beam, 40 lin. ft.; Porch and Balcony Post and Newels, 8; Porch & Garage Roofs, 3.50 sqs.; Porch & Garage Cornice, 80 lin. ft.; Porch and Deck Rail, 40 lin. ft.

(Continued to page 100)



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On days that are not cold enough to have the regular heating plant in operation, this economical built-in unit quickly takes the chill off the air. Drawing the cool air in from the floor, it rapidly moves it up through the heating chamber, and forces it out through the top to circulate perfectly through the entire room. Bedrooms, dressingrooms and children's playrooms should be similarly equipped.

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We Do Expert Repairing

Tapes Rods Supplies

"TruCost" Figures

(Continued from page 99)

Page 52, August: "The Beechwood"

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 155 lin. ft.; Trench Walls, 75 lin. ft.; Basement Floor, 970 sq. ft.; Garage Floor, 190 sq. ft.; Excavation per ft. deep, 40 cu. yds.; Outside Walls, 20.00 sqs.; First Floor, 9.70 sqs.; Second Floor, without fin. flg., 6.00 sqs.; Ceiling, 9.70 sqs.; Roof Pitch, 9" rise per ft. run; Roof, 15.00 sqs.; Hips and Valleys, 40 lin. ft.; Cornice, C & F, 180 lin. ft.; Partitions, 168 lin. ft.; Inside Finish OS Walls, 155 lin. ft.; Front and OS French Doors, 2 opgs.; Rear and Grade Doors, 1 opg.; Garage Door 8 ft. wide, 1; Inside Doors and Cased Opgs., 16 opgs.; Windows and Casements, 18 opgs.; Gable Sash and Louvers, 3 opgs.; Chimney, 28 lin. ft.; Main Stairs, 1; Porch Floor, 1.14 sqs.; Porch Ceilings, .98 sqs.; Porch Beam, 28 lin. ft.; Porch and Balcony Post and Newels, 2; Porch Roof, .98 sqs.; Porch Cornice, 28 lin. ft.; Porch and Deck Rail, 28 lin. ft.

Page 53, August: "The Woodside"

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Trench Walls, 210 lin. ft.; Heater Rm. Floor, 30 sq. ft.; Garage Floor, 228 sq. ft.; Excavation per ft. deep, 33 cu. yds.; Outside Walls, 20.00 sqs.; First Floor, 8.00 sqs.; Ceiling, 8.00 sqs.; Roof Pitch, 8" rise per ft. run; Roof, incl. Porch, 14.00 sqs.; Hips and Valleys, 40 lin. ft.; Cornice, incl. Porch, C & F, 195 lin. ft.; Cornice, 4", 95 lin. ft.; Partitions, 125 lin. ft.; Inside Finish OS Walls, 118 lin. ft.; Front and OS French Doors, 2 opgs.; Rear and Grade Doors, 2 opgs.; Garage Door 8 ft. wide, 1; Inside Doors and Cased Opgs., 14 opgs.; Windows and Casements, 16 opgs.; Gable Sash and Louvers, 2 opgs.; Porch Floor, .96 sqs.; Porch Ceilings, .96 sqs.; Porch Beam, 16 lin. ft.; Porch and Balcony Post and Newels, 1; Porch and Deck Rail, 6 lin. ft.

Page 53, August: "The Fairwood"

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 158 lin. ft.; Trench Walls, 54 lin.

SHAWNEE COUNTRY CLUB

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Shawnee-on-Delaware, Pennsylvania

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ft.; Basement Floor, 1200 sq. ft.; Garage Floor, 228 sq. ft.; Excavation per ft. deep, 60 cu. yds.; Outside Walls, 20.00 sqs.; First Floor, 12.00 sqs.; Second Floor, without fin. flg., 8.00 sqs.; Ceiling, 12.00 sqs.; Roof Pitch, 9" rise per ft. run; Roof, 16.50 sqs.; Hips and Valleys, 24 lin. ft.; Cornice, C & F, 220 lin. ft.; Partitions, 200 lin. ft.; Inside Finish OS Walls, 158 lin. ft.; Front and OS French Doors, 2 opps.; Rear and Grade Doors, 1 opp.; Garage Door 8 ft. wide, 1; Inside Doors and Cased Opps., 19 opps.; Windows and Casements, 19 opps.; Gable Sash and Louvers, 2 opps.; Chimney, 28 lin. ft.; Main Stairs, 1; Porch Floor, 1.56 sqs.; Porch Ceilings, 1.20 sqs.; Porch Beam, 32 lin. ft.; Porch and Balcony Post and Newels, 2; Porch Roof, 1.20 sqs.; Porch Cornice, 32 lin. ft.; Porch and Deck Rail, 32 lin. ft.

Page 54, August; Rix, Bldr.

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 104 lin. ft.; Trench Walls, 18 lin. ft.; Basement Floor, 650 sq. ft.; Excavation per ft. deep, 29 cu. yds.; Outside Walls, 17.00 sqs.; First Floor, 6.50 sqs.; Second Floor, with fin. flg., 6.50 sqs.; Ceiling, 13.00 sqs.; Roof Pitch, 5" rise per ft. run; Roof, 8.50 sqs.; Hips and Valleys, 80 lin. ft.; Cornice, C & F, 104 lin. ft.; Cornice, 6", 104 lin. ft.; Partitions, 144 lin. ft.; Inside Finish OS Walls, 208 lin. ft.; Front and OS French Doors, 1 opp.; Rear and Grade Doors, 1 opp.; Inside Doors and Cased Opps., 16 opps.; Windows and Casements, 21 opps.; Gable Sash and Louvers, 1 opp.; Chimney, 34 lin. ft.; Main Stairs, 1; Porch Floor, .30 sqs.

Page 55, August; Rix, Bldr.

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 124 lin. ft.; Trench Walls, 12 lin. ft.; Basement Floor, 8.20 sq. ft.; Excavation per ft. deep, 33 cu. yds.; Outside Walls, 19.75 sqs.; First Floor, 8.20 sqs.; Second Floor, with fin. flg., 8.00 sqs.; Ceiling, 16.20 sqs.; Roof Pitch, 8" rise per ft. run; Roof, 10.75 sqs.; Hips and Valleys, 96 lin. ft.; Cornice, C & F, 130 lin. ft.; Partitions, 188 lin. ft.; Inside Finish OS Walls, 248 lin. ft.; Front and OS French Doors, 2 opps.; Rear and Grade Doors, 1 opp.; Inside Doors and Cased Opps.,

(Continued to page 102)

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TruCost Figures

(Continued from page 101)

16 opg.; Windows and Casements, 26 opg.; Gable Sash and Louvers, 1 opg.; Chimney, 36 lin. ft.; Main Stairs, 1; Porch Floor, .40 sqs.; Porch and Deck Rail, 12 lin. ft.

Page 56, August: Mott Bros., Bldrs.

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 108 lin. ft.; Trench Walls, 100 lin. ft.; Basement Floor, 728 sq. ft.; Garage Floor, 200 sq. ft.; Excavation per ft. deep, 31 cu. yds.; Outside Walls, 23.00 sqs.; First Floor, 7.50 sqs.; Second Floor, with fin. fig., 9.50 sqs.; Ceiling, 17.00 sqs.; Roof Pitch, 8" rise per ft. run; Roof, 12.00 sqs.; Hips and Valleys, 8 lin. ft.; Cornice, C & F, 166 lin. ft.; Partitions, 188 lin. ft.; Inside Finish OS Walls, 240 lin. ft.; Front and OS French Doors, 2 opg.; Rear and Grade Doors, 1 opg.; Garage Door 8 ft. wide, 1; Inside Doors and Cased Opgs., 20 opg.; Windows and Casements, 22 opg.; Gable Sash and Louvers, 2 opg.; Chimney, 36 lin. ft.; Main Stairs, 1; Porch Floor, 1.68 sqs.; Porch and Deck Rail, 8 lin. ft.

* * *

Building Parkchester

(Continued from page 42)

cars. There is a major shopping center and in addition, the small neighborhood stores conveniently located. Much study was given to the traffic problem to permit easy access to the apartments, but yet route fast moving traffic away from the residential areas. Maximum protection to residents and to the children is given by locating the recreational centers and playgrounds on the interiors of the quadrants where they can be reached without encountering traffic. The entire project in its design, construc-

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Windows—Fenestra steel casements and screens, Detroit Steel Products Co.

Glass—Pittsburgh Plate Glass Co.; Pecora Paint Co., calking compound.

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Doors—Diebold Safe & Lock Co., steel apartment doors; wood interior apartment doors Weisberg-Baer Co.; exterior, Hornell Woodworking Co.

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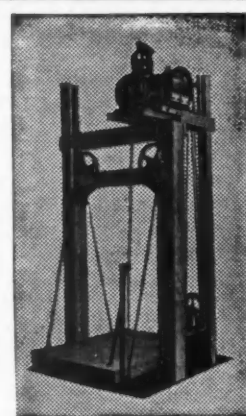
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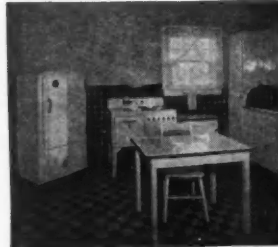
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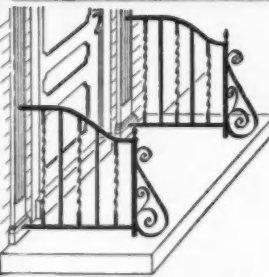
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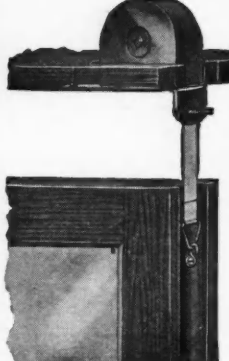
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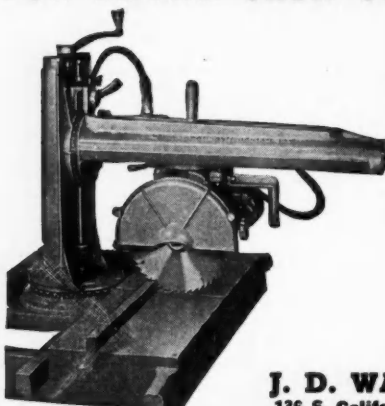
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