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**AMERICAN BUILDER**

and Building Age

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Vol. 56—No. 4

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# HERE'S A COMPLETE, WE KNOW WILL

Again Johns-Manville goes on the Air . . .  
Again \$1,000,000-To-Lend for Home  
Improvements . . . Plus a Pre-tested Sales  
Program, Complete in Every Detail

**T**HIRTEEN billion dollars! Experts say that's the potential market in 1934 for home remodeling and repairs.

What a mark to shoot at! What an indication of the wonderful sales opportunity that exists this spring in *your* territory.

Here's a plan that cracks this market wide open . . . the 1934 complete, tested J-M plan.

**National Advertising.** On the air, in the magazines, at the World's Fair. Powerful publicity that stimulates the desire for a finer home, educates the home owner to a new appreciation of modern building materials, develops red-hot prospects for you.

**A Free Direct Mail Campaign.** We know it will bring you inquiries. We have tested it, and proved it a most amazing method for developing *live* prospects; sales in the making.

**A Remarkable New Book for the Home Owner.** At last your selling problem has been simplified. "101 Practical Suggestions on Home Improvements" is a complete sales presentation in itself.

**A Million Dollars To Lend.** Removes your biggest selling obstacle, home owners' lack of funds. And makes every sale a cash transaction for contractor and dealer.

. . .

Read the details. See how effectively we develop live prospects for you, get you right into their homes, help you close the sales, and even finance the jobs for you.

Want to tie in with the J-M plan? Of course you do. It offers the quickest, easiest, most certain method for sharing in 1934's big, profitable remodeling business. Get the *full* story. Mail the coupon today.



**FLOYD GIBBONS BACK ON THE AIR.** Selling J-M materials. "Selling" J-M dealers and contractors. Broadcasting the news that J-M offers to lend \$1,000,000 for home improvements. Removing the one big obstacle to profitable spring remodeling business. Begins May 12th. Mail the coupon for complete details.

## NATIONAL ADVERTISING

On the air . . . in the magazines  
. . . at the World's Fair

J-M's national advertising convinces your customers that now is the time to make all needed home improvements and repairs. Tells the home owner exactly what building materials will give him the finer home he wants. Explains that you, his local J-M dealer or contractor, can provide the necessary cash through J-M's \$1,000,000-To-Lend Plan. Do you want the inquiries received from *your* locality? Do you want us to help you *sell* these bona fide prospects? Mail the coupon today.



**AT THE FAIR AGAIN.** 15,000 direct inquiries for J-M dealers and contractors from World's Fair visitors last year. Our impressive building, effective home-remodeling exhibits, promise even greater results from the 1934 Century of Progress.



**J-M MAGAZINE  
ADVERTISING**

tells your customers that you have \$1,000,000-To-Lend for home improvements.

## AMERICAN BUILDER AND BUILDING AGE

# Better Homes—Better Business

IN November 1930 this publication presented an editorial under the title "Larger and Better Homes" in which it was stated:

"The greatest economic, social and moral need of the American people is for larger, better and more beautiful homes. The greatest potential business opportunity presented in this country is that of building, equipping and furnishing such homes. The thing most essential to a revival of general business is a revival of the building of homes."

### Depression Years Teach a Lesson

The truth and force of this proposition, important at that time, have been reinforced by the three and a half years since—years of increasing industrial stagnation centering around the idle building trades and the accumulating dilapidation and inadequacy of America's homes.

But, whereas in November 1930 this publication seemed to be a lone pioneer in urging home building and home improvements as the key to general business revival, now we find many converts to this proposition.

Dr. O. M. W. Sprague, well known financial authority, writing on "Problems of Recovery," recently said, "I believe that improved housing for the mass of people in the United States can do all and more than was done in the last decade by the expansion of automobile production."

Dr. Paul H. Douglas of the University of Chicago, speaking on March 19 before a commercial club, proposed a nation-wide housing program, saying, "The housing idea is a gigantic and daring experiment, but I believe it will be the only thing capable of absorbing unemployment after CWA ends."

### "Homes and Motors"—Henry Ford

When asked recently what he regarded as the greatest fields in which new demands and markets may develop to push along prosperity, Mr. Henry Ford answered, "Two of the greatest fields are home building and transportation. Look at the great number of people who want to live in the country where they can enjoy its delights, fresh air, green trees and garden truck. Nowadays the country is accessible and has the comforts of water, pumping, hard roads, electricity. Homes will constantly be improved. Old style buildings—the muskrat style—will be out of date. The first muskrat pulled boughs and twigs together and built a home, and all muskrats since have followed that

type of architecture. Man is going to have something new in styles of homes. Some houses are being built now that are already out of date. That's how fast progress is coming."

H. I. Harriman, president of the Chamber of Commerce of the United States, in an address at Nashville, Tenn., on March 13, stressed the importance of housing and home building in the economic structure. The greatest potential factor in stimulating employment was seen by Mr. Harriman as the building and rehabilitating of homes for the American people. "Conservative estimates," he said, "indicate that forty to fifty million are living in inadequate housing. Great as was the task of pulling America out of the mud and putting it on wheels, the task of pulling our country out of tenements and slums and putting it in decent homes is far greater and finer and far more splendid in its effect on our national life."

Here is one point where both liberals and conservatives agree. They may not agree as to how this needed construction can be realized but both the social planners at Washington and the rugged individualists of industry agree that here is an important market indeed, and one that must be developed to give employment to the nation's unemployed.

### Home Improvements, The Big "New" Industry

Since the publication and wide distribution of the February BUILDER, presenting the complete picture of present day conditions in the home building industry, there has been an astonishing crystallization of sentiment that home building is the Big Job ahead for America. Economists and business leaders agree that home improvements have not kept pace with progress in other lines, and that development now in this basic industry can give employment and restore general business activity in all lines as did automobile and hard road building back in the twenties.

Of course, the objection is made by some that there are vacant houses in many communities and that rents are low, indicating, so they say, an oversupply of homes.

Yes, there are perhaps enough roofs (though many are in terrible shape); but as Dan Moley, president of the Cleveland Federation of Labor, pointed out in this publication last month, that does not prove that there is no necessity for millions of home repair and modernization jobs and for the building of new modern homes in line with present day standards.

In this issue, pages 50 and 51, is given the first report of a nation-wide study of farm homes carried on by the Department of Agriculture in 300 widely scattered counties, using CWA investigators. Any one who says there is no need for a great program of home improvements in this country should study the facts presented in this survey. The conditions of the nation's farm homes as revealed are beyond belief in this modern age. Millions of farm homes are little better than hovels. They lack almost every modern convenience or comfort the home building industry has for years taken for granted. In this nation, which prides itself on its advanced civilization, we find millions of its most valuable citizens, farm and rural dwellers, living in houses that are falling apart for lack of repairs, that need new roofs, new exteriors, complete interior refinishing, foundation repairs, screens, door and window frames. Millions of our citizens, this survey shows for the first time accurately and completely, live in houses without plumbing of any kind, without kitchen sinks, running water, indoor toilets or bathtubs. A small fraction only have central heating plants or electricity.

This farm survey shows that rural homes are not only out of date and dilapidated; they are in a state of disrepair and danger which the serfs of the so-called most backward nations of Europe would not tolerate.

### Needed Work for All

How frequently we have heard someone say, "What this nation needs is some great new industry, like the automobile industry or the radio, or some other new invention that will give a great stimulus to business."

Why should this nation worry about discovering new industry when right here in its midst is the greatest job of rebuilding and rehousing ever known. The rebuilding of the homes of this nation is a big enough job to make every industry in this country hum in a fashion neither the automobile or the radio nor any other industry has been able to do.

There is much talk in the newspapers about "housing for the masses." It is true that a great program of slum clearance and rehousing of poor people in cities is needed and will do much to improve living conditions and business, but by far the greater need, and one that is more in line with the American tradition, is the rebuilding and rehousing of the thirty million people who live on farms, the fifteen million rural population not on farms, the ten million in towns of less than 2,500, and the twenty-six million in cities from 2,500 to 50,000. These people do not want slum clearance. They want individual, single family homes, the American tradition; modern, up to date homes with decent standards of plumbing, heating and beauty.

Announcement has just been made by the national government of Great Britain of a five-year program for the construction of 285,000 new dwellings to house 1,187,000 people. The government of Great Britain is showing the way in an aggressive housing program which will provide modern dwellings to rent for only

a few dollars a month. The program calls for the demolition of 266,851 houses as the 285,000 new homes are built. Here is a program to make us think. Will the building industry of this nation find a way to house the 60 per cent of the population at present admittedly living in substandard dwellings? Or will it wait for the Federal government to do this work for it?

**A** GREAT responsibility rests on the men of the home building industry to make the American public aware of the fact that their houses are *not up to standard*. This is a great opportunity also, because if realized it will mean the return of good times both to the home building industry and to all related lines.

First the *desire* for better homes must be created. This will only come through knowledge and example; and in many towns there is no real example of a thoroughly modern small home. The people don't know how inconvenient, unhealthful and inadequate their old houses are, because they have not been forced to compare them with today's models.

Many carpenters, builders, dealers—whose duty it should be to sell the modern home idea to their communities and create these desires—do not themselves know what a really modern home is. As Mr. Ford said, "Some houses are being built now that are already out of date."

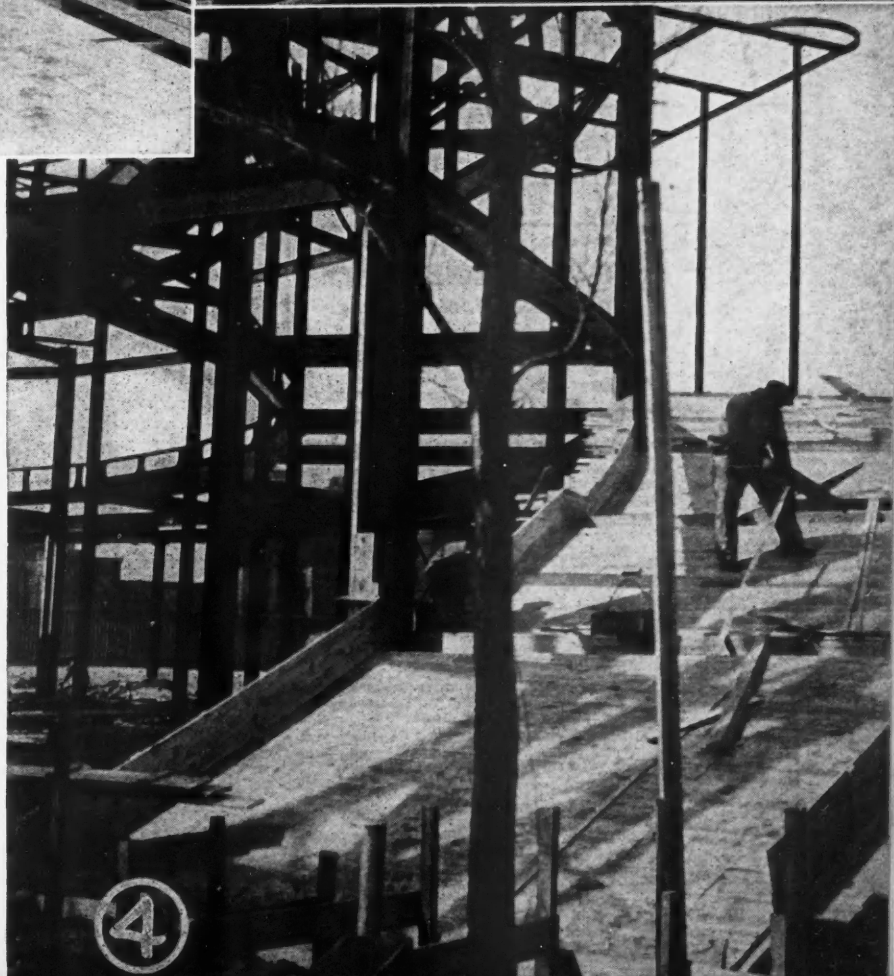
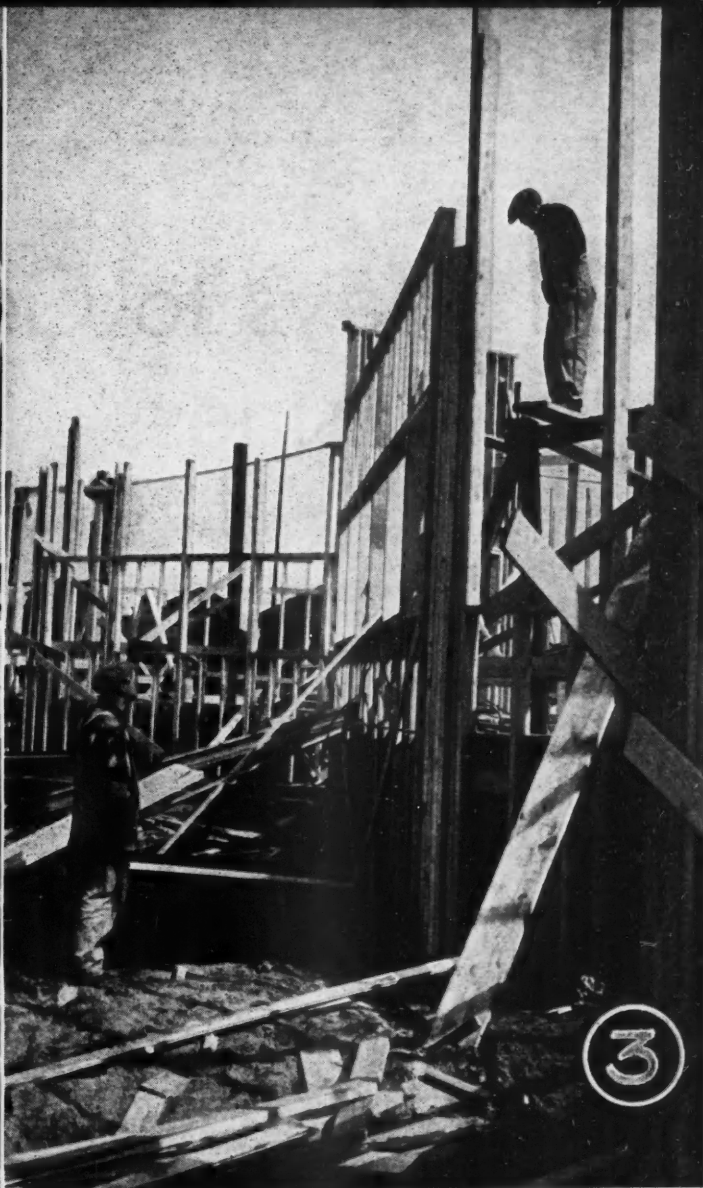
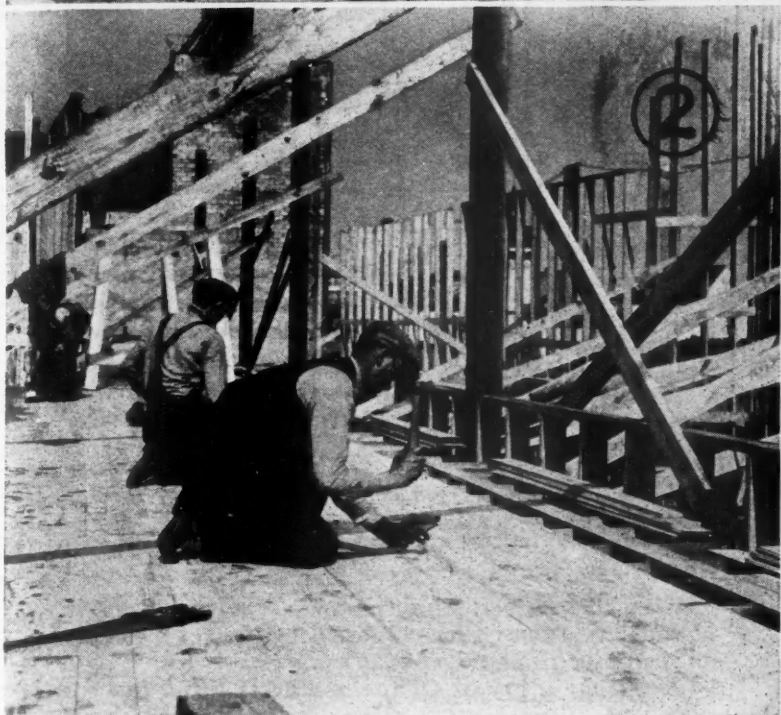
### 3-Point Demonstration Proposed

As a practical means for reaching the public and creating desire for better homes, AMERICAN BUILDER proposes a Three Point Demonstration by the building interests of every town. This Three Point Demonstration would show home owners what is meant by a "modern home" and how the local building interests are organized and equipped to deliver service on such homes, either built new or remodeled into existing houses.

This Three Point Demonstration we recommend would consist of (1) an attractive display of materials and equipment in the show rooms of the local lumber and material dealers, (2) an attractive display of furniture and home furnishings in the local department stores, and (3) a demonstration home, either new or remodeled, in a prominent location, this home to be planned by the best architectural talent and equipped, decorated and furnished very completely and in the best modern taste.

All elements of the local building fraternity should unite to make a success of these demonstrations—skilled labor, contractors, supply dealers, architects, real estate men, building and loan officials, bankers, local newspapers, chambers of commerce, mayors. With vigorous leadership from some one individual or group among the builders all the others can be brought in to help put the demonstration campaign across.

Who better than some reader of this publication to start this movement in each town?



## SPRING TIME IS BUILDING TIME

THE SOUND OF THE HAMMER AND the saw is being heard on a wide range of fronts this spring as the building industry enjoys the first rising volume in several years. Pictures above were taken on March 15 at Chicago's Fair Grounds, where new construction for the 1934 Century of Progress is getting under way. No's 1, 2 and 3—the German Village takes shape. No. 4—500 men go to work on the Ford building, which has many unusual features.

# 21 Ways to Get Business

How to Diversify  
How to Get Jobs

By GEO. M. BLISS

President, Geo. M. Bliss Construction Co.  
Kansas City, Mo.



In the first place, the best way to get jobs is to go after them. Don't worry so much about the business outlook; just keep on the outlook for business. You will want specific ways to get jobs. *Here They Are!*

(1) The Home Owner's Loan Corporation is making thousands of loans to refinance homes and in most every case repairs are insisted on by the Corporation. The usual repairs are reroofing, exterior painting, interior painting, papering, renewing gutters and porches. See the local appraiser and talk with him about the best way to get in touch with these prospects.

(2) Advertise in your local paper in the classified columns under Contracting and Building, Papering, or whatever column suits you. Below are several samples:

**MODERNIZE YOUR STORE  
FOR INCREASED SALES**

*Build—Remodel—Finance*

**Geo. M. Bliss Const. Co.**

17 East 10th St. VI. 1350

**Contracting and Building**

**CARPENTERING**—contracting, cementing, remodeling, settlings, garages, partitions, paperhanging, masonry, excavating, plastering, gutting, weatherstripping and plumbing. WAbash 0153.

**STUCCO Repair**—Redashing, plastering; cement work; payment plan. Frank Short, LInwood 4389.

**FLOORS** laid and sanded; old floors refinished; workmanship guaranteed. Grove, LInwood 3965.

**CEMENT Work**—Excavating, driveways, basements, retaining walls, garages, settlings, remodeling. BEnton 5888.

**HOME Loan**—Free estimates on new roofs, and roof repairing. Marquist Roofing Co., Waldheim bldg. VICTOR 1583.

**CARPENTERING**, building, general repairing, house settlings; 80 years; work guaranteed. Hendricks, CHestnut 6620.

**OF COURSE YOU CAN GET BUSINESS**  
—a few of the steps suggested above are: (1) See your local H.O.L.C. appraiser for repair business; (8) Make up new vacant lot signs; (12) Build more acquaintances and friends; (17) Use the telephone to get prospects; make a card file.

Keep these advertisements up and put your name in the advertisement. Blind ads are not so good. You have to keep advertising to get your name established.

(3) Make a list of all the architects listed in your telephone directory (classified section). See them; offer to help them with estimates. Don't ask them to let you bid on jobs. (Maybe he hasn't a job and doesn't like to admit it.) If he has ever given you a contract, take him a job in return. Turn about is fair play.

(4) Make a list of every savings and loan association and get acquainted with their secretaries. (Do an astounding thing—tell him you want to start an account, let it be ever so small.) You will find he has dozens of houses that need modernization, repairs, etc. Drop in every month and add a dollar or two to your account and ask about another house to remodel.

(5) Get a list of all firms representing big life insurance companies. They have probably many houses they have taken back by foreclosure that need modernizing. Leave them your card, a circular, a calendar. Go back again and again and see them.

(6) Make a list of all trust companies and savings banks and get acquainted with their man in charge of real estate. They have houses and buildings to repair, and plenty of them.

(7) Get a list of ownership of vacant lots in the new subdivisions which have been purchased by prospective home owners. (Get lists from title companies.) Call or circularize them with information that you can build and finance, that you are a responsible builder, and you will be surprised with the results.

(8) Advertise—"Vacant Lots Wanted on Improved



Streets." From the returns make a list of desirable lots. Get the owners to let you put up signs—

**WILL BUILD AND FINANCE  
A HOME ON THIS LOT  
FOR YOU**

*(Your Name, Address and Telephone)*

Have a dozen different styles and sizes of home plans on hand already priced, so you can quote a prospect on almost any size home without waiting a week after he tells you he is in the market for a home.

(9) Look around the town and make a list of old dilapidated store and office buildings, relics of the gay nineties; trimmed with stone which is disintegrating; with cornices protruding over the sidewalks which are a menace to the public. Go in and discuss repairing their building with buff brick or glazed brick similar to terra cotta. Design new store fronts which will help them sell their merchandise.

(10) Look around for some of the old abandoned picture shows. Turn them into chain grocery stores, bowling alleys, dance halls, night clubs, etc.

(11) Don't forget old customers—See them! Renew your acquaintance. Get letters of recommendation. Ask their advice as to how to get customers—to ask advice is *flattery*—they will end up by saying, "See my friend, Mr. Jones. He is figuring on building a store building over on Main Street. Tell him you built my building and that I sent you over."

(12) Join a business club, such as the Rotary, Optimist, Cooperative, Lions, etc. Attend their meetings—get acquainted—let them know your business. Join the Chamber of Commerce or Real Estate Board. Get acquainted—then get acquainted some more—and then get acquainted still some more, so you can call all the members by their first names.

(13) Call on all your building material friends and remind them that you have been buying material from them and you could use a good prospect if they knew of one. Keep after them.

(14) Keep a list of all sub-contractors which you have given jobs to, and keep after them to give you some business from their friends and prospects.

(15) Join a church and go regularly—go to the social meetings and get acquainted with everyone. Your standing will be improved—you will be known as a law abiding citizen—the church members will be calling on you to do their work.

Join a lodge. Become a Mason, an Elk or whatever you choose, but above all things establish a reputation for honesty, sobriety and good citizenship. Don't be a bolshevik.

(16) In certain cities the fire underwriters get out a daily report of fire losses. Some daily newspapers list fires. These lists can be procured if you want to get them. In certain cities it is almost impossible to get fire repair jobs unless you are lined up with certain adjustment concerns. However, get a list of all Fire Insurance Adjustment companies and call on them. Smile, and ask if they need any figures on losses. Leave your card. Call on them regularly for awhile and see

*(Continued to page 78)*

## SELLING IN TODAY'S MARKET

**GETTING PROSPECTS** and selling them on building services is the big problem before contractors today. To meet this need, **AMERICAN BUILDER** is starting, with this feature, a series of articles on **Selling in Today's Market**. Next month an advertising expert will tell how to write business-getting letters.

**AMERICAN BUILDER READERS** are invited to take part in this series. Selling ideas, advertisements, folders, business-getting stunts used by you will be gladly received by the editors and passed on to all who read this publication.

# Residential Builders Urged to ORGANIZE

*HOW LONG WILL IT BE before home building—the nation's greatest industry—has a national organization to speak for it and defend it?*

*RESIDENTIAL BUILDERS are urged to organize local groups, then form a national association or league that will be truly representative of the rank and file.*

**P**ASSAGE of the construction and contractor codes has brought home to the thousands of residential builders and contractors engaged in small construction work the fact that they have no national organization to represent them. In fact, they have no organization of any kind except in a few scattered communities, and none of these is in touch with any of the others.

Observers of the building industry have known this for a long time, but now the rank and file of residential contractors and builders are coming to realize it.

Residential builders are being urged to organize, and at the request of many the AMERICAN BUILDER has volunteered to put interested groups in touch with each other.

The city of Cleveland has a lively residential builders' league which has headquarters in the Builders Exchange in the Builders Exchange Building. George C. Baer who has been building homes for more than 25 years in

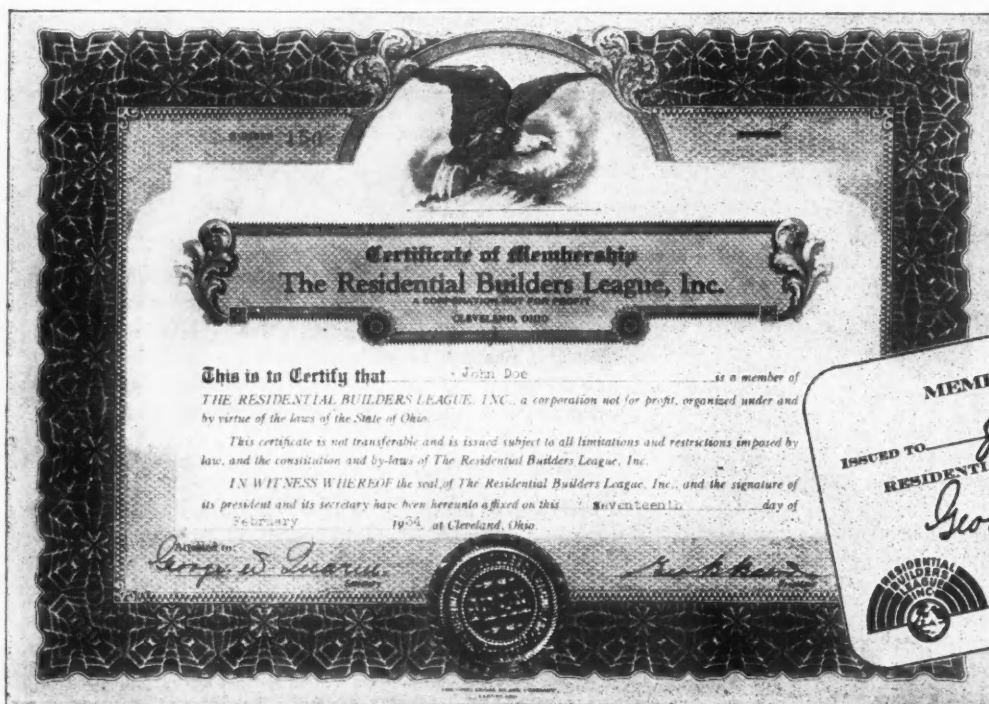
Cleveland is president and George W. Quarm is secretary. This is a growing organization which is truly representative of the home building and small construction industry of Cleveland.

"We believe residential builders should set up a national organization," Mr. Quarm told the AMERICAN BUILDER. "We are anxious to have other groups of residential builders get in touch with us and help us form a national group. They can either write us direct or through the editor of the AMERICAN BUILDER."

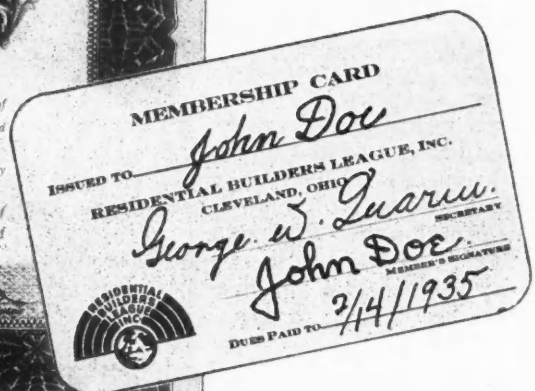
"The big public works and large construction contractors are very well organized here, but they don't want the smaller builders in with them. There are about twelve of the big fellows here and they would be outvoted ten to one if we were allowed to join their organization."

The Cleveland Residential Builders League has a \$10.00 initiation fee, but dues are only \$5.00 per year. Included in the membership requirements are the following: (1) Must be general residential contractor. No sub-contractors or material men are eligible. (2) Must be of good reputation and standing. Members must have suitable credit rating by the Cleveland Lumber Institute. (3) Must have at least three years' active experience as a residential contractor.

No successful job of controlling the construction industry and raising standards can be done without an organization of the residential contractors, according to Mr. Baer. The big jobs can be policed, he pointed out, but the thousands of little jobs simply cannot be controlled unless the responsible residential builders, large and small, are organized. They should get together at once, he declares, and urges groups to write him or the AMERICAN BUILDER.



CARD AND CERTIFICATE of membership of the Cleveland Residential Builders League, a lively group of contractors that have banded together for their mutual benefit in Cleveland. Dues are small; standards of membership high.







THIS COTTAGE, designed by Roger H. Bullard, New York architect, was awarded the Gold Medal in the Better Homes in America Small House Architectural Competition. Limestone walls, slate roof, stock design casements are used.

## NEW PRIZE WINNING DESIGNS

**H**OME BUILDERS are especially anxious, after several years of depression, to determine the trend in architecture and design of modern homes. For this reason as well as others, the prize winning designs in the 1933 Better Homes in America Small House Competition recently announced are of great interest and are worthy of study.

A number of the awards are shown in this issue, and others will be published next month. Announcement of the prize winners was made March 15 in New York.

The purpose of the Better Homes in America Competition is to call attention to examples of good small house architecture in homes recently built. In addition, the importance of employing competent architectural talent in drawing plans and designing small homes is illustrated.

All of the homes shown in this issue of the *AMERICAN BUILDER* are of recent construction and are therefore typical to some extent of the current trend in good design. They represent wide geographical distribution. A jury of prominent architects appointed by the president of the American Institute of Architects selected the prize winners. F. Ellis Jackson of Providence, R. I., was chairman of the jury, and other members were Archibald M. Brown, Chester H. Aldrich and Ralph T. Walker—

all of New York City—and Seymour Williams of Rahway, N. J.

A Gold Medal was awarded in Class B. Story and a Half House, to Roger H. Bullard, of New York, for a cottage on the Salvage Estate at Glen Head, Long Island.

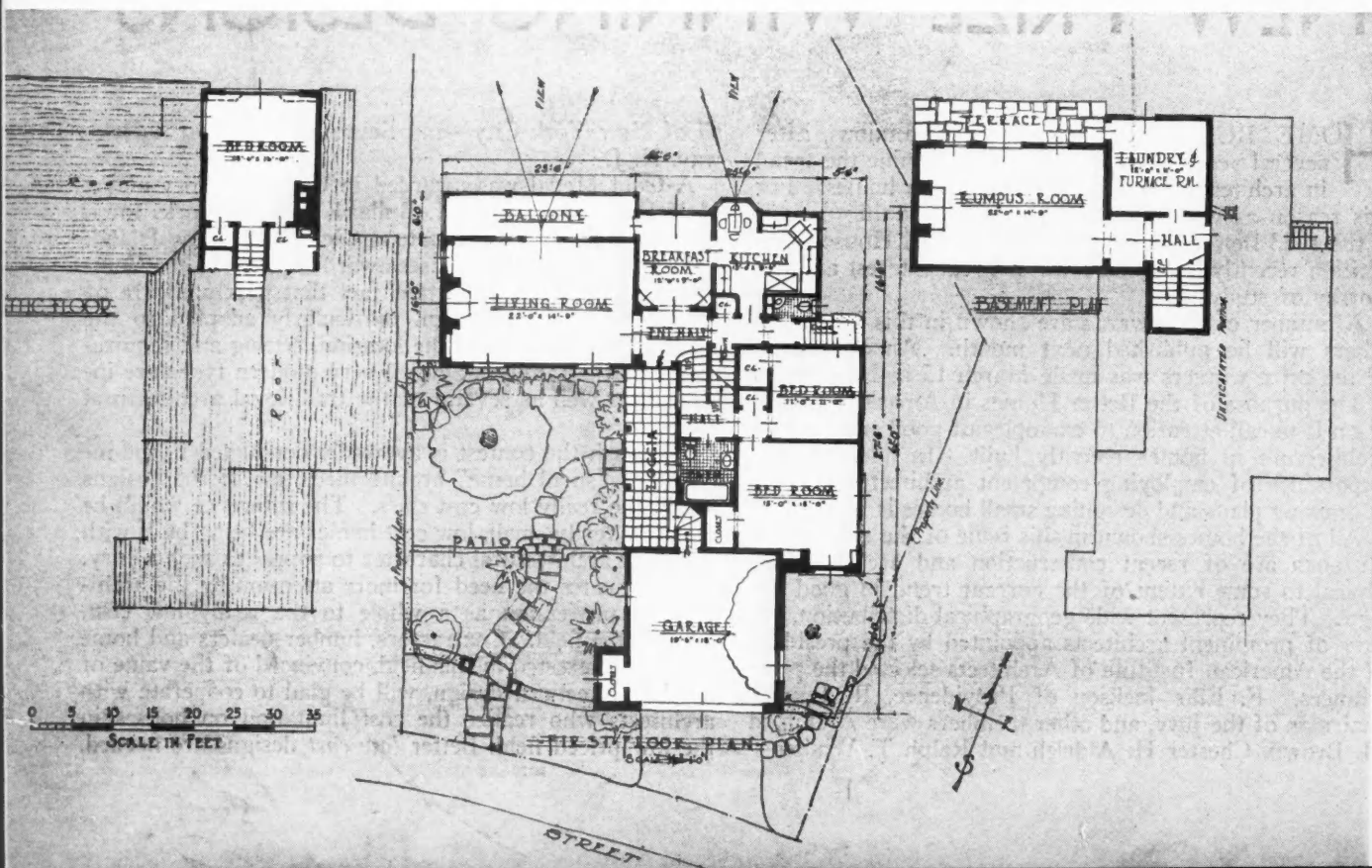
Examination of the houses awarded places in the Competition shows the important fact that nearly all are of special or unusual design, particularly adapted to the tastes of the owner and the location, setting and requirements of the family. Several very modern types are included, as well as several of the traditional architectural styles.

Although the contest is avowedly conducted in the interest of "small home" architecture, few of the designs are in the really low cost class. The inference would be that few really small, low cost homes are being built with sufficient architectural character to appeal to such a jury. This indicates the need for more attention by the architectural profession as a whole to the really low cost, small home field. Contractors, lumber dealers and home builders interested in this field, convinced of the value of good architectural design, will be glad to cooperate with architects who realize the cost limitation on houses in the low priced field. Better *low cost* designs are needed.



## They Do It Well In California

FIRST HONORABLE MENTION was given this California home in the Better Homes in America Competition. Miller & Warnecke of Oakland are the architects. It is of a modern Monterey type of architecture which is very popular on the West Coast. It is well adapted to its site, extremely livable. Cost of construction was surprisingly low.





THE RUMPUS ROOM located in the basement is shown at left. It opens on a terrace which overlooks the sea. This is an especially good example of maximum use being made of a basement room, which is made possible by the hillside location. Room has maple dance floor, open fireplace, exposed joists.

THE FLOOR PLAN makes best possible use of the location, providing a delightful view of the sea from living room balcony and breakfast room. The house is of frame construction. The greater part of the exterior is of stucco and vertical redwood boards, with battens set behind the boards. Some of the exterior walls, including the garage, are of brick, which is given a coat of white cement wash.

SOME PEOPLE WILL wonder how it was possible to build this house for the reported price of \$6,850, including architect's fee. The entire interior is painted white; shutters are olive green.

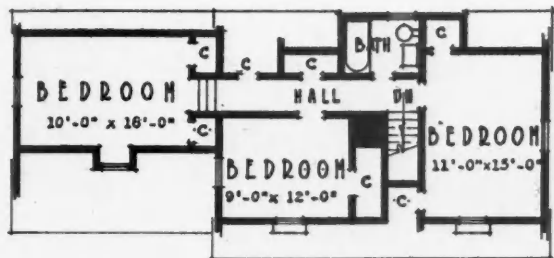
ARCHITECTURAL DETAIL at right shows the cleverly built stairs, textured stucco wall with weathered hand-split shakes, pleasant porch detail. Woodwork of the interior is painted an oyster white; walls are textured.



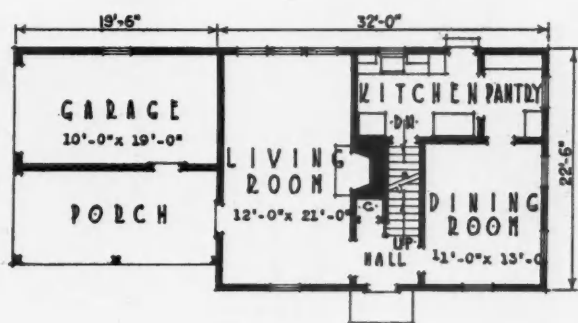


## **Modern, But Livable**

THESE DETAILS WERE INSTRUMENTAL in the awarding of Honorable Mention to the house at Menlo Park, Calif., designed by William I. Garren. The large fireplace above is simple in nature and the brick is handled very effectively. The corner window, with built-in cabinets below, is good. At left is a detail of the dinette, which has a large window, exposed board ceiling and attractive, built-in cupboard. The charming brick-paved patio above is an important feature of many Western homes.



SECOND-FLOOR-PLAN



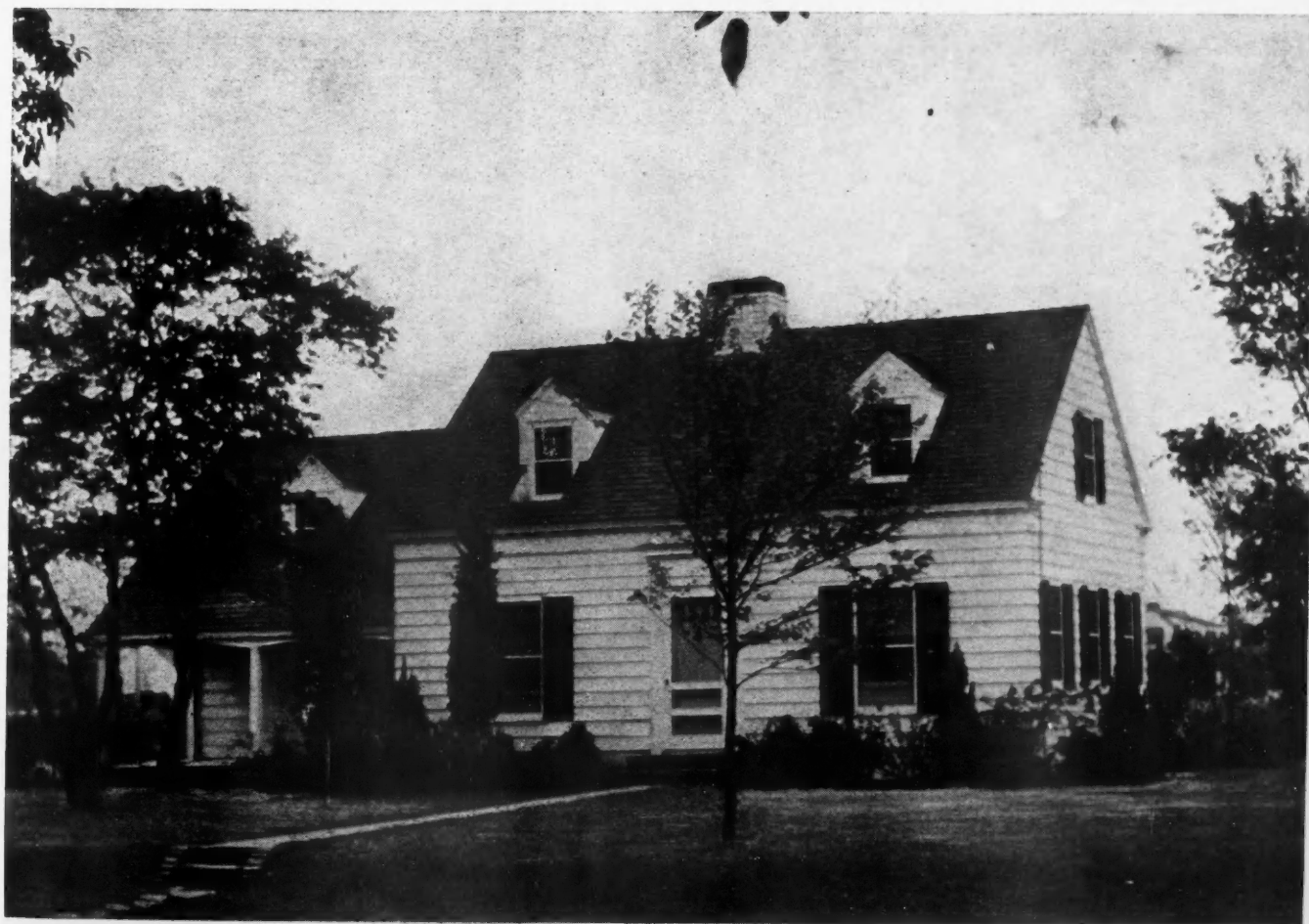
FIRST-FLOOR-PLAN

## Simple Good Taste in A Long Island Home

THE BETTER HOMES IN AMERICA COMPETITION jury recognized the beauty and simplicity of this Colonial home by awarding it Honorable Mention in the Story-and-a-Half Class. It was designed by Randolph Evans, architect, and built by the Harmon National Real Estate Company, of New York. The plan is economical, and is a slight variation of the usual central stair and fireplace Colonial plan.

FRAME CONSTRUCTION IS USED with exterior walls of redwood siding painted white. The house is well insulated. Roof is of weatherstained shingles. An interesting feature is the corridor on the second floor assuring privacy for all the bedrooms.

COST KEY IS 1.793—148—720—32—20—17.





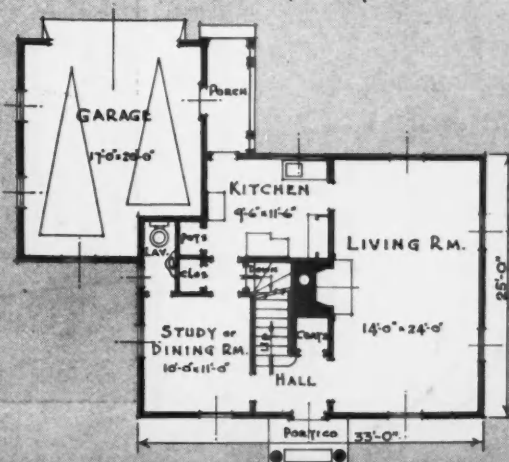
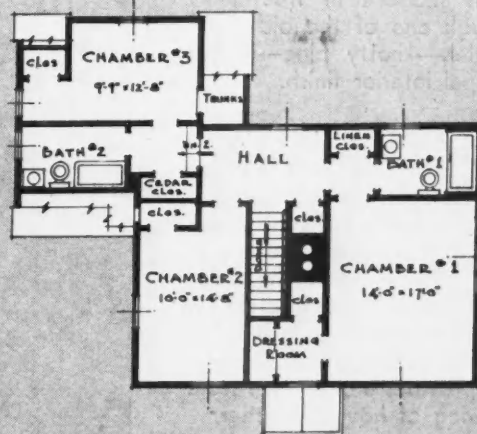


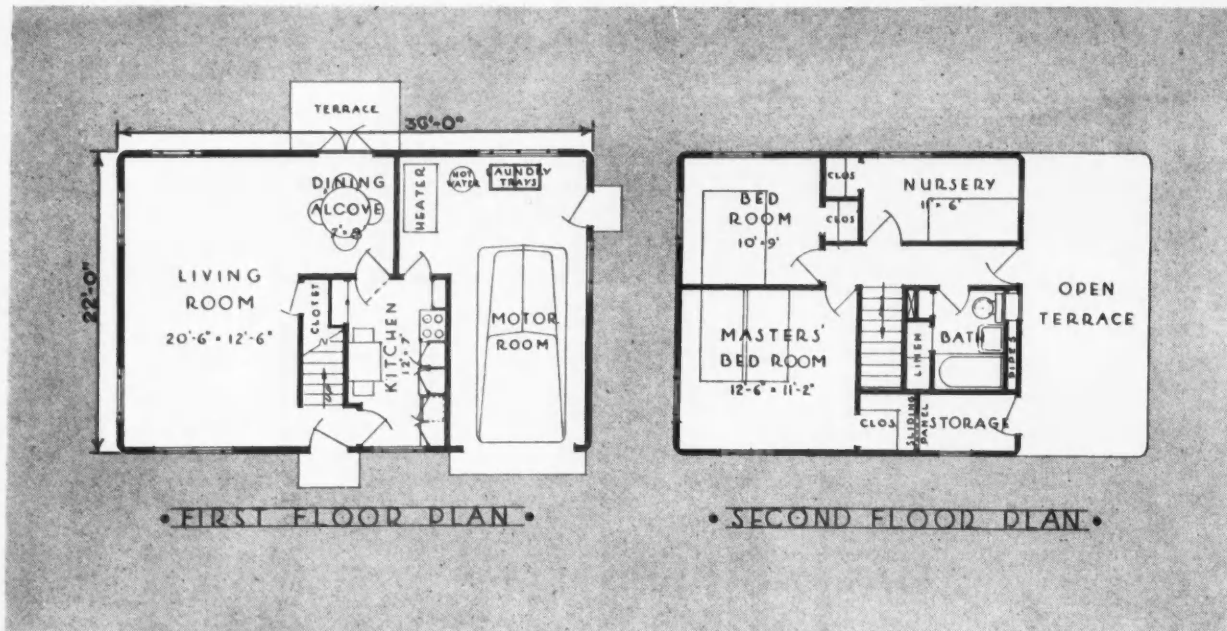
## Classical Style in a Moderate Priced House

THIS VERY ATTRACTIVE HOUSE illustrates how Greek revival architecture, usually associated with large, expensive homes, can be scaled down to a 25x33' house costing only \$9,000. It was awarded Honorable Mention in the Two-Story Class by Better Homes in America. Dwight James Baum is the architect. Built at Lawrence Farms, N. Y.

THE FRONT ELEVATION of the house is of shiplap siding painted white. The other exterior walls are of clapboard. Shutters, the exterior door and the shingle roof are green. The floor plan is a roomy, well ordered one, and the entire house demonstrates carefully studied details, simple formality and charming proportions.

COST KEY IS 2.291—164—789—34—31—17.

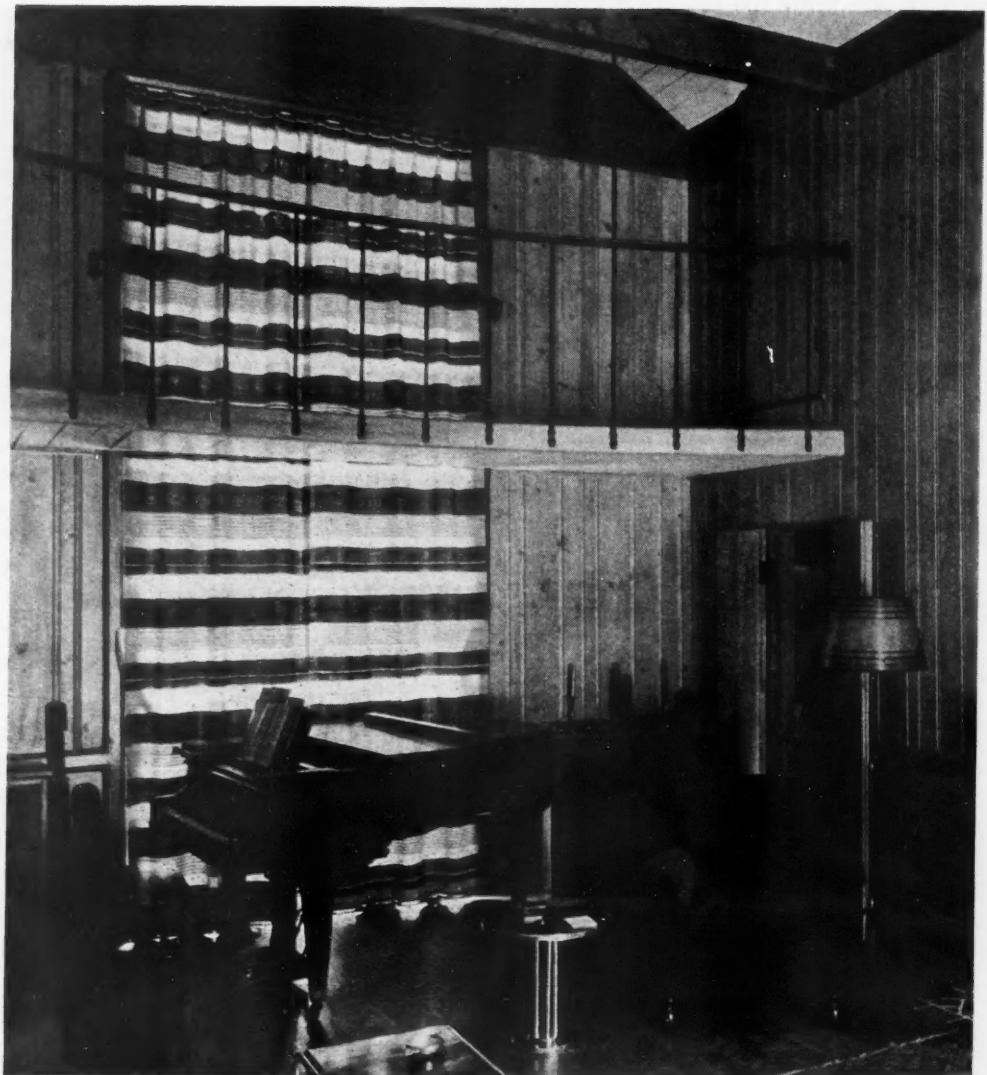




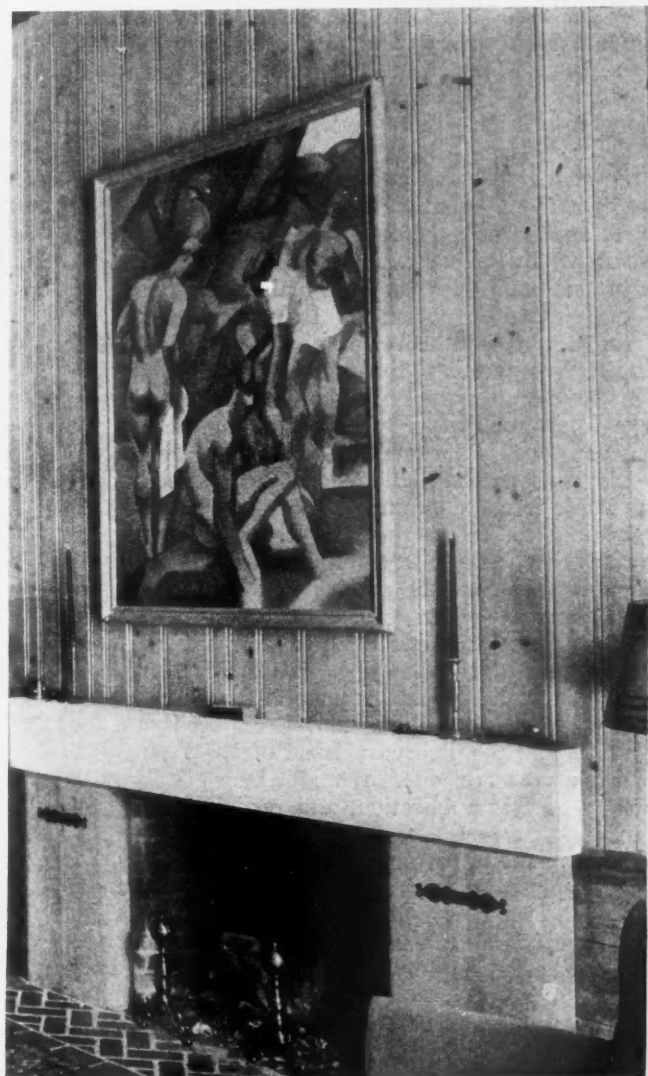
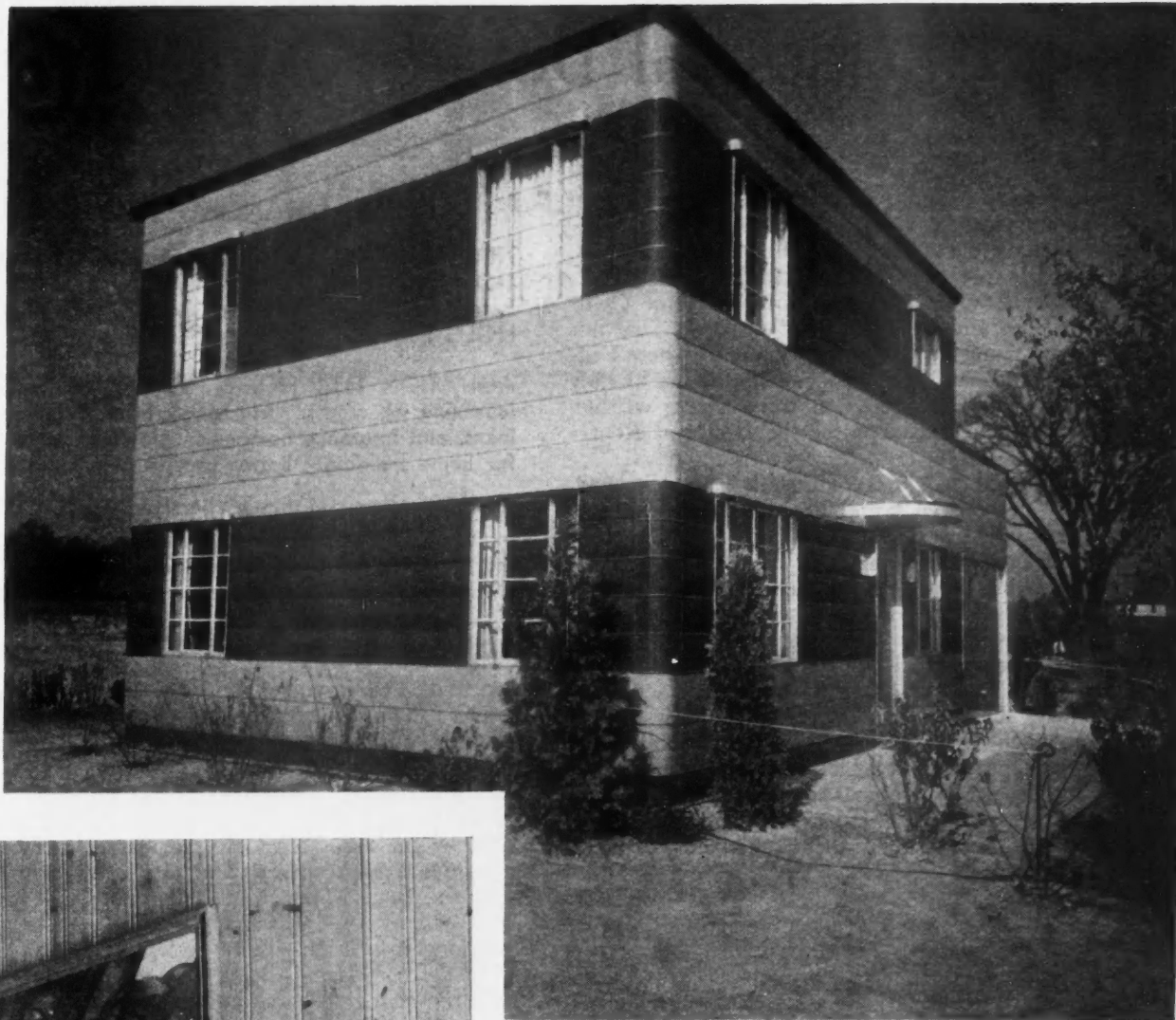
## A Modern Interior in A Prize Winning House

THE INTERIOR shown at the right is the home of a Princeton professor, designed by Martin L. Beck, who was awarded Honorable Mention in the Better Homes in America 1933 Small House Competition. The interior is modern in treatment, although one of the oldest of materials—knotty pine—is the principal interior finish.

THE GREAT SINGLE WINDOW extending from floor to ceiling dominates the room. Vertical boarding of knotty pine also runs from floor to roof, giving a vertical line to the walls. The fireplace construction is simple and effective, in keeping with the modern trend. The balcony provides a cross-over from one wing of house to other.







## Small Steel House Gets An Honor Mention by Jury

THE JURY OF WELL KNOWN ARCHITECTS which decided the winners in the 1933 Better Homes in America Competition gave an Honorable Mention award to the frameless steel house shown above, located at Middletown, Ohio, and designed by O. Kline Fulmer, architect. This is one of the new type frameless steel homes built of wall panels of 20-gauge steel corrugated into shallow, boxlike units, which are factory-fabricated. The metal units are set up and nailed together, on the job with screw nails, by carpenters.

FLOOR PLAN OF THE HOUSE, shown at left above, is a straight forward modern type with many features suitable for present day living. Note the large living room with dining alcove conveniently reached. Heater room, laundry and garage are at right, and are entered from a service door. Cost Key is 1.403-116-0-0-22-8.

# Financing Bill Before Congress

**A**S a result of nation-wide agitation for more funds to finance home building and repairs, definitely encouraging improvements have taken place in the past month and more are in prospect.

As this issue of the AMERICAN BUILDER goes to press, Congress has before it the Administration Bill (H. R. 8403) which guarantees the bonds of the Home Owners' Loan Corporation and, in addition, gives new impetus to home financing through formation of new Federal Savings and Loan Associations. This Bill has already been passed by the Senate and, as this is being written, (Mar. 20), is being considered by the House of Representatives.

This Bill, introduced in the House by Rep. Steagall, Chairman of the Currency and Finance Committee, has three important features, as follows:

1. It guarantees the bonds of the Home Owners' Loan Corporation, thereby strengthening that institution and adding to its effectiveness. There can be no doubt that this action will hasten the taking of distressed properties off the market, and will make the HOLC bonds on a par with other government bonds—in fact, even more desirable since they pay 4 per cent interest.

2. The Bill provides for sale of \$200,000,000 worth of these bonds, proceeds of which may be used for modernizing and repairing of homes financed by the HOLC. This, of course, is not the broad step which building men were asking for, as it does not include financing of home repairs on structures other than those being refinanced by the HOLC; but it will help.

3. The Bill speeds up and encourages organizing of new Federal Savings and Loan Associations by granting \$500,000 to promote their formation. This means that hundreds of communities not now properly served by home financing bodies can take steps to form new Federal institutions which will fill this need. The Bill increases the government investment in shares of such associations to 75 per cent, instead of 50 per cent as previously provided. This means that a local group which raises \$25,000 to form a new association will be matched by \$75,000 from the U. S. Government. In addition, the Steagall Bill removes the \$100,000 limitation of government subscription to preferred stock, as formerly provided, so that the government can now finance local savings and loan associations to the entire needs of a community.

## Hope to Add Duffey Features

Passage of the Steagall Bill, which is an Administration measure and seems likely to go through this session, will mean an improvement in financing conditions. It will act as a lever to force present financing institutions to function where they are able, or be faced with the formation of a new Federal association which will make loans for new home buildings and repairs.

In the form passed by the Senate, the Bill is, of course, disappointing to members of the building industry who had hoped that it would include financing of new home construction and of modernizing and repairs for all types of homes, regardless of whether they are being refinanced by the government or not. Strenuous efforts are being made by the building industry at this time to secure amendments to the Bill before its final passage, so that it will include provisions similar to those in the Duffey Bill published in the February AMERICAN BUILDER.

In spite of disappointment that no action has been

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## HOME FINANCING PROGRESS

**NEW FEDERAL SAVINGS AND LOAN ASSOCIATIONS** given help by Bill passed by Senate. Now before House of Representatives. Also guarantees HOLC bonds.

**AGITATION FOR HOME FINANCING** results in loosening of credit. Mortgage firms, building and loans, and insurance companies providing more funds for home building. Better prospects in sight.

**ADMINISTRATION NOW DISCUSSING** new Federal mortgage banks to unify all real estate and home mortgage financing institutions in national credit institution of permanent character.

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taken to date to provide direct loans for new home building and for modernizing and repairs on a large national scale that would really do something to stimulate and improve this important industry, there is much improvement in evidence. The result of the agitation for Federal financing and of the unanswerable statistics presented by the AMERICAN BUILDER and others to show the complete dearth of financing for new home building in most sections is that some "loosening up" has taken place.

Loaning institutions, more or less placed on the spot by this drive for funds, have declared that they do have funds for financing home building and urge builders to come and get them.

A letter from a state bank examiner of Wisconsin to the AMERICAN BUILDER states that there are many institutions in that state with funds available now for home financing. Names of AMERICAN BUILDER readers who stated they have prospects for new homes who need financing were requested. Several building and loan associations have written the AMERICAN BUILDER that they, too, have funds for financing home building, and would like to get in touch with good prospects.

This may suggest that builders and dealers might find it worth while to make another call to their local financing institutions to see whether conditions have changed. Certain it is that if these institutions are to stay in business, they must resume the making of loans in the near future. Otherwise, other agencies will step in.

The American Building Association News, well edited magazine of the building and loan associations, comments editorially on the AMERICAN BUILDER's February issue, saying, "Building and Loan needs a good spring tonic, and the February issue of the AMERICAN BUILDER is a powerful one. It might be a good idea to buy a copy of this publication, and read it from cover to cover."

Pointing out the importance of making loans now, the Building Association News says, "Lend some money if you can get it for new building and capitalize on increased activity as an interest-arouser for the properties now on your books—and by all means lend all the money you can for new building, modernizing and repairs."

As this attitude spreads among loaning institutions, it will be reflected in immediate improvement in financing conditions, and in home building and repairs.

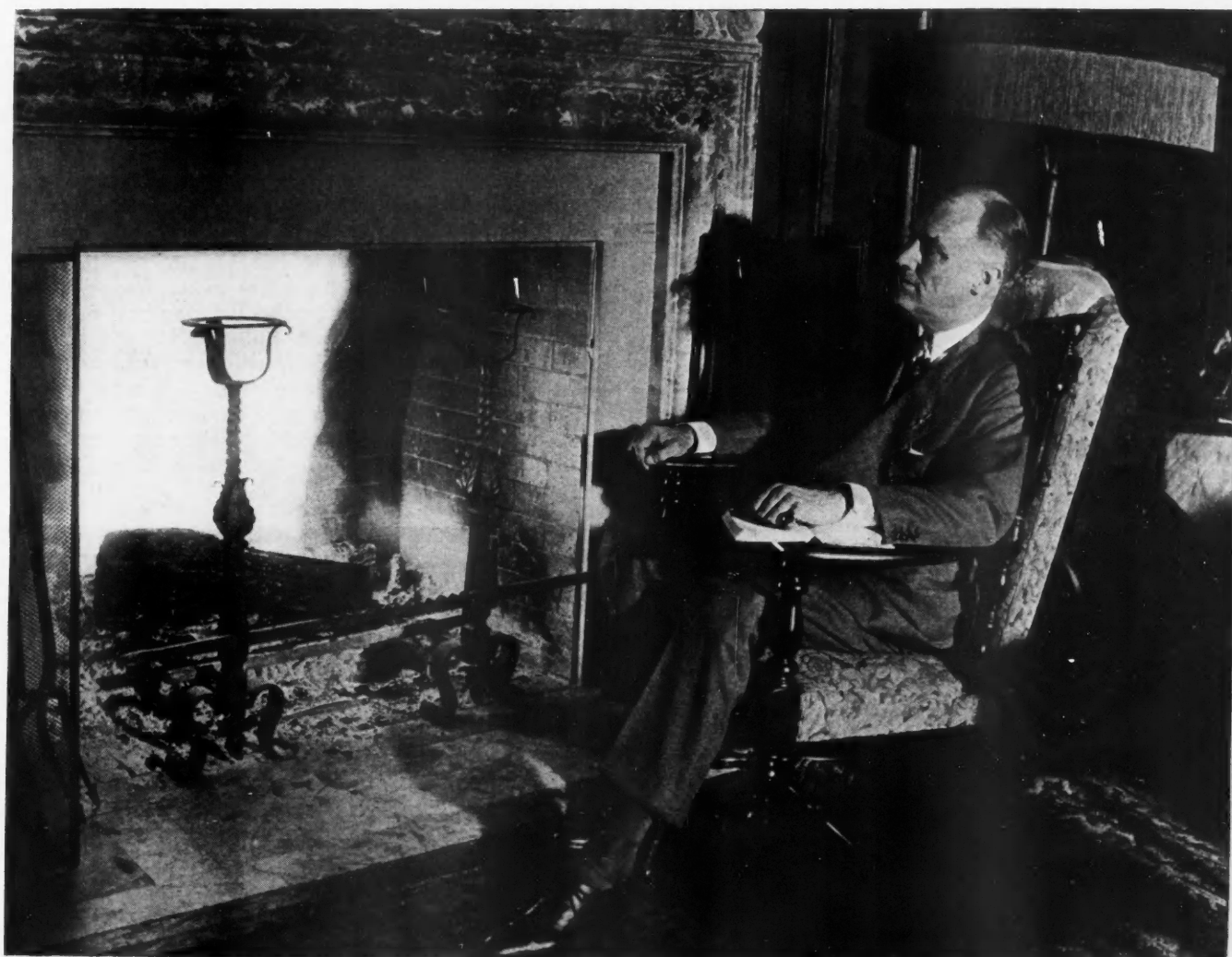
# MODERNIZATION

*"which makes buildings of all kinds more cheerful, more livable and more salable"*

THE home-owner frequently does not give proper consideration to the question of reconditioning his home, consequently he often does not get proper value on his investment in his home, either through neglect or through badly planned

alterations . . . Even a modest sum properly spent on a good house often enhances its value many fold, giving it not only a much greater sale and borrowing value, but also giving it much greater utility and beauty."

—Franklin D. Roosevelt



# REBUILDING MAIN STREET

By E. L. GILBERT

**T**HE total amount of business which can be reported by the business group of any community depends almost entirely upon conditions in that town. If a rival community offers greater attractions, the customers from the surrounding territory will take their trade to the more attractive place, thereby making poorer conditions for business in the less attractive town. In other words, the business group of any town must see to it that their town is attractive or trade from the surrounding areas will go elsewhere.

Likewise, the home town people will easily develop the habit of trading in some other nearby community, if the other community has aroused their interest. On the other hand, there is seldom a more enthusiastic type to be found than the man or woman who is a "Home Town Booster."

It is easy to see, therefore, that to retain home town trade, attract customers from surrounding areas and stimulate community pride, every effort should be put forth by the local business men to make their community a center of interest. Many prosperous cities, towns, and villages have been so successful along these lines in the past as to build for themselves a "community personality" which became known nationally.

During the depression, unfortunately, maintenance of all kinds of property, both real and personal, has suffered from neglect. Although business in general has not climbed back to the high levels attained in pre-depression years, indications are very strong that the upturn so far experienced is of a permanent nature. The time has arrived for us all to "spruce up"; the community which intends to get its share from business revival must look itself over with critical eyes, discover its dowdy, depression-style, worn-out fronts

and replace these business-repelling factors with modern effects.

The heart of the business life of any community centers in its main street; that is the reason why this article is titled "Rebuilding Main Street." Many business people have become so accustomed to looking at business buildings which need paint, store fronts which almost have a value as antiques, and other deleterious or depressing appearances, that they do not quite realize how wonderful a change could be brought about in their communities by a modest and reasonable expenditure for needed repairs and modernization of the business structures which line the principle streets.

The attention of the people who are responsible must be focused on the commercial structures which embarrass a community. The logical person to do this job is the man who will be able to make the changes which are needed—the contractor and builder.

## Wonderful Opportunity for Local Building Industry

In the boom years when new building work was plentiful only the most enterprising building professionals, or those specializing in this type of work, went after this sort of business. Today we have a new kind of market and—speaking directly to those readers who would be concerned with such work—if you would be successful in obtaining your share, you must adapt yourself to the changed conditions; one adaptation is to study your own community Main Street and use your knowledge of construction to create work for yourself and your organization. If you are not familiar with the problems involved there are many sources of information open to you; textbooks, standard reference manuals and local specialists will provide you with the usual technical information, while manufacturers of particular products will be glad to cooperate by furnishing you with the technical knowledge concerning their materials. If you have not had the experience, you will be surprised to find how much information you can



Store Front modernization at Philadelphia, Pa. The improvement in this store resulted in a new lease at an increased rental. The photo above in comparison with one at right is a striking illustration of what can be done. There are many similar prospects in nearly every town.



obtain, quickly, by mail, from a number of sources.

The percentage of profit in this work will be just as great as in any other kind of building work you have been doing; in addition, you will be selling your services to business people who have funds and who are accustomed to paying bills more promptly than is sometimes the case with private owners of residential properties.

A good idea has recently been suggested by Mr. Ross Robbins, Sales Promotion Manager of The Gorham Company, Bronze Division. Here is Mr. Robbins' suggestion: "It should be apparent to any local newspaper that improving the appearance of the business section of any community can easily result in more trade for the merchants who do this modernizing. The windows, the entrance and, in fact, the entire frontage of a business house should have personality; its style should reflect an individuality and distinctiveness which will make it a landmark in the minds of the general public. The newspaper can do a very good job of persuading local business men to make their stores cheerfully attractive; and when the merchants so persuaded see an increase in trade as a result, the newspaper will be able to sell additional advertising space. I think if the local building industry and the newspaper would work hand in hand on a Main Street campaign of this kind it would result in many mutual benefits."

#### Where to Find this Work

Merchandisers are constantly engaged in working out new plans and schemes intended to increase the sale of well known products, or to launch successfully some new line of merchandise; naturally, they continue to create new effects in the design of packages, adver-

This 18-story building was erected in 1918 and is located in the city of Pittsburgh. At the time of modernization a new building was being constructed directly across the street and the owner realized that unless he did something he would probably lose half of his tenants. Modernization included dressing up and improving the appearance of the lobby, spending about \$50,000 on the elevators, etc. A 95 per cent rental resulted from this work.



As to possibilities in Rebuilding Main Street—here is Hugh Ferriss' conception of the city of the future, built entirely of glass, as designed by Corbett, Harrison & MacMurray, New York architects. Here is one of the great future markets for builders.

tising appeals, and methods of selling, almost without limit. In tackling the job of Rebuilding Main Street builders will want to do the same kind of thinking, making sales talks about the greater results which will be obtained by the merchant who adopts their suggestions to bring his place of business up to date. The opportunity for different effects is almost unlimited.

The variety of changes which can be made in store fronts is too great to discuss in detail here; no doubt most are already familiar with many of the materials available. Some of the illustrations herewith will suggest a few of the possibilities; the literature sent out by manufacturers of store front materials will give additional data. Study each place of business and discover the peculiarities of both the business and that

particular location; from this basis a plan can be built and sold to the merchant. Good appearance is of primary importance to the merchant.

Business buildings often require repairs and modernization both inside and out. Inquire into the efficiency of the elevators—practically every manufacturer of elevators, as well as many special organizations, are ready and eager to help with the technical execution of this work. If the building owner can rent more space with better elevator service, that improvement should be included in the prospectus.

Sometimes the addition of a single distinctive feature, such as a clock or dignified bronze entrance doors, will distinguish a building and greatly improve its acceptance by the general public.

If the exterior of a large building is dingy, cleaning that one structure will improve the entire neighborhood.

Experienced operators in the hotel industry tell us that since prohibition was repealed the hotels have been making money. "I do not believe there is any other type of building that needs modernization more urgently at this time than the average hotel," is the testimony of Mr. A. G. Rowe, New York, who has specialized in modernization service for the last eight years. "Incidentally, the modernization of lobbies and other public rooms is being found a most economical way to attract tenants for older buildings. Also, it does not pay to spend money on the improvement of apartments by the installation of new equipment in kitchens, bathrooms, etc., if the appearance of the lobby remains such that the prospective tenant, upon entering the building or waiting for an elevator, is scared away before the agent has opportunity to show desirable space for rent."

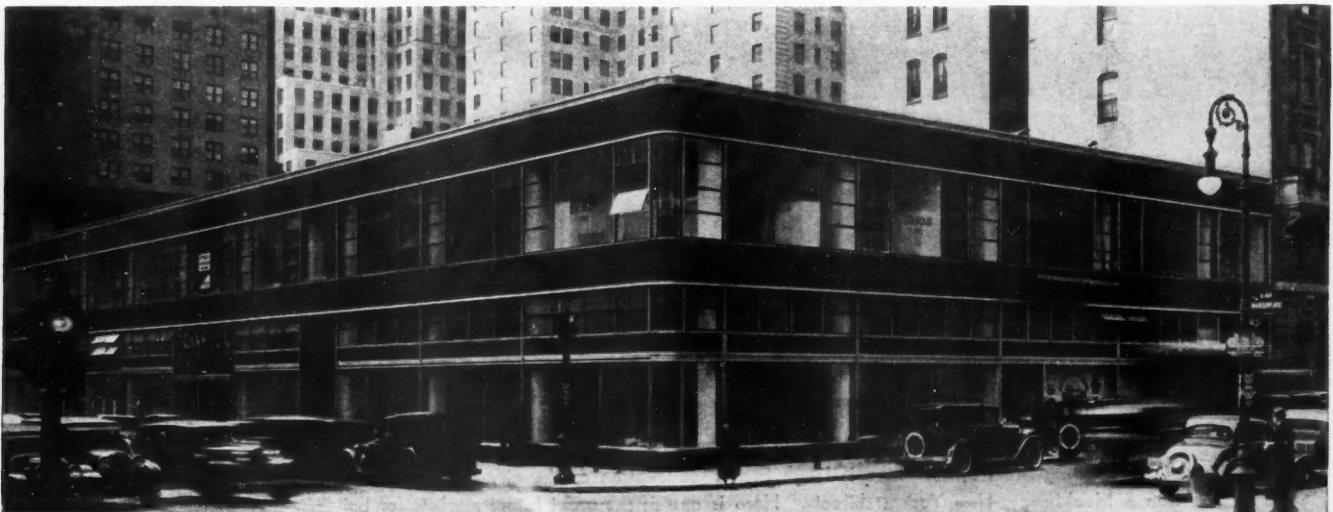
Builders interested in this field will find it wise, in view of the improved business now being enjoyed by hotels, to check carefully for possibilities of work of this character in any efforts to create new business through the modernization of Main Street.



Group of old buildings shown above as replaced by new taxpayer shown below. Location: 59th to 60th Streets, Madison Avenue, New York. Architects: Henry C. Pelton, New York. Builders: Hegeman Harris Co., Inc., New York. Typical of a new rebuilding trend.

### Interiors Are Important, Too

Rebuilding Main Street will not be very effective if all the attention is centered on exteriors; the interiors of stores, business buildings and other community structures must please people after they



have been invited to enter by the cheerful outside treatment. When a new store front is installed it should not require very much of a sales talk to induce the merchant or owner to extend the modernization into the store itself.

A department store in Newark, N. J., has had very satisfactory results through changing old "bird cage" elevator enclosures for more modern equipment; difficulty in controlling the distribution of heat is nearly always a factor where open grillwork allows the warm air to shoot up an open elevator shaft; the saving on fuel alone is often ample justification for a change of this nature.

As in the case of exterior treatments, designers will be called upon to exercise their ingenuity and knowledge of combinations of materials in working out a plan for the modernization of the interiors of commercial places.

The illustration on the opposite page shows one case where a group of oldtime buildings was torn down, to be replaced with a 2-story taxpayer of modern materials. In this particular case, despite the expenditure for the new building, plus the cost of wrecking the old structures, a smaller loss will be taken by the owners with the new building than was the case before this job was started. Incidentally, the material on the front of the new taxpayer is aluminum, glass and macotta.

#### Possibilities for New Building Work

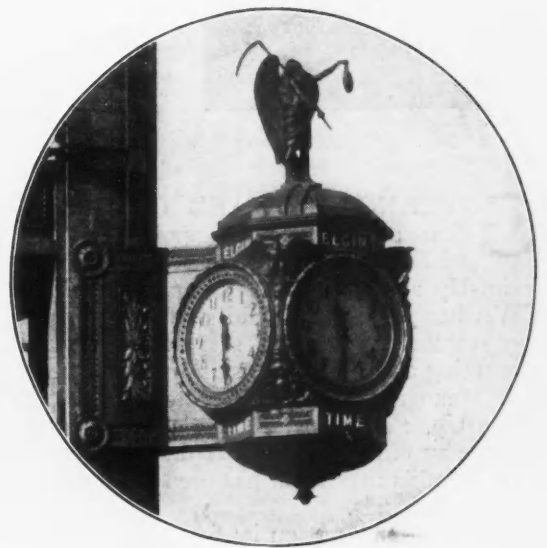
Several years ago a group of men acquired these old buildings with the thought of erecting a modern tall building on the site. Plans for financing the new structure were abandoned in 1932 and the bankers who held a mortgage on this old property in a valuable location found themselves in possession. The cost of operating the properties was so great that it was decided to replace the old buildings with a taxpayer. The new structure will have to be torn down whenever it is decided to erect a taller building, so the 2-story affair you see in the picture at the bottom of the page, despite its modern appearance, is a comparatively temporary building. It is designed, however, for floor loads of 100 lbs. per sq. ft. and is fireproof, so that the space may be rented to practically any type of business.

If there are some structures along your Main Street which appear to be so far gone they cannot be profitably modernized, it may be you can interest the owners in building a taxpayer on the site.

Usually the owners of business properties will not be difficult to persuade as to the greater ease in renting a modernized building. However, the depression has made business men wary and some properties have been vacant so long the owner despairs of renting them.

#### Done on Profit-Sharing Basis

During the last year or two, property owners in some cities, not feeling sure of what may happen in the next few years, have not wanted to commit themselves to long term leases at low rates. Merchants and other business men opening up or moving to new locations have also hesitated to commit themselves. This problem has been solved in many cases by renting the space on a profit-sharing basis, the owner of the property receiving a share of the profits as rent.

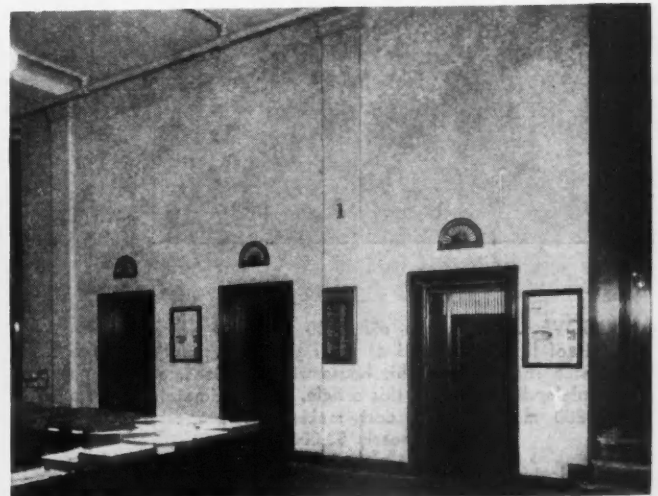
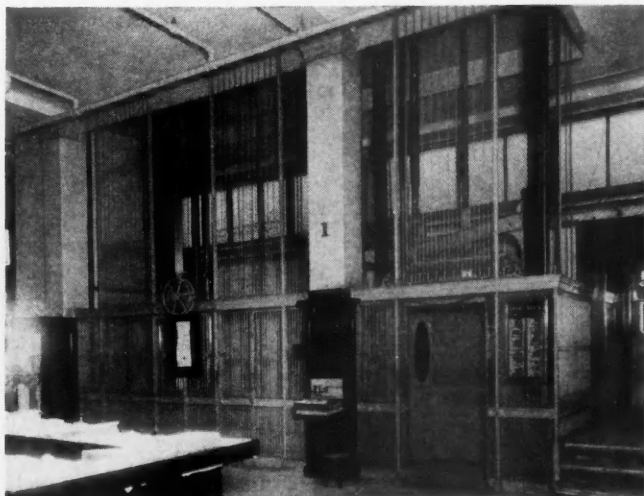


This Gorham bronze clock outside the Pure Oil Building at Chicago is a distinctive feature. The clock may be seen from four different streets, is striking, attractive.

Remarkable improvement accomplished by Hahn's Department Store, Newark, N. J., through modernization of old elevator entrances and cars. Entrance is modern, sanitary.

BEFORE

AFTER



# COLORADO LAUNCHES MODERNIZE



**RICHARD L. DAVIES**  
Formerly General Chairman of Denver's Annual Clean-Up and Paint-Up Campaign. Appointed January 2, 1934, as Director Colorado's new official Modernization Bureau.

**G**OVERNOR EDWARD C. JOHNSON of the State of Colorado has appointed Richard L. Davies of Denver as Director of a State-wide Clean-Up, Paint-Up and Modernize Campaign during 1934. The CWA has furnished a paid staff consisting of an executive secretary, a financial secretary, a publicity expert, a consulting architect, a consulting landscape architect and two stenographers. The State of Colorado Annual Clean-Up, Paint-Up and Modernize Campaign Bureau became an official State department on January 2, 1934, although this movement has been in existence since 1912, in private hands.

When Denver put on its first Clean-Up and Paint-Up Campaign long ago, a City Warrant for six thousand dollars was issued by the City Treasury for direct cooperation with the campaign activities and public support ever since that time has been generous. The success of the Denver campaigns led to the development of an official State department.

Now the Modernization Bureau furnishes free archi-

tectural service to Colorado home owners who desire to remodel, repair or rehabilitate their residences in conformity with modern standards of convenience, safety and beauty. This service is now financed by the Civil Works Administration, all expenses other than staff salaries being defrayed through private channels.

## First 1934 Job Started

As soon as it became known that consulting architectural service was offered free of charge, Denver home owners made use of it. One of the first was a salaried woman who owns a dwelling built prior to 1910. She had bought the property for \$700 and found it neither convenient for her own use nor adaptable as a rental or sales proposition.

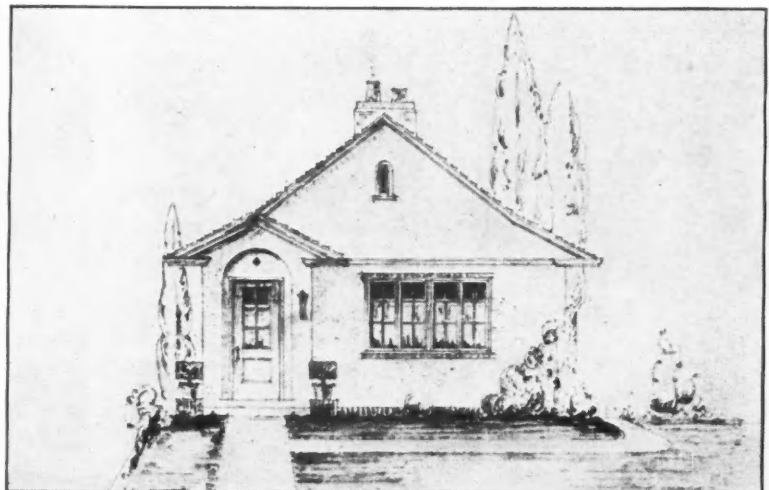
Following the guidance of Richard Owen Parry, well known Colorado architect, and M. Walter Pesman, landscape architect, both staff members of the Modernization Bureau, this little house is being almost magically changed to a property of convenience, beauty and much greater value. The total cost will be about \$1,200 and it is estimated that the property will be worth not less than \$3,000 when the modernization is completed. The photograph and drawing at bottom of this page show how great a change is being made in exterior appearance.

The owner will still have a one-story, five-room house but it will scarcely be recognizable, outside or in, as the same place. Stucco, new casement windows, new doors, an extra bedroom at the back with garage underneath, make the property modern. Two small bedrooms are being remodeled into one that is large and airy. Electric wiring and fixtures are being almost entirely replaced. Plumbing and hardware are new and the old heating plant is being completely overhauled and put into first class order.

Because this Colorado campaign stresses relief of unemployment it is very interesting to note that 48 men are or will be directly and indirectly employed on this one small job. In addition, several hundred dollars worth of lumber, considerable concrete and brick, hardware, etc., go to the benefit of various divisions of the local building industry group.



ABOVE is shown the old \$700 property which was of little value and at the right is architect's sketch showing how this house will soon look, as explained in detail in this article. Approximately \$1200 modernization cost makes this property worth nearly \$3,000.





# CAMPAIGN

Newspapers are co-operating with local civic groups, women's clubs, schools, lumber, paint and hardware associations to make this campaign unusually successful. No official week to climax activities has been set, although such a period will probably occur during the latter part of April or early in May. Since this new State department is a continuation and expansion of previously privately financed activities, the men in charge are thoroughly familiar with the work and will undoubtedly be able to give a fine accounting of their stewardship.

A recent report submitted by Mr. Davies to Governor Johnson analyzed employment possibilities incidental to modernization work, citing a typical alteration job drawn from the files of the Modernization Bureau. The typical job involved a total cost of less than \$1,000, yet furnished employment for 12 skilled mechanics and 36 other workers.

## Painting Important

"Despite the fact that modernization is stressed in this Campaign," said Mr. Davies, "we still attach importance to the Clean-Up, Paint-Up phases. Paint and varnish are used in larger quantities when a home undergoes modernization, of course. No home owner wants his property to look badly after the house has been re-roofed, enlarged or otherwise improved. However, we believe we are going at this job a little differently than has been the usual case in the past; our campaign involves the entire home, including interior, exterior and landscaping, instead of only a part of the property. Incidentally, we have had even greater co-operation so far in this campaign from the local building industry groups, because the entire campaign now has a business interest for them, as well as a purely civic interest."

The Colorado campaign is being conducted in close co-operation with the National Clean Up and Paint Up Campaign Bureau of Washington, D. C. Community of interests should make this type of campaign appeal to many other local building industry groups.



**RICHARD OWEN PARRY**

SELECTED as architect in charge of Colorado's Campaign on account of his known ability and experience in handling this particular type of work. There are striking examples of his work in Denver, where he has changed many a rococo effect of the '80's into modern style.



**T**HE National Clean Up and Paint Up Campaign Bureau in Washington has prepared the window display shown above. It is made in 10 brilliant colors (13-color effect), size 33 x 44 inches, with space for individual imprint. The display is die-cut and each set is packed in an individual carton. It is expected that these displays will aid materially in promoting the sale of paint, varnish, hardware, seeds, lumber and building materials. The displays are being sold on a co-operative price basis which covers actual cost of production and handling; a colored descriptive circular and price list may be obtained by writing to Mr. R. W. Emerson, Executive Secretary, 2201 New York Avenue, N. W., Washington, D. C.

This organization has as its slogan "To make every Community as Clean as its Cleanest Home." A letter recently received from Mr. Frank R. Wilson, Chief, Organization Division, Public Relations, National Recovery Administration, read: "This organization has carefully examined the plans, suggestions, and outline of service of the National Clean Up and Paint Up Campaign Bureau for use in helping to create new employment and to stimulate business. . . . We are confident that the intensive promotion of Clean Up-Paint Up-Plant Up-Fix Up-Modernize Campaigns in 1934, in close co-operation with our Government's program, will be an outstanding service to the American people. Nothing is so important in this period of our economic history as the making of jobs, the consequent stimulation of business and the return of prosperity to every American home. . . . We solicit your organized co-operation in the inspiration of as many campaigns as possible in 1934, and shall highly value your aid and counsel in helping to co-ordinate your and our activities in the common job of putting unemployed men and women back to work."

The Colorado campaign is an outstanding example of the work the National Campaign Bureau is doing.

# To Solve the Over-roofing Problem

Good Accessory Materials Are  
Needed for Maximum Service

## Red Cedar Shingles Over Old Roofs

By BROR L. GRONDAL

Professor of Forest Products, University of Washington



New shingles over old roofs are proving entirely satisfactory

**H**AIL, heat, air, sunlight and moisture are the great deteriorating influences that must be resisted by roofing materials. Edge grain red cedar shingles have a satisfactory record on the roof, withstanding these destructive influences. During recent years they have been used more and more on re-roofing jobs by applying directly over the old roofing.

There are few complications to remember in over-roofing with edge grain red cedar shingles. In so far as the shingles themselves are concerned, it is only necessary to look at the label, for all shingles that are up to the No. 1 grade of the commercial standard C. S. 31-31 of the United States Department of Commerce are invariably up-to-grade in every respect.

Based upon performance records, shingles that were more or less accidentally produced in the "good old days" lasted 50 years. The haphazard production of shingles, with the inclusion of flat-grain, cross-grain and sapwood, belongs to the past; it just isn't "in the code" today.

So the shingles themselves present no problem at all—they stand the roof test. And they stand the light exposure test however severe it may be. Furthermore, the natural preservation material in the cells of the cedar wood appears to exert a decay-preventing influence upon the materials with which they come into contact, especially when they are exposed to high roof temperature. So, in over-roofing with shingles, to make a permanent roof, one that will last until the depression days of the past several years have been forgotten, we need only consider the other materials which they cover and the necessary auxiliary material that must be used.

The old roof should not be torn off—that is, if it is of material that permits nailing without breaking up. The original roof, if it presents material that has curled or rolled up in spots, should be nailed down, so that the surface is reasonably flat. But in any event, if it is at all possible, it is wise to leave the old roof on—it may not have been wholly effective as a heat insulating agent, but it will help enough to justify side stepping the disagreeable job of stripping it off. Shingles need not be removed at all, they will contribute to the heat-insulating capacity of the roof even if very old.

The next thing to consider is the material for valleys.

Wooden strips should be nailed in the old valleys to provide a good foundation for the new valley. There should be no metal-to-metal contact between old and new metal. It is well to remember that the old valley is usually in its last stages, and if copper is to be used for the new valleys, and the old valleys were of galvanized iron, the primary materials for a good electric battery are pretty close together. So—keep them apart. And be sure to replace the old vent-pipe flashing entirely, and do not attach galvanized material to copper flashing.

Reflash around chimneys and wherever new flashings are needed, but don't let the old touch the new. Remember that it is hard to flash around chimneys so that leakage will not occur, regardless of the type of roof that is used. Therefore, use the best flashing that the market affords, and the most expensive non-drying mastic against brick work that money can buy. The total cost will be a very minor item at that.

Don't be afraid to over-roof an old cedar shingle roof with modern shingles, even if it has seen thirty years or more of service. But be sure that the shingles that are used are up to the standards of the Department of Commerce.

Metals which rust away quickly must be avoided if long service is to be obtained. Remember that the old-time roofs that lasted for such an incredibly long period of time were laid with old-fashioned wrought-iron nails of rectangular section. The bright wire nail, blued or "galvanized," rusts out in a hurry. Use nothing but hot-dipped zinc coated box nails; and for over-roofing with sixteen or eighteen inch shingles they should be at least 14-gauge, 5-penny box nails—not just "shingle nails." For longer and thicker red cedar shingles 13-gauge 6-penny nails should be used. Copper nails can also be used to advantage.

Modern red cedar shingles, when used for over-roofing, providing the more perishable metal parts of the roof have been properly maintained, will be good and *look good* as long as the average contractor of today can hope to stay in business. It is true that each over-roofing job means the last job on that particular house for a long, long time to come, but remember that today as never before in history, performance and not claims count.

# PWA Big Factor in Building Outlook

**T**HE \$3,300,000,000 Public Works program is "over the hump" and will roll into construction all the way across the Nation this Spring it was reported early in March to Administrator Harold L. Ickes.

Returning to headquarters from an 8,000-mile coast-to-coast survey, Deputy Administrator Henry M. Waite said the Winter PWA drive had overcome most of the technical and legal obstructions which make re-employment by public works construction on a safe contractual basis under regulation a slow process.

After contact in the field with PWA engineers in 48 states, Col. Waite said:

"Contracts have been sent out covering 1705 of the 2186 non-Federal allotments which have been made. Throughout the country there are daily lettings of PWA construction contracts and universally there is a better understanding of PWA procedure and purpose.

"The peak of the PWA re-employment should come in the late Spring and early Summer, according to the best analysis of the field situation."

## Local Contractors Participate

Much of the building construction in the PWA program is being handled by local building contractors. The Regulations regarding the letting of contracts give local building interests every opportunity to qualify. Quoting from Bulletin No. 2, issued by PWA Administrator on Sept. 12, 1933:

### BIDS AND AWARDS

"1. The National Industrial Recovery Act and the rules and regulations approved by the Special Board for Public Works contemplate that bids will be received and contracts will be let to the lowest responsible bidder in carrying out improvements under the act. Any deviation from this practice must have the prior approval of the Administrator.

"2. The politics of the bidder shall have no influence whatever on the awarding of the contract. No contracts will be awarded until bids have been examined and passed upon by the State engineer (P.W.A.), who will satisfy himself that the bidders are capable of carrying on the work bid upon and that the contract is awarded to the lowest responsible bidder.

"In determining the lowest responsible bid, the following elements will be considered: Whether the bidder involved (a) maintains a permanent place of business; (b) has adequate plant equipment to do the work properly and expeditiously; (c) has a suitable financial status to meet obligations incident to the work; (d) has appropriate technical experience.

"3. No bids will be accepted from any contractor who has not signed and complied with the applicable approved code of fair competition adopted under title I of the National Industrial Recovery Act for the trade or industry or subdivision thereof concerned, or, if there be no such approved code of fair competition, who has not signed and complied with the provisions of the President's Reemployment Agreement.

"4. Before a contract is awarded for any project, bids shall be requested by advertisements inserted once a week for two weeks in such newspapers and/or other publications as will insure adequate publicity, the second insertion of such advertisement to follow one week after the date of the first publication thereof. The advertisement shall require bids to be submitted and opened two weeks after the date of the first publication of the advertisement, and award to the lowest responsible bidder shall be made promptly after the opening of bids."

The entire \$3,300,000,000 to create jobs on public works projects was exhausted by allotments several weeks ago. Work on this will be pushed.

A compilation as of January 24 showed that allotments had been made amounting to \$3,298,472,784. There remained at that time \$1,527,216 unallotted. Of the total, \$2,478,548,886 was for Federal projects and \$819,923,898 for non-Federal projects.

The non-Federal allocations were divided as follows:

Loans and grants to States, cities and other public bodies (also loans to private corporations).....	\$ 571,544,140
Low-cost housing and slum clearance projects.....	48,771,958
Loans to railroads.....	199,607,800
<b>Total .....</b>	<b>\$819,923,898</b>

Allotments to the Civil Works Administration, the Public Works Emergency Housing Corporation and for Federal aid highways amount to \$900,001,000. These allotments arbitrarily have been classified as Federal, although the money will be spent entirely for the benefit of local communities. Civil Works jobs are under immediate local supervision and highway construction is under the supervision of State Highway Commissions subject to Federal check.

## Thousands of Jobs Created

An analysis of non-Federal allotments as of January 10 showed that waterworks, sewers and schools topped the list in number, although projects classified as bridges and structures headed the list in size of allotments.

If the \$400,000,000, which was equitably divided among the States for roads, the \$100,001,000 advanced to the housing corporation and the \$400,000,000 being spent by the Civil Works Administration for work relief throughout the country are added to the purely non-Federal figure, the total amount for this character of Public Works is \$1,719,924,898.

Details of this survey follow:

Character	Number	Allotment	Percentage
Waterworks .....	451	\$ 66,666,972	10.6
Sewers .....	347	133,964,260	21.3
Schools .....	330	62,548,539	10.0
Streets and highways .....	273	40,468,935	6.4
Bridges and structures.....	83	163,530,245	26.0
Hospitals .....	78	27,415,794	4.4
Other buildings .....	171	26,297,870	4.2
Power .....	44	27,258,900	4.3
Housing .....	20	48,771,958	7.8
Recreation .....	12	2,371,620	0.4
Miscellaneous improvements...	67	28,664,505	4.6
<b>Totals .....</b>	<b>1,876</b>	<b>\$627,959,598</b>	<b>100.0</b>

Both Federal and non-Federal allotments not only furnish widespread employment but also give the country a better standard of living. Many of the waterworks and sewer projects will provide communities with these facilities for the first time, thereby insuring local health and comfort. One of the schools to be built under a PWA allotment will take the place of a building erected 150 years ago and still being used as a school house to the detriment of the youth of that community.

Actual construction contracts have passed the billion dollar mark and are mounting toward the two billion dollar figure, insuring future employment opportunity under the PWA program. Detailed summary of the building construction projects on the non-Federal program follows on the next two pages.

# Building Projects in PWA Program

## Summary of Non-Federal Allotments for Buildings Totalling \$165,000,000

Location	Type	Allotment	Location	Type	Allotment	Location	Type	Allotment
<b>A</b> BILENE, KAN.	Library	\$ 2,400	Carrollton, Ky.	School	\$ 12,000	Fredonia, Ariz.	School	\$ 14,000
Accomac Co., Va.	School	20,200	Carthage, Ill.	School	82,000	Ft. Scott, Kan.	School	159,000
Afton, Okla.	School	26,398	Cass Co., Iowa	Building	32,000	Ft. Steilacoom, Wash.	Hospital	70,000
Alameda Co., Calif.	Building	462,000	Catskill, N. Y.	School	365,000	Ft. Steilacoom, Wash.	Building	6,600
Albany, N. Y.	Building	25,200	Cedar Rapids, Iowa	School	160,000	<b>G</b> ALENA, KAN.	School	28,000
Albia, Iowa	Building	28,300	Cedar Rapids, Iowa	School	6,000	Galveston, Tex.	School	200,000
Albion, N. Y.	School	262,000	Cedartown, Ga.	School	11,500	Gambier, Ohio	School	52,000
Alexandria, Va.	School	300,000	Cedartown, Ga.	School	17,000	Gardner, Mass.	Hospital	136,000
Allentown, N. H.	Building	12,000	Centerville, Kan.	School	9,000	Garfield Co., Okla.	Building	49,000
Alma, Ga.	School	27,100	Champaign Co., Ill.	School	362,000	Gatesville, Tex.	Building	32,000
Almont, N. D.	Building	13,000	Charlottesville, Va.	School	38,000	Gilmore City, Iowa	School	27,700
Alpena, Mich.	Building	101,114	Charlottesville, Va.	Building	379,000	Glenwood, N. C.	School	24,000
Alsey, Ill.	Auditorium	13,000	Chenango, N. Y.	School	115,000	Goochland, Va.	School	12,800
Amherst, Mass.	Building	121,000	Cherokee Co., Iowa	School	37,000	Gower, Mo.	School	4,500
Amherst, Mass.	School	238,000	Cheyenne Co., Kan.	Building	70,000	Graham, Tex.	School	91,000
Amherst, Mass.	School	168,400	Chicago, Ill.	Dormitory	2,040,500	Greeley, Colo.	School	286,000
Amherst Co., Va.	School	1,600	Chicago, Ill.	School	1,326,000	Greenwich, Conn.	School	165,000
Annapdale, N. J.	Dormitory	75,000	Chickasha, Okla.	School	162,000	Greenleaf, Kan.	School	25,000
Annapdale, N. J.	Silo	18,955	Chilton, Wis.	School	153,000	Greenville, Mo.	School	36,000
Annapdale, N. J.	Building	15,200	Choctaw, Okla.	School	66,000	Greenville, S. C.	Hospital	140,000
Annapdale, N. J.	Building	101,600	Cimarron, Kan.	School	101,400	Gregory Co., S. D.	Jail	14,000
Annapdale, N. J.	School	128,000	Cincinnati, Ohio	Hospital	9,000	Greystone, N. J.	Hospital	359,000
Arapahoe, N. C.	Building	2,000	Circle, Mont.	School	40,000	<b>H</b> AGERSTOWN, MD.	Hospital	407,000
Arcadia, Neb.	School	74,518	Clark, S. D.	Jail	146,000	Hamden, Conn.	School	700,000
Arkadelphia, Ark.	Building	50,000	Claymont, Del.	School	27,000	Hamilton, Ohio	City Hall	542,900
Arlington, Minn.	School	28,100	Clayton, Mo.	Court House	318,000	Hamilton Co., Ohio	School	100,000
Arlington, Tex.	Dormitory	103,500	Cleveland Co., N. C.	School	34,000	Hanover, N. H.	School	185,000
Arlington Hts., Ohio	School	50,000	Cleveland, Ohio	Incinerator	194,000	Hanover Co., Va.	School	31,600
Arlington, Tex.	School	60,000	Cleveland, Ohio	Hospital	336,000	Hardwick, Vt.	School	12,500
Atlanta, Ga.	Prison	1,500,000	Clinton Co., Iowa	School	76,500	Harris Co., Tex.	Shed	31,300
Atlanta, Ga.	Building	346,000	Clinton, Okla.	School	162,000	Harrisonburg, Va.	Dormitory	140,000
Atlanta, Ga.	Building	3,570,000	Coddington Co., S. D.	School	900	Haverhill, Mass.	School	260,000
Au Sable Forks, N. Y.	School	234,000	Colby, Kan.	School	222,000	Helena, Mont.	School	300,000
Auburn, N. Y.	Prison	226,000	Cole Co., Mo.	School	275,000	Helena, Mont.	School	510,000
Augusta, Ga.	School	710,000	Columbus, Ohio	City Hall	449,000	Helena, Okla.	Town Hall	7,000
Augusta, Ga.	School	26,000	Concord, N. H.	Hospital	31,000	Henrico Co., Va.	Building	4,000
Aurora, Ind.	School	90,400	Concord, N. H.	Fire Station	20,000	Henry Co., Mo.	School	50,600
Austin, Tex.	Building	1,633,000	Concord, Vt.	School	2,900	Highland Co., Ohio	Garage	10,000
<b>B</b> AKE, IOWA	School	8,200	Conway, Ark.	Dormitory	136,000	Hillsboro, Ohio	School	175,000
Baltimore, Md.	Hospital	135,000	Cook Co., Ill.	School	31,000	Holyoke, Colo.	Court House	53,000
Baltimore, Md.	School	124,000	Corvallis, Ore.	School	307,750	Honolulu, Hawaii	School	23,114
Baltimore, Md.	Fire House	12,000	Craighead Co., Ark.	Court House	112,000	Honolulu, Hawaii	Hospital	1,594
Baltimore, Md.	Warehouse	32,000	Crownstn, Minn.	Auditorium	104,000	Honolulu, Hawaii	Fire Station	22,671
Baltimore, Md.	Building	65,000	Crownsville, Md.	Hospital	7,400	Houma, La.	Incinerator	18,000
Bannock Co., Idaho	School	42,600	Cumberland Co., Pa.	School	75,000	Houston, Del.	Fire House	5,000
Battle Ground, Wash.	School	6,400	Custer Co., Okla.	Court House	28,000	Houston Co., Tex.	School	6,000
Beaver, Neb.	Ice Plant	8,000	Custer, S. D.	School	55,000	Hughes Co., S. D.	Court House	72,000
Belchertown, Mass.	Hospital	98,000	<b>D</b> E SOTA, LA.	School	5,000	Huntington, N. Y.	School	550,000
Bell, Calif.	City Hall	85,000	Deer Lodge Co., Mont.	School	50,000	Huntsville, Tex.	Jail	26,000
Bellevue, Iowa	School	1,000	Del Rio, Tex.	Warehouse	4,000	Hutchinson, Kan.	Building	77,000
Bellefonte, Pa.	Hospital	48,000	Delmar, Del.	School	23,000	<b>I</b> NDIANAPOLIS, IND.	Building	195,000
Bellevue, Wash.	School	4,000	Des Moines, Iowa	Building	500	Iowa City, Iowa	Building	57,000
Beloit, Wis.	School	550,000	Dickinson, N. D.	School	154,000	Iowa City, Iowa	Building	92,000
Benson, Vt.	School	2,100	Dinwiddie Co., Va.	School	3,800	Iowa City, Iowa	Building	8,000
Hillings, Mont.	School	400,000	Dooly Co., Ga.	School	65,000	Ipswich, S. D.	Court House	85,500
Blackwell, Okla.	Building	300	Dover, Del.	School	9,000	Itasca Co., Minn.	Hospital	23,200
Blacksburg, Va.	School	1,066,000	Dundas, Minn.	Building	8,000	Itawamba Co., Miss.	School	7,000
Bordentown, N. J.	Building	470,500	Durant, Okla.	School	4,000	<b>J</b> ACKSON CO., OKLA.	School	500
Boscawen, N. H.	Building	150,000	<b>E</b> , PROVIDENCE, R. I.	School	101,428	Jamesburg, N. J.	Hospital	71,000
Boscobel, Wis.	Building	64,000	E. Providence, R. I.	School	174,500	Jamestown, N. Y.	School	1,220,000
Boston, Mass.	Hospital	18,000	East Moline, Ill.	Building	8,100	Jasper Co., Mo.	School	5,000
Boston, Mass.	Hospital	334,000	East Radford, Va.	School	135,000	Jefferson Co., Pa.	Building	23,200
Boston, Mass.	Hospital	422,000	Edinburg, Tex.	Building	10,400	<b>K</b> ANSAS CITY, MO.	School	500,000
Boston, Mass.	Hospital	177,000	Effingham Co., Ga.	County Jail	26,000	Kansas City, Mo.	Auditorium	1,135,000
Boston, Mass.	Hospital	55,000	Eggleston, Va.	Building	14,000	Kent Co., Del.	School	19,000
Boston, Mass.	Hospital	45,000	Elbow Lake, Minn.	Auditorium	8,000	Kern Co., Calif.	Auditorium	60,000
Boston, Mass.	Hospital	164,000	Elgin, Ill.	Hospital	22,500	Kern Co., Calif.	School	81,000
Boston, Mass.	Hospital	1,500,000	Eliz. City Co., Va.	School	16,000	Kern Co., Calif.	Library	274,000
Boston, Mass.	School	2,000,000	Elsinore, Calif.	City Hall	14,000	Kern Co., Calif.	Building	11,000
Boulder, Colo.	School	468,000	Emporia, Va.	School	18,000	King Co., Wash.	School	18,000
Bovey, Minn.	Building	16,000	Enfield, Conn.	School	30,000	King Co., Wash.	School	8,000
Bozeman, Mont.	School	218,000	Epping, N. D.	School	4,400	Kingfisher Co., Okla.	School	44,000
Brentwood, N. Y.	Hospital	668,000	Epping, N. H.	Fire Station	9,000	Kingman, Kan.	Hospital	4,600
Bridgewater, Mass.	Prison	97,000	Eureka, Mo.	School	68,000	Klamath Falls, Ore.	Armory	71,000
Brigham, Utah	School	175,000	Everett, Wash.	Building	23,600	Knoxville, Tenn.	School	493,433
Bristow, Okla.	School	90	<b>F</b> AIR HAVEN, N. J.	School	86,000	<b>L</b> AKE CO., ILL.	School	350,000
Broadalbin, N. Y.	School	175,000	Fairfax Co., Va.	School	43,000	Lake View, Iowa	Building	24,100
Brock, Okla.	School	1,000	Faribault, Minn.	Court House	33,100	Lake Co., S. D.	Court House	105,345
Brown Co., S. D.	School	66,000	Faulkton, S. D.	Jail	43,000	Lane, Kan.	School	11,000
Brownsville, Tex.	Building	17,000	Fayetteville, Ark.	Building	1,165,000	Larimore, N. D.	School	84,000
Brownsville, Tex.	Building	11,900	Fayetteville, Ohio	School	84,000	Las Vegas, N. M.	Building	28,000
Brownsville, Tex.	Building	4,500	Florence Co., S. C.	Hospital	225,000	Lawrence, Kan.	Building	110,000
Brownsville, Tex.	Building	10,800	Fluvanna Co., Va.	School	14,000	Lawrence Co., Pa.	Court House	768,000
Brownsville, Tex.	Building	12,600	Fort Pierce, Fla.	Light Plant	36,000	Lena, Ill.	School	45,000
Brown County, Wis.	Hospital	300,000	Fort Pierce, Fla.	Warehouse	380,000	Lexington, Ky.	School	47,600
Bryan Co., Okla.	School	5,000	Fort Worth, Tex.	School	4,198,300	Lexington, Ky.	School	147,595
Buena Vista, Va.	Building	10,000	Fortuna, Mo.	School	1,800	Lexington, Ky.	School	297,700
Buffalo, N. Y.	School	1,198,000	Fox Point, Wis.	School	24,000	Lexington, Ky.	Building	203,000
Buffalo, N. Y.	School	782,000	Foxborough, Mass.	Hospital	117,000	Libby, Mont.	Building	360,000
Burke Co., N. C.	School	170,000	Foxborough, Mass.	Hospital	217,000	Liberty Hill, Tex.	School	16,000
Burlington, Vt.	Building	8,600	Foxborough, Mass.	Hospital	77,000	Lincoln Co., Neb.	Jail	500
Burlington, Vt.	Building	1,000	Framingham, Mass.	Building	218,520	Lincoln, Neb.	Hospital	12,200
Butte, Mont.	School	320,000	Framingham, Mass.	School	34,000	Linden, Tex.	Court	38,000
Butte, Mont.	School	800,000	Framingham, Mass.	Hospital	40,000	Linn Co., Iowa	School	17,000
Button Willow, Calif.	School	11,500	Franklin, N. H.	Armory	12,000			
			Franklin, N. H.	School	33,000			
			Franklin Co., Ohio	Incinerator	202,000			
			Franklin Co., Pa.	School	80,000			
<b>C</b> ERRO GORDO CO., IOWA	Building	1,500						
Cambridge, Minn.	School	20,000						
Canton, Mass.	Hospital	115,000						
Canton, N. D.	Building	3,040						
Carbon County, Utah	School	293,000						

Location	Type	Allotment
Linton, N. D.	Court House	24,000
Little Rock, Ark.	Building	500,000
Little Rock, Ark.	Hospital	1,769,000
Littleton, N. H.	School	42,000
Little Silver, N. J.	School	88,000
Lohrville, Iowa	Building	3,000
Longview, Tex.	School	2,400
Los Angeles, Calif.	School	6,310
Los Angeles, Calif.	School	14,700
Los Angeles, Calif.	School	28,000
Los Angeles, Calif.	School	7,860
Los Angeles, Calif.	School	12,800
Los Angeles Co., Calif.	Building	2,115,200
Los Angeles Co., Calif.	Building	9,380,000
Los Angeles Co., Calif.	Building	15,000
Los Angeles Co., Calif.	Building	532,000
Los Angeles Co., Calif.	Fire Station	17,000
Los Angeles Co., Calif.	Building	7,000
Los Angeles Co., Calif.	Fire House	2,000
Louisville, Ky.	School	230,000
Lubbock, Tex.	School	650,000
Lyme, Conn.	School	6,000

Location	Type	Allotment
MACON CO., MO.	School	9,000
Madison Co., Ill.	School	194,000
Magnolia, Del.	School	19,000
Manchester, Ky.	School	5,600
Manchester, N. H.	Building	6,500
Maneta, Va.	School	9,000
Manly, Iowa	Building	900
Mansfield, Conn.	School	27,500
Mansfield, Ohio	Hospital	15,000
Manteno, Ill.	Hospital	500,000
Marlboro, N. J.	Building	300,000
Marshall, Mo.	Jail	12,000
Matthewan, N. Y.	Hospital	146,000
Max, N. D.	Building	3,500
Maxeys, Ga.	School	1,100
McConelsville, Ohio	School	67,000
McCook Co., S. D.	Court House	116,000
McDowell Co., N. C.	School	30,481
McFarland, Kan.	School	4,000
McKenzie Co., N. D.	School	28,000
McPherson, Kan.	Building	190,000
McPherson, Kan.	School	49,000
Mecklenburg, N. C.	School	438,000
Medical Lake, Wash.	Building	26,400
Medical Lake, Wash.	School	4,300
Medical Lake, Wash.	Hospital	31,800
Medical Lake, Wash.	Hospital	36,000
Mercer Co., Pa.	School	25,000
Meriwether Co., Ga.	Jail	13,000
Miles City, Mont.	School	77,000
Miller Co., Mo.	Building	48,300
Miller Co., Mo.	School	700
Millwood, Wash.	School	7,800
Milnor, N. D.	Building	16,400
Mineral Co., Mont.	School	12,000
Minneapolis, Minn.	School	84,000
Minneapolis, Minn.	Building	86,000
Minneapolis, Minn.	School	9,000
Moab, Utah	School	130,000
Monroe, Conn.	School	14,300
Monson, Mass.	Building	112,000
Monson, Mass.	Hospital	100,000
Montgomery Co., Md.	School	160,000
Monticello, Ark.	Building	96,000
Morgan, Utah	School	94,620
Morgantown, W. Va.	Dormitory	400,000
Morning Sun, Iowa	Library	600
Mower Co., Minn.	Building	9,000
Muncie, Ind.	School	95,000
Muscatine, Iowa	School	4,800

Location	Type	Allotment
NAHUNTA, GA.	Jail	5,000
Nashville, Tenn.	Dormitory	400,000
Nashville, Tenn.	Building	57,400
Natick, Mass.	Building	114,000
Nebo, N. C.	School	33,500
Nelson Co., Va.	Building	11,000
New Bedford, Mass.	School	500,000
New London, Conn.	School	44,000
New Lisbon, N. J.	Hospital	47,000
New Trier, Ill.	Building	141,000
New York City	Hospital	4,000,000
New York City	School	2,500,000
New York City	Hospital	800,000
Newark, N. Y.	School	255,000
N. Hempstead, N. Y.	School	350,000
Newport, Ky.	Fire House	13,000
N. Providence, R. I.	Fire Station	6,000
Newton, Mass.	School	148,800
Newton, Mass.	School	248,400
Newton, Mass.	School	60,700
Norfolk, Mass.	Dormitory	763,000
Norfolk, Mass.	Prison	19,000
Norfolk, Mass.	School	146,000
Norfolk, Mass.	Hospital	35,000
Norfolk, Neb.	Hospital	8,000
Norfolk, Va.	Building Repair	4,300
Norfolk, Va.	Building Repair	250,000
North Grafton, Mass.	Hospital	132,000
Northampton, Mass.	Hospital	242,000
Northampton, Mass.	Hospital	106,000
North Cove, N. C.	School	68,000

Location	Type	Allotment
OKLAND, CALIF.	Building	600
Ocean Side, Calif.	Building	36,000
Oklahoma City, Okla.	School	133,000
Ossining, N. Y.	Prison	38,000
Ottumwa, Iowa	Armory	42,000
Overland, Mo.	School	60,000
Owings Mills, Md.	Dormitory	34,000

Location	Type	Allotment
PARK CO., WYO.	School	90,000
Parker Co., Tex.	School	7,000
Parkland, Wis.	Hospital	126,000
Parkwater, Wash.	Hangar	27,000

Location	Type	Allotment
Passaic, N. J.	School	96,000
Pawtucket, R. I.	City Hall	425,000
Pearl River Co., Miss.	School	15,000
Pembine, Wis.	School	35,000
Petersburg, N. D.	Building	18,030
Petersburg, Va.	Dormitory	262,000
Pine Island, Minn.	School	22,000
Pittsburg Co., Okla.	School	1,000
Pittsburgh, Pa.	Hospital	2,000,000
Pittsylvania, Va.	School	42,400
Pleasant Grove, Mo.	School	3,000
Pleasant Ground, N. C.	School	34,717
Polk Co., Mo.	School	44,000
Poplar, Wis.	Building	10,000
Port Arthur, Tex.	Building	177,000
Portales, N. M.	School	4,000
Portsmouth, R. I.	School	90,000
Pottawatomie, Okla.	Building	250,000
Prince Georges Co., Md.	Building	408,000
Pratt, Kan.	Warehouse	6,000
Princeton, N. J.	Incinerator	35,000
Pueblo, Colo.	Hospital	92,000
Pullman, Wash.	Building	198,000
Pullman, Wash.	School	14,000

Location	Type	Allotment
RADCLIFFE, IOWA	School	4,000
Radford, Va.	School	5,000
Raefton, N. C.	School	56,000
Ramsey Co., Minn.	School	17,000
Ramsey Co., N. D.	Auditorium	7,000
Randolph, Wis.	Building	1,300
Raymondville, Tex.	School	4,000
Readsboro, Vt.	School	30,000
Redding, Calif.	Building	25,000
Redmond, Wash.	School	8,400
Renton, Wash.	School	4,000
Richland Co., S. C.	School	2,700
Richmond, R. I.	School	75,000
Richmond, Va.	Museum	66,000
Roberts Co., S. D.	Building	11,200
Roberts Co., S. D.	School	5,000
Rochester, N. Y.	School	1,490,000
Rochester, N. Y.	Building	263,000
Rock Co., Wis.	Building	248,000
Rolling Stone, Minn.	Building	1,000
Rome, Ga.	Court House	55,000
Roopville, Ga.	School	12,000
Roxanna, Ill.	School	1,800
Russellville, Ark.	School	135,000

Location	Type	Allotment
SABINA, OHIO	School	38,000
Sacramento, Calif.	Building	164,000
Sacramento, Calif.	Building	49,000
Sacramento Co., Calif.	Fire House	3,600
Sacramento Co., Calif.	Building	20,300
Salisbury Twp.	School	12,200
Salt Lake City, Utah	School	300,000
Salt Lake City, Utah	School	626,500
San Antonio, Tex.	Building	4,000
San Jose, Calif.	Auditorium	460,000
Sanborn, Minn.	School	2,000
Sanborn Co., S. D.	School	6,600
Santa Monica, Calif.	Building	3,000
Santa Maria, Calif.	Building	12,100
Santa Rosa, Tex.	School	6,000
Sayre, Pa.	Hospital	425,000
Schenectady, N. Y.	County Home	508,000
Seattle, Wash.	School	108,300
Secaucus, N. J.	Hospital	2,996,000
Sedro Woolley, Wash.	Building	28,200
Sequin, Tex.	Court House	200,000
Shallotte, N. C.	School	3,500
Sharkey Co., Miss.	School	6,746
Shawnee, Kan.	School	93,500
Shawnee, Okla.	School	15,000
Shawsville, Va.	School	49,000
Shelby County, Tenn.	Building	522,000
Shelby, Mont.	Court House	75,000
Shelby, N. C.	School	11,000
Shenandoah Co., Va.	School	16,000
Sidney, Mont.	School	88,000
Sidney, N. Y.	School	221,000
Siskiyou, Calif.	School	4,900
Skillman, N. J.	Hospital	144,500
Skillman, N. J.	Hospital	155,000
Skillman, N. J.	Hospital	95,000
Smyrna, Del.	School	73,000
Santa Clara Co., Calif.	Building	56,000
Sonora, Tex.	Building	6,000
Sonyea, N. Y.	Hospital	183,000
Spanish Fork, Utah	School	250,000
Springfield, Mass.	School	96,000
Springfield, Ohio	Building	7,000
St. Louis Co., Minn.	School	122,000
St. Louis Co., Minn.	School	56,000
St. Louis, Mo.	School	60,700
St. Louis, Mo.	Hospital	274,000
St. Louis, Mo.	Auditorium	137,000
St. Louis Co., Mo.	Hospital	70,200
St. Louis Co., Mo.	School	328,000
St. Louis Co., Mo.	School	122,000
St. Louis Co., Mo.	School	150,000
St. Louis Co., Mo.	School	45,000
Stanislaus Co., Calif.	Court House	248,000
Stanislaus Co., Calif.	Building	250,000
Star Co., Tex.	School	59,000
State of Florida	School	75,000
State of Illinois	Hospital	17,500
State of Mass.	Building	122,000
State of Mass.	School	170,000
State of Mass.	Building	163,500
State of Mass.	Hospital	29,000
State of Mass.	Hospital	98,000
State of Mass.	Hospital	119,000
State of Mass.	Hospital	87,000
State of Mass.	School	30,000
State of Mass.	Building	99,000

Location	Type	Allotment
State of Nebraska	Building	23,100
State of Nebraska	Dormitory	13,000
State of New York	School	275,000
State of Tex.	School	4,000
State of Utah	Building	1,551,000
State of Utah	School	50,000
Stearns, Ky.	School	9,000
Stevens Co., Minn.	School	21,000
Stillwater, Okla.	School	450,000
Stockton, Calif.	Warehouse	230,000
Sumas, Wash.	School	4,100
Swarthmore, Pa.	School	90,000

Location	Type	Allotment
TAHLEQUAH, OKLA.	School	4,500
Tappahannock, Va.	School	12,000
Teaneck, N. J.	School	215,000
Tehachapi, Calif.	School	40,000
Tehachapi, Calif.	School	43,000
Terre Haute, Ind.	School	98,000
Tewksbury, Mass.	Hospital	48,000
Tewksbury, Mass.	Hospital	138,000
Tilton, Ill.	Auditorium	16,000
Tippah Co., Miss.	School	17,000
Tippecanoe, Ind.	School	15,000
Toledo, Kan.	School	7,900
Tolt, Wash.	School	12,000
Toppenish, Wash.	School	12,000
Totowa, N. J.	Building	50,000
Totowa, N. J.	School	77,000
Towanda, Pa.	Building	30,000
Trenton, N. J.	Hospital	290,000
Trenton, N. J.	Gymnasium	26,000
Tulsa Co., Okla.	School	26,000
Tuscaloosa, Ala.	School	155,000

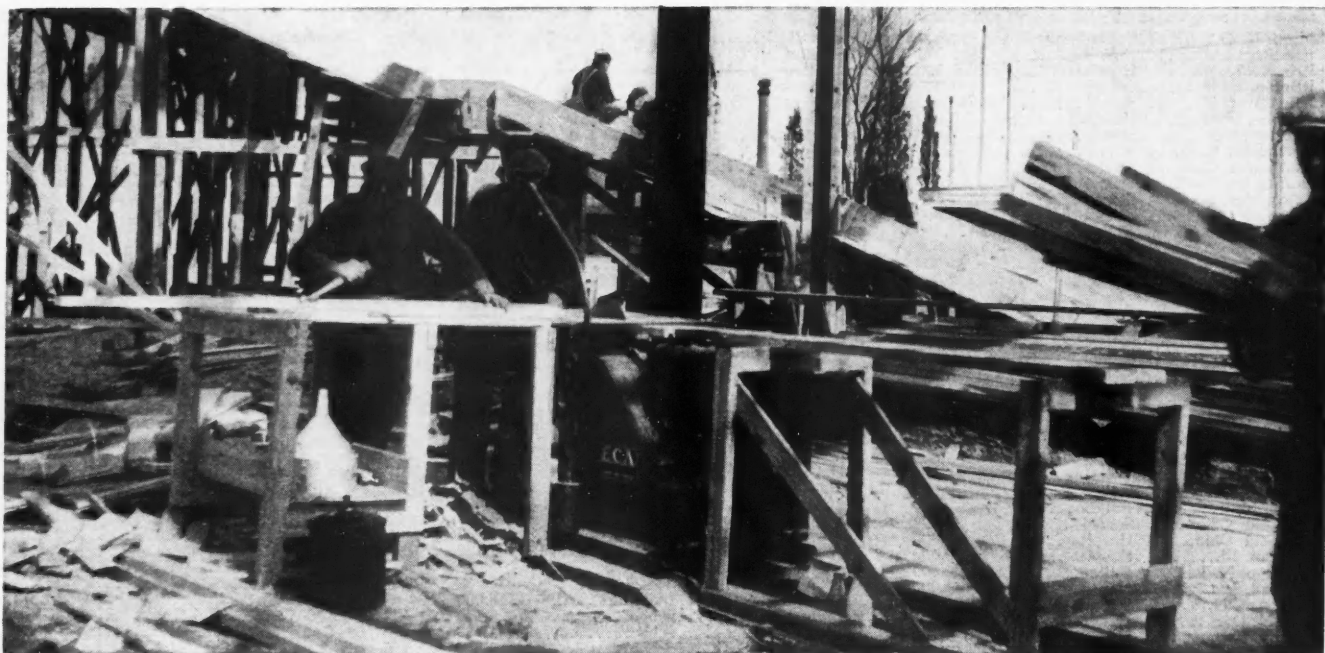
Location	Type	Allotment
UNION, IOWA	Building	3,000
Utah Co., Utah	School	56,000
Utica, N. Y.	School	1,295,000

Location	Type	Allotment
VAN BUREN CO., ARK.	Court House	30,000
Van Buren, Ark.	School	87,000
Van Zant Co., Tex.	School	600
Vancouver, Wash.	School	35,000
Varnell, Ga.	School	14,285
Ventura, Calif.	School	5,100
Ventura, Calif.	Building	13,000
Vineland, N. J.	Hospital	47,250
Vineland, N. J.	Dormitory	100,000
Vineland, N. J.	Building	79,000
Vinton, Iowa	School	29,700

Location	Type	Allotment
WAKE FOREST, N. C.	School	15,000
Waldron, Ark.	Court House	60,000
Walla Walla Co., Wash.	Jail	16,000
Waltham, Mass.	Hospital	42,000
Waltham, Mass.	Hospital	642,000
Warren Co., N. Y.	School	140,000
Warren, Tex.	School	40,800
Warwick, R. I.	School	450,000
Wasatch, Utah	School	9,800
Washington Co., Okla.	School	2,000
Washington, Kan.	City Hall	3,700
Watsonville, Calif.	Library	3,700
Waukegan Co., Wis.	Building	111,000
Webster Co., Mo.	School	31,000
West Concord, Mass.	Prison	35,000
Westborough, Mass.	Hospital	59,000
Westborough, Mass.	Hospital	258,000
Westborough, Mass.	Hospital	6,000
Westborough, Mass.	Hospital	257,000
Westborough, Mass.	Hospital	17,000
Westborough, Mass.	School	39,000
Westchester County, N. Y.	Building	800,000
Westfield, N. J.	School	275,000
Whitefield, N. H.	School	114,500
Whittingham, Vt.	School	1,400
Wilkins Co., Minn.	School	53,100
Williamsburg, Va.	Building	650,000
Wilmington, Del.	School	435,000
Windsor, Conn.	School	10,000
Woodbury, Iowa	School	399,000
Woodbine, N. J.	Laundry	44,000
Woodbine, N. J.	Building	85,000

Additional Projects

Location	Type	Allotment
Algoma, Wis.	School	148,000
Appling, Ga.	Jail	15,000
Athens County, Ohio	Building	30,000
Belfast, Ohio	School	16,000
Clarkton, Mo.	School	47,000
Concord, Mass.	Reformatory	26,000
Corpus Christi, Tex.	Schools	450,000
Dawsonville, Ga.	School	13,965
Denton, Tex.	Building	220,000
Elvins, Mo.	School	25,000
Fisher, Ark.	School	27,208
Folcroft, Pa.	School	24,000
Framingham, Mass.	Police Building	41,000
Gainesville, Ga.	Alms House	32,000
Gainesville, Ga.	Jail	128,000
McKean Co., Pa.	Schools	618,000
McPherson, Kans.	Power Plant	211,000
Oconto, Wis.	Hospital	28,000
Rhineland, Wis.	School	45,000
Rogers County, Okla.	School	15,000
Rutland, Iowa	School	25,000
St. Mary, Mo.	School	32,000
Shreveport, La.	Building	40,000
Southampton, N. Y.	School	125,000
Spencer, Wis.	Buildings	17,000
Toledo, Ohio	Univ. Bldgs.	250,000
Turtle Creek, Pa.	School	193,831
West Lafayette, Ind.	Building	225,000



BUILDING THE HUGE FORD BUILDING FOR THE 1934 CHICAGO WORLD'S FAIR is a rush job, with the contractor working against a heavy penalty if construction is not completed by May 26. The electric saw in this picture is keeping a dozen carpenters busy.

## New Contractors' Equipment Sets Fast Building Pace

**C**ONTRACTORS' equipment has developed and improved much faster in the past five years than the capacity of the construction industry to make use of it. This is an obvious fact that need hardly be stressed, except that many contractors who, up until this spring, thought they were well protected, as far as equipment is concerned, are now finding themselves caught short.

New developments in saws, sanders, trucks, mixers and woodworking equipment have been so great that few contractors are fully aware of the cost-cutting and money-saving possibilities they afford.

In addition, old equipment that has been idle for months and was inefficient and out of date long ago, is now being revealed as wholly inadequate to deal with present building conditions.

### Labor Costs Higher

The needs of the market today, authorities point out, must be judged on the basis of (1) rising labor costs, (2) rising material costs, (3) demand by purchasers for completed construction work at no great advance in cost, (4) advent of more or less sudden and gigantic enterprises through the Federal construction program.

For example, when the CWA put hundreds of thousands of men at work a few months back, there was a great shortage of picks and shovels, and other tools. Where had all the tools gone? There were plenty a few years ago. Factories had to work night and day to produce a new supply, and in the meantime work lagged.

A Chicago floor sanding firm, finding business picking up rapidly, has decided to add another machine. The

owner, before making this decision, thought he would look around for a good second-hand machine. He found there was practically none to be obtained. As he explained, "the only ones offered at a low price are the old models. With labor costs as they are, such a machine is just an expense. We simply can't afford to run one."

The releasing of Public Works money which has been held up all during the winter and will not get out to actual construction hands until early summer, will come with a rush when it does come. Engineering jobs are being taken up and engineering surveying equipment is in demand. As soon as the construction works go ahead on their wide range, there will be an actual shortage of modern equipment.

Talk about more efficient equipment is not idle conversation. New machines must be able to produce, or they merely lose the contractor money, and without modern equipment, he cannot hope to cope successfully with well equipped competitors.

While it is recognized as impossible for contractors to invest money they do not have, it should be borne in mind that a portion of first profits invested in new equipment will more than repay the investment on the next job. And nearly all equipment can be purchased on very reasonable terms, thanks to current financing plans.

For those contemplating purchase of new equipment this spring, a few of the many recent developments in contractors' equipment may be summarized as follows: Space permits the mention of only a few typical improvements.

**SANDERS**—The Reid-Way Corp., Cedar Rapids,

la., has brought out a new 8-inch model which has a cast aluminum frame and a new type of efficient induction motor which makes the machine a high production unit. The American Floor Surfacing Machine Co., Toledo, Ohio, has also brought out a new "light eight" which is a lighter machine with high production capacity. An important feature of this machine is the automatic pressure control. Porter-Cable Machine Co., Syracuse, N. Y., also has a new high-speed sander and edger. Other up-to-date sanders are being offered by the Lincoln-Schleuter Floor Machinery Co., Chicago, Ill., and Dreadnaught Sanders, Inc., Muskegon, Mich.

**SAWS AND WOODWORKING MACHINERY**—De Walt Products Corp., Lancaster, Pa., has a modern fast-cutting saw that cuts brick and stone, as well as wood, is quickly adjustable for all types of cuts, and is mounted on a movable bench that can be handled by one man like a wheelbarrow.

Woodworking Machinery Co., Norristown, Pa., is making a new "Electric Carpenter" machine which has the latest complete woodworking devices united in one unit. The seven machines in one include a lathe, shaper, jointer, band saw, mortiser, saw table and speed spindle.

Two other manufacturers making modern woodworking equipment for 1934 building are the American Saw Mill Machinery Co., Hackettstown, N. J., and the Parks Woodworking Machine Co., Cincinnati, Ohio.

**CONCRETE MIXERS**—The Jaeger Machine Co., Columbus, Ohio, is now making its Speed King mixer in a two-bag size which is light, fast and efficient. This is a trailer type, spring-mounted, with end discharge and swinging spout.

**LEVELS AND TRANSITS**—Geier & Bluhm, Inc., Troy, N. Y., are making a useful instrument for contractors and builders which serves as both level and transit. It is light in weight, easy to use, and accurate.

**INSULATING BOARD TOOL**—Kimball Manufacturing Co., Inc., Royal Oak, Mich., is making a new "Bevil Devil" tool that is especially built to cut, trim and bevel insulation board, fibre board, Presdwood, etc. Blades are held accurately at pre-determined angles for cutting ornamental patterns, grooves and trim.

**STUCCO SPRAY MACHINES**—Colorcrete Industries, Inc., Holland, Mich., make a machine designed for the efficient handling of mortar-like materials. The mortar or stucco is forced under high pressure from a patented gun which shoots it out onto the surface being built up. This machine is being used in the renovizing of old homes and restoring of old stucco surfaces.

**TRUCKS**—International Harvester Co., Chicago, Ill., has brought out a new speed truck in models ranging from one-half to three tons, which embody many features contributing to improved truck performance. The entire



## "JUST AN EXPENSE"

"THE OLD MODEL MACHINE would just be an expense to me," declared a Chicago floor sanding contractor in discussing the acquisition of new machines to handle his increased business.

"I THOUGHT OF BUYING a second-hand machine but the only ones available were old models. With the labor rate I have to pay my workmen, such a machine is just an extra expense. The high production floor sanders of the greatly improved new type are absolutely necessary if I am to operate at a profit. I must either acquire the up-to-date equipment or turn down business."

THIS HOLDS FOR the bulk of contractors' equipment today. With labor costs high, and going higher, the best modern equipment is none too good; the latest is necessary for profitable operation in today's market.

trucks, including motor, are especially designed and built for long life, low cost operation and heavy trucking service, such as the building industry demands.

**OTHER NEW EQUIPMENT** that cuts cost and saves time includes, (1) electric door set made up of power plane that will plane any edge of doors, sash, transoms, etc., either straight or bevel cut, and do it five times faster than by hand; hinge butt router that cuts out butts six times faster than by hand; door and jamb templet that can mortise 75 doors and jambs for hinges in a single day; lock face templet for cutting perfect lock face mortises; electric lock mortiser which can make a mortise a minute.

(2) Electric dual drill, light weight, speedy, which serves as a fast twist drill for wood and metal, and which, with a quick attachment, becomes a hammer drill for making holes in concrete and masonry. Also serves as handy grinding and sharpening tool. (3) Electric hole saw which quickly cuts holes in wood or metal up to 4 inches in diameter. (4) Airless electric light weight paint spray machine which cuts painting cost 60 per cent, will paint to a sharp hair line. (5) Mud-jack which is used to raise concrete curbs, gutters, walks, etc., to proper level by pumping mud under high pressure through holes drilled in the slab. (6) Low cost, light weight trailer-mixer which has 3½ cubic foot batch capacity, is fast, easy to handle, and move about. (7) Portable batcher, accurately weighing concrete materials in wheelbarrow batches.

THIS ONE-MAN SPOUT on a motor mixer equipped with a hydraulic hoist speeds the placing of concrete in many places that could not formerly be reached without wheeling or using special chutes. Less than a minute is required to place the equipment so the concrete is delivered exactly where needed.

# U. S. Survey Shows Great Farm Build-

**F**OR by far the greater part of the history of the United States, the farm building market has been one of the biggest. Contractors, carpenter-builders and country dealers may still live to see this once prosperous market revived. Strenuous attempts are being made under the New Deal to improve the condition of the farmer, and this is already being reflected in an increase in his purchases of building materials and services.

It is rumored that included in future plans of the Administration is some program to stimulate farm building and improvements by providing Federal financing for such work. Economists point out that the providing of funds for such a purpose at low interest rates to be amortized over a long period of time would give a tremendous impetus to recovery.

As possibly a first step in such a program, the Department of Agriculture has conducted, and is now engaged in tabulating the returns of, a farm housing survey of national scope. Preliminary reports from counties scattered throughout the United States are already completed, but the final returns have not been issued.

These preliminary returns are sufficiently striking in the picture they give of antiquated houses, rundown conditions, need of repairs, lack of sanitary facilities, to make us wonder whether this nation is as far advanced or civilized as most people have thought.

According to the Department of Agriculture, "the farm housing survey is a Civil Works Administration project carried out by the U. S. Department of Agriculture and the state agricultural extension services. The object is to provide the basic information necessary for a program of improvement for farm homes. About 300 counties throughout the country are being covered by the investigators."

## Only 16.6 Per Cent Have Indoor Toilets

It is impossible, in studying the reports of individual counties, to draw conclusions that can be applied to all the country. On the opposite page is shown a typical report from Benton County, Indiana, which is in a fairly prosperous farming section which might be considered somewhat above the average as to prosperity and general welfare.

Yet, only a casual glance of the data concerning the farm housing in this county is enough to show how far it lags behind the high standards Americans are traditionally supposed to hold for their homes. Only 374 out of a total of 1392, have bathtubs or showers. Only 231, or 16.6 per cent, have improved indoor toilets. Power line electricity is enjoyed by only 78, although an additional 180 have home electric power plants.

The extensive need for roofing, insulation, screens, paint, wall, floor and ceiling materials, is clearly indicated in the survey of this county. Complete new roofs were needed by 142, and in addition 244 needed alterations and repairs to their roofs. New foundations were needed by 150, and 239 needed repairs or alterations. Extensive repairs and alterations, as well as complete replacements, were called for in interior walls and ceilings, doors and windows, and floors. Need for additional bedrooms, fruit and vegetable storage space, washrooms for farm help was stated.

The most intriguing question, as far as the building industry is concerned, is the last one which asks: "If \$500 were available for you to spend in improving your

## ROOFS—WALLS—BATHTUBS

**FIRST RETURNS FROM NATIONAL SURVEY** of farm homes show amazingly rundown, badly equipped structures. Walls, floors, roofs badly in need of repairs or complete rebuilding. Government may finance needed farm home improvements.

**LESS THAN TEN PER CENT OF HOMES** in many counties have bathtubs. World's greatest market for building products, plumbing, heating and home improvements revealed.

house what work would you do?" They would do plenty!

In Benton County, Indiana, 277 would install bathroom equipment; water systems would be installed by 238; heating systems by 155. Exterior walls would be repaired by 181, or 13 per cent; interior walls, ceilings and floors by 188, or 13.5 per cent.

In conducting the farm housing survey, investigators covered as far as possible every farm house in the county selected. The counties are scattered all over the United States, in all 48 states.

The report on Benton County, Indiana, just quoted is, of course, not indicative of conditions in other counties. Take, for example, Acadia Parish, Louisiana. Of the 3,575 farm houses surveyed, only 217 had tub or shower bath, and only 23 had hot running water. Of the 3,575 houses, only 85 had improved indoor toilets, and 181 kitchen sinks with drains. Electric lights are enjoyed by only 127, and only 52 have central heating.

People who think the building industry in the United States has a dismal future should take another look at this report of farm houses in Acadia Parish, Louisiana. Of the 3,575 farm houses, 1,995 need new roofs, or repairs to roofs; 1,815 need screens or repairs to screens; 1,398 need new chimneys or repairs. New foundations and repairs were needed by 1,883; new doors and windows and repairs and alterations were needed by 2,236; new interior walls and ceilings and repairs were needed by 1,941.

The biggest job ahead of the industries of the United States is the re-building and housing of its people. This includes all the population, poor as well as rich, white, black and otherwise. It is the biggest future market.

In the Acadia Parish of Louisiana, farm home owners answered the question regarding the spending of \$500 to improve their property entirely differently from the people of Benton County, Indiana. In Louisiana, the need for immediate improvements to walls, roofs, chimneys, etc., was greatest. For example, of the 3,575 farm houses surveyed, 2,419, or 67.7 per cent said they would spend money on windows, doors and screens. More than 1,800, or 52 per cent, said they would spend the money on exterior walls, while 1,762, or 49.3 per cent, would spend the money for interior walls, ceilings and floors. Roofs and roof repairs came fourth, with 1,726, or 48.3 per cent. Following in order of importance were sanitary facilities, 44.5 per cent; additional rooms, 43.1 per cent; foundations, 37.8 per cent; porches, 35.4 per cent; and water systems, 27.9 per cent.



# ing Need

Here it becomes apparent that structural and repair work is of paramount importance; that the houses themselves are in a bad state of repair. If money were available, these farm owners would spend it first to re-build and improve the farm structures themselves. After this was done, they would install water systems, plumbing, electrical equipment, and other improvements.

The two illustrations just given, that is, Benton County, Indiana, and Acadia Parish, Louisiana, are extreme. A more "middle class" condition is shown in the report from Shelby County, Kentucky, which is a fairly prosperous farming region just east of Louisville.

Of the 2,015 houses surveyed in this county, exterior paint, screens, roofing, insulation and interior wall and ceiling improvements were the first five most needed types of work. New roofs were needed in 237 cases, and repairs to roofs in an additional 594. New foundations were required by 114, while 602 needed repairs to foundations.

In Shelby County, Kentucky, only 170 bathtubs or showers were installed in the 2,015 farm homes. Only 137 had hot running water and 243 a kitchen sink with drain. There were electric lights in only 296 of these houses.

In answer to the question as to how they would spend \$500 for improving their house, 992, or 49.2 per cent, said they would spend it on exterior walls. Almost an equal number—928, or 46.1 per cent—would spend it on interior walls, ceilings and roofs. Water systems came next, with 569, or 29 per cent. Roof repairs came fourth, with 515, or 25.6 per cent. Additional rooms were required by 416; doors, screens and windows would be installed by 439; electricity by 348; and bathroom equipment by 317.

The final tabulations on the survey of the entire 300 counties throughout the United States will be awaited by the building industry with great interest. Figures already released indicate beyond doubt that here is a market of extreme importance to the building industry and one which the government may well devote its attention toward finding a way to finance. All industry would profit.

## Typical Report—Benton County, Indiana

Reports on 1,392 farm houses. There are 100 unpainted frame houses, 1241 painted frame houses, 18 stucco houses, 24 brick houses, 2 stone houses, and 5 concrete houses. Of the total, 1226 have more than one story. An average of 10 rooms per house is shown.

### CONDITION OF HOUSES

Of the 1392 farm houses surveyed, replacements, renewals, or new installation and repairs were needed as follows:

	Complete replacement, renewals, or new installation needed	Repairs or alterations needed
Paint, exterior .....	564	212
Screens .....	331	239
Foundations .....	150	239
Interior walls and ceilings .....	146	408
Roofs .....	142	244
Insulation .....	111	58
Doors and windows .....	110	365
Floors .....	102	239

### NEED FOR ADDITIONAL SPACE

	Have now	Additional rooms needed	Per cent in which additional rooms are needed
Bathrooms .....	380	112	8.0
Storage space for fresh fruits and vegetables .....	916	76	5.5
Bedrooms .....	5188 rooms	75 rooms	5.4
Wash rooms for farm help .....	258	64	4.6

### WATER SUPPLY AND SEWAGE DISPOSAL

	Have now	New installation needed	Per cent in which new installation is needed
Water carried by hand .....	982		
Hand pumps in dwelling .....	377	123	8.8
Running water, cold .....	415	65	4.7
Running water, hot .....	211	60	4.3
Unimproved outdoor toilets .....	721	6	.4
Improved outdoor toilets .....	449	94	6.8
Improved indoor toilets .....	231	121	8.7
Tub or shower baths .....	374	114	8.2
Kitchen sinks with drain .....	889		

### LIGHT AND HEAT

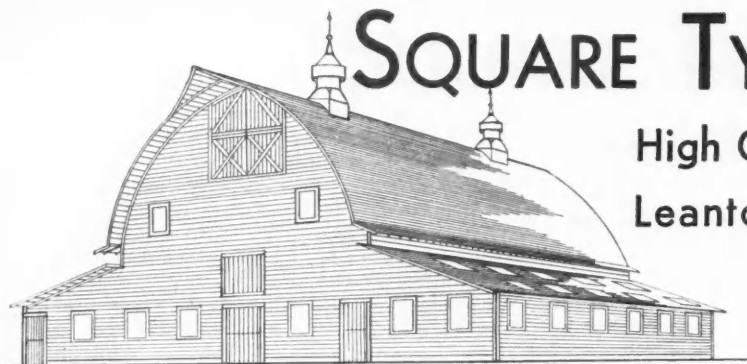
	Have now	New installation needed
Kerosene or gasoline lamps .....	1096	1
Gas lights .....	66	3
Electricity, home plant .....	180	13
Electricity, power line .....	78	345
Fireplaces .....	34	
Stoves .....	882	16
Central heating systems .....	578	65

### REFRIGERATION, LAUNDRY AND COOKING FACILITIES

	Have now	New installation needed	Per cent in which new installation is needed
Ice boxes .....	258	23	1.7
Mechanical refrigeration .....	33	73	5.2
Washing Machines, power .....	635	69	5.0
Washing machines, hand .....	423	21	1.5
Wood or coal cooking stoves .....	1335	37	2.7
Kerosene or gasoline stoves .....	406	7	.5
Gas stoves .....	8	-	-

In answer to the question: If \$500 were available for you to spend in improving your house, the following items were mentioned, among others:

	Number of farms	Per cent of total farm houses
Bathroom equipment .....	277	19.9
Water systems .....	238	17.1
Furnishings .....	195	14.0
Interior walls, ceilings, floors .....	188	13.5
Exterior walls .....	181	13.0
Electricity, home plant .....	72	5.2
Electricity, power line .....	180	12.9
Heating systems .....	155	11.1



# SQUARE TYPE SUNLIT BARN

High Gothic Center with Roof-Lighted  
Leantos Provide Healthful Stable.

More light—more stock capacity  
—less wall area—less cost

IN working on the problem of how to get more germ-killing sunshine into the dairy barn, our engineers have developed a plan that not only looks good on paper but also is proving out well in actual construction and use. I submit it here for the critical analysis of the barn planners and builders who are students of this publication.

Notice that in place of the customary long and narrow arrangement, 36 feet wide for a double row of cows in stanchions, this new plan is more on the square order, accommodating three or four rows of cows and getting sunlight into all parts of the stable by means of roof windows as well as ventilating side-wall windows.

The arrangement shown of the stable floor, 58 by 82 feet, calls for three rows of stalls, and one row of pens; however four rows of stalls may be used if desired. When feed rooms, etc., are wanted they may be located the same as in any other type of barn. The center cross alley between the rows of stock has a door at each end. These doors on either side of the barn could be used to lead to a silo or feed room. The doors on the end of the barn are used for manure removal and entrance and

exit for the stock. There are many advantages.

This Clay sunlit type barn 58' wide x 82' long compares with a conventional type 36' x 164' as follows:

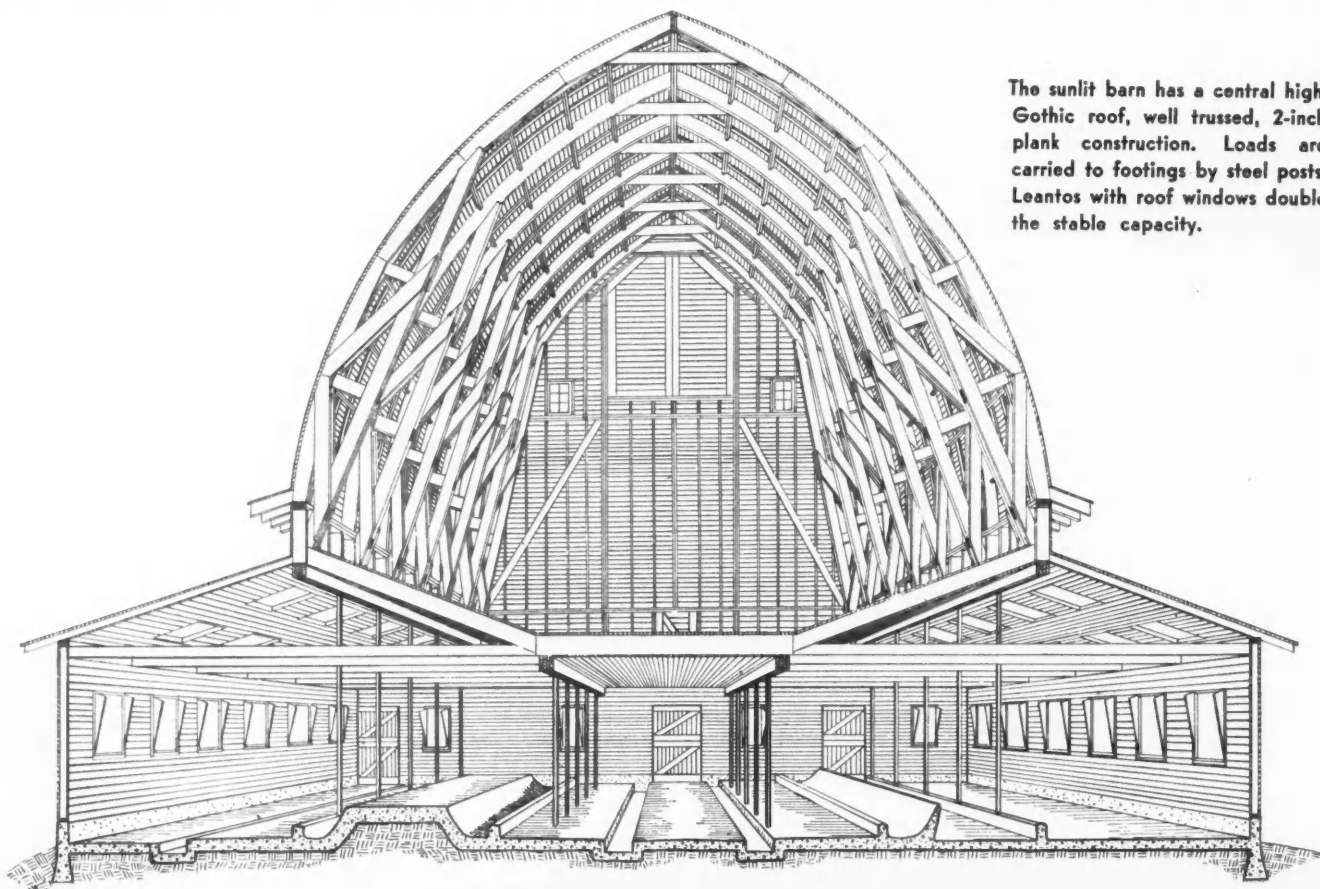
They will both house the same amount of stock.

The 36' x 164' barn has 5,904 square feet of floor area, while the 58' x 82' barn has 4,276 square feet, or approximately 20 per cent less floor area.

The distance around the outside of the conventional type barn outside wall is 400 ft. The distance around the Clay sunlit type is 280 feet, or approximately 30 per cent less outside wall surface than the larger barn.

The mow capacity of the 36' x 164' barn is approximately 160 ton of loose hay. The mow in the 58' x 82' sunlit barn will hold approximately 80 ton of loose hay. This eighty ton is sufficient for the varying rations fed to dairy cows today.

The square feet of glass required for the 36' x 164' barn, figuring one square foot of glass to 20 square feet of floor space would be 295 square feet of glass. On the sunlit type only 238 square feet would be required, or a reduction of approximately 20 per cent glass area. Yet,



The sunlit barn has a central high Gothic roof, well trussed, 2-inch plank construction. Loads are carried to footings by steel posts. Leantos with roof windows double the stable capacity.

# SAVES 30 PER CENT

By JOS. B. CLAY

President Clay Equipment Corp.

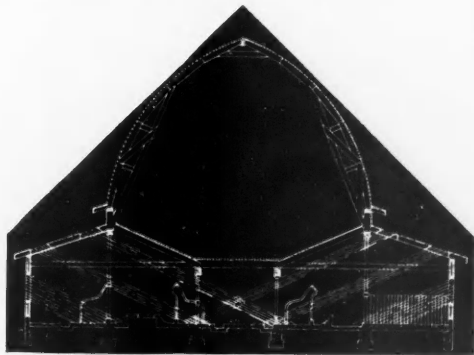
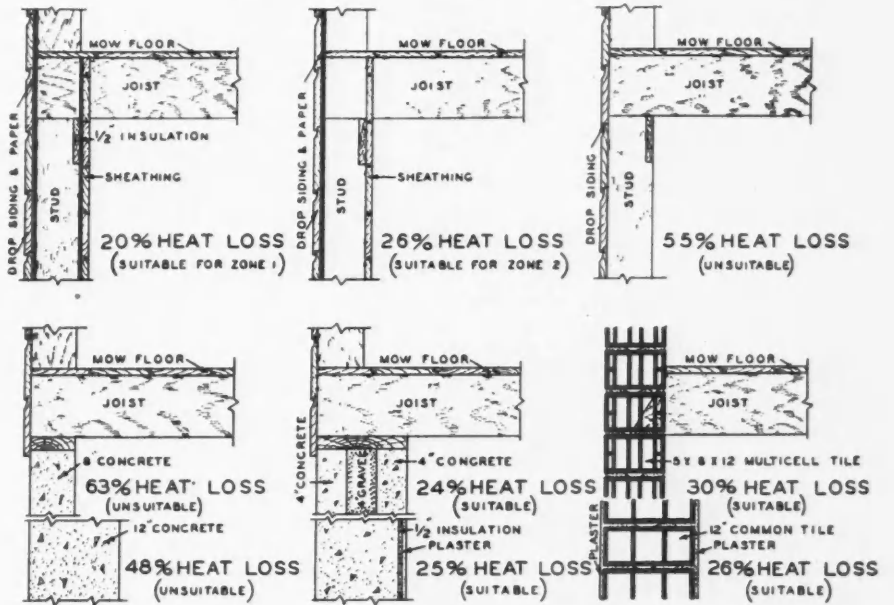


Temperature zone map for dairy barn construction.

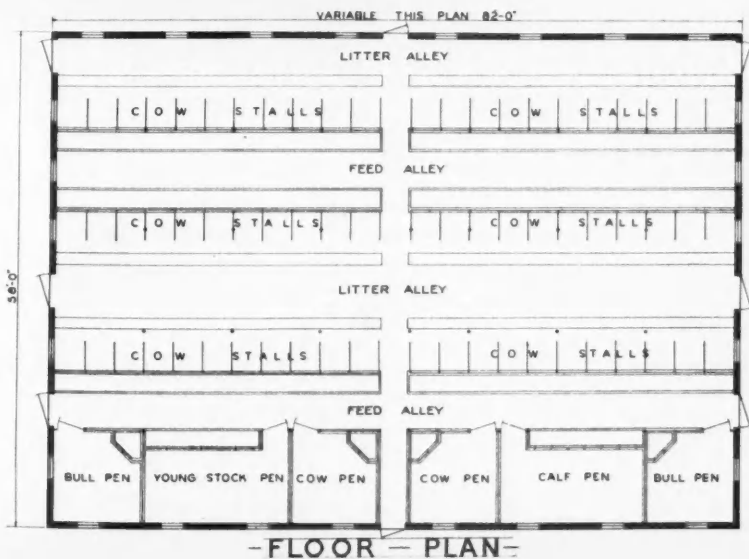
as shown on the cross section of the barn, the sunlit type has a better distribution of light in all parts of the barn than the conventional type of barn.

The dairy herds of the United States include about 22,000,000 cows. About 400,000 of these are tested each month for milk and butter production, enabling owners to eliminate the unprofitable cows. In 1926 on the basis of comparative records 360,000 of these tested cows produced as much milk as 584,000 average cows, and returned as much profit over cost of feed as 640,000 average cows.

Better methods pay for themselves and a good barn with good equipment is the starting point.



Above — Temperature zone map and heat loss through several types of barn construction. To left — sunlight from roof windows spreads past middle of wide barn. Below — floor plan of square type barn.



## Importance of Good Wall Construction

Merely building a wall to form a "shelter" is poor economics when building a barn. The wall around the stock room should be more than just a protection against wind, rain and snow. It should be built to hold in all the heat possible, to insure a comfortable temperature and dry stable. If the wall is thin and of a material that readily conducts heat, the animals will not be able to maintain a comfortable temperature in the stock room, with a great deal more of the feed consumed going toward production of body heat than if the walls are properly built.

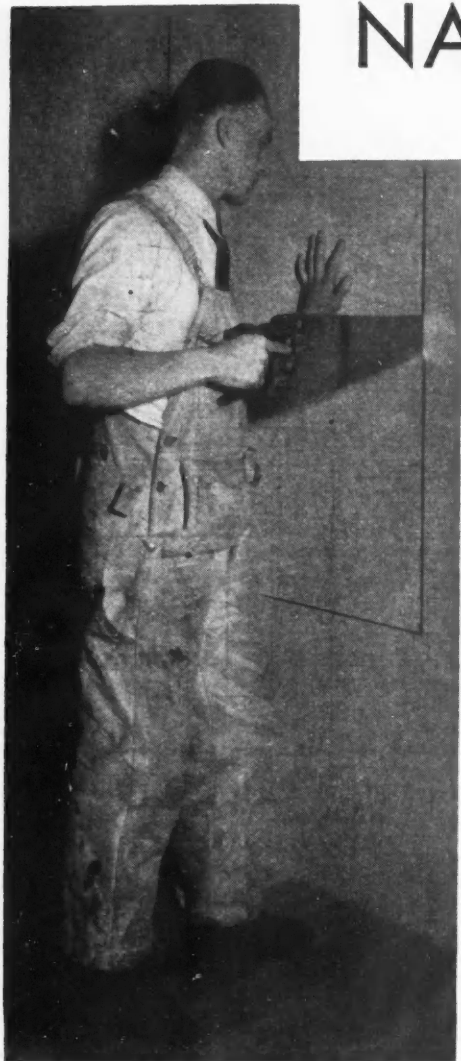
In quoting heat loss percentages for various types of walls a 2" solid concrete wall is rated at 100 per cent heat loss. This means that one B. T. U. of heat will pass through one square foot of 2" concrete wall for each degree of temperature difference inside and outside the building each hour. Thus with a 50-degree temperature difference the amount of loss would be fifty times.

For comfortable stable temperatures and reduced possibilities of wet walls the percentages of heat losses which should not be exceeded for the various building zones as diagramed above are given here.

Zone 1	Zone 2	Zone 3
20%	26%	30%

We have information available concerning the heat loss percentages of many types of wall construction. A few examples are shown above.

# NAIL-LESS WALL UNITS



Window and door openings are sawed out after wall is up.

❑ *HERE'S a new scheme for using large ply-wood panels for wall and partition construction.*

❑ *THE PUBLIC wants better homes at lower costs; but can the industry produce them?*

❑ *STUDY of new ideas will help.*

Door and window openings may be cut to size and location after walls are erected. No special framing is necessary in these places except where there are extremely wide mullion window openings. The erection costs of this type of construction may be figured at the remarkably low cost of ten linear feet per hours labor for one carpenter. This will include the average number of corners and short partitions. At the above figure the wall is complete in every detail with the exceptions of decorations such as paints, stains, plastic paints or any other interior or exterior treatment to which plywood is adaptable.

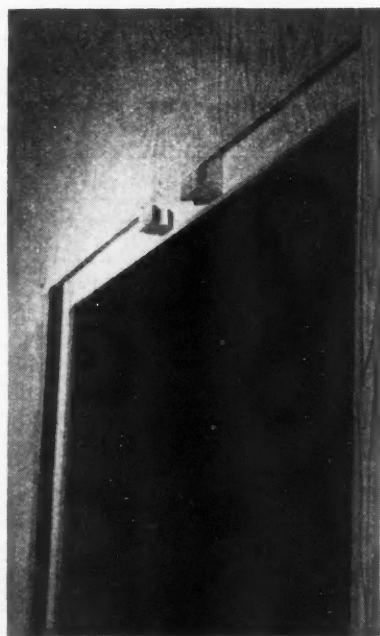
In small home building this wall is expected by its developer, E. A. Horn, of Seattle, Wash., to prove much less expensive than double constructed lath and plaster, without sacrificing warmth, strength or appearance.

These units will be distributed through the regular retail lumber channels. Yard operators handling them will be able to meet competition profitably of either local or mail order companies selling portable, prefabricated or readycut homes and camps in their territory. The fact that the walls of any size or shape building to fit the individual's needs, may be made of one standard unit, is a decided improvement over all other types of sectional building walls.

**A**N efficient and economical sectional wall which eliminates the objectionable features of old style portable and sectional buildings has recently become an actuality with the invention of a new interlocking wall unit, of Douglas fir plywood  $\frac{1}{2}$  inch thick and four feet by eight feet in size, equipped with four pieces of two by two studs run to a detail pattern and firmly glued on. These units, when set back to back and each half overlapping the one on the reverse side so that the moulded edges of the studs interlock, form a nailless and frameless double wall that is smooth on both sides and has no conspicuous joints. An ingenious double wedge locks the units together. Any combination of outside and inside wall is made with the one standard unit. Horizontal adjustments are made by cutting off the last two units at the desired point with ordinary carpenters hand saw. Waste is minimized by using the end pieces of one wall as starters for the next.

While the wall is nailless and frameless, it contains framing within the unit that exceeds two by four studs sixteen inches on centers, in addition to utilizing the full strength of the plywood panel. The two piece wedge serves the dual purpose of performing the mechanical locking action and making the smooth flush joints.

Within the wall is one and five-eighths inches of positively sealed air space. Where extreme climates are encountered, the air space may be filled with a loose fill insulator, giving the wall more resistance to the passage of heat and cold than is common in most construction.



Window opening as sawed out, showing stud assembly of locked panels.

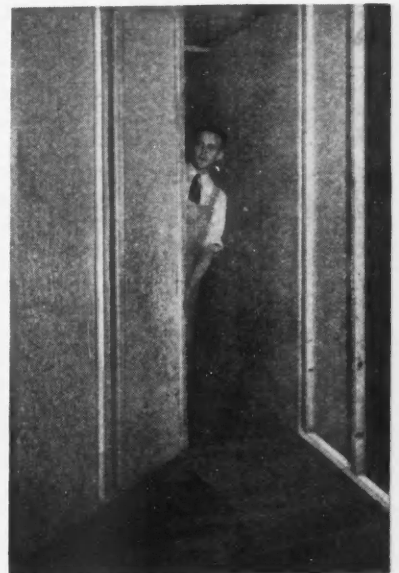
# CUT HOME BUILDING COSTS

This unit is small enough to be manufactured, stored and handled by one man with ease. Its erection is so simple and foolproof that any "handy man" with even a limited amount of carpenter experience can make a finished job. At first it is difficult to see where the economy or saving of this wall is obtained by using the higher cost plywood in place of the relatively inexpensive framing, sheathing and siding that is commonly used for wall construction. The saving in cost is due to three things: First, less labor expense; second, elimination of all waste; third, the difference in the measurements used in selling plywood and lumber.

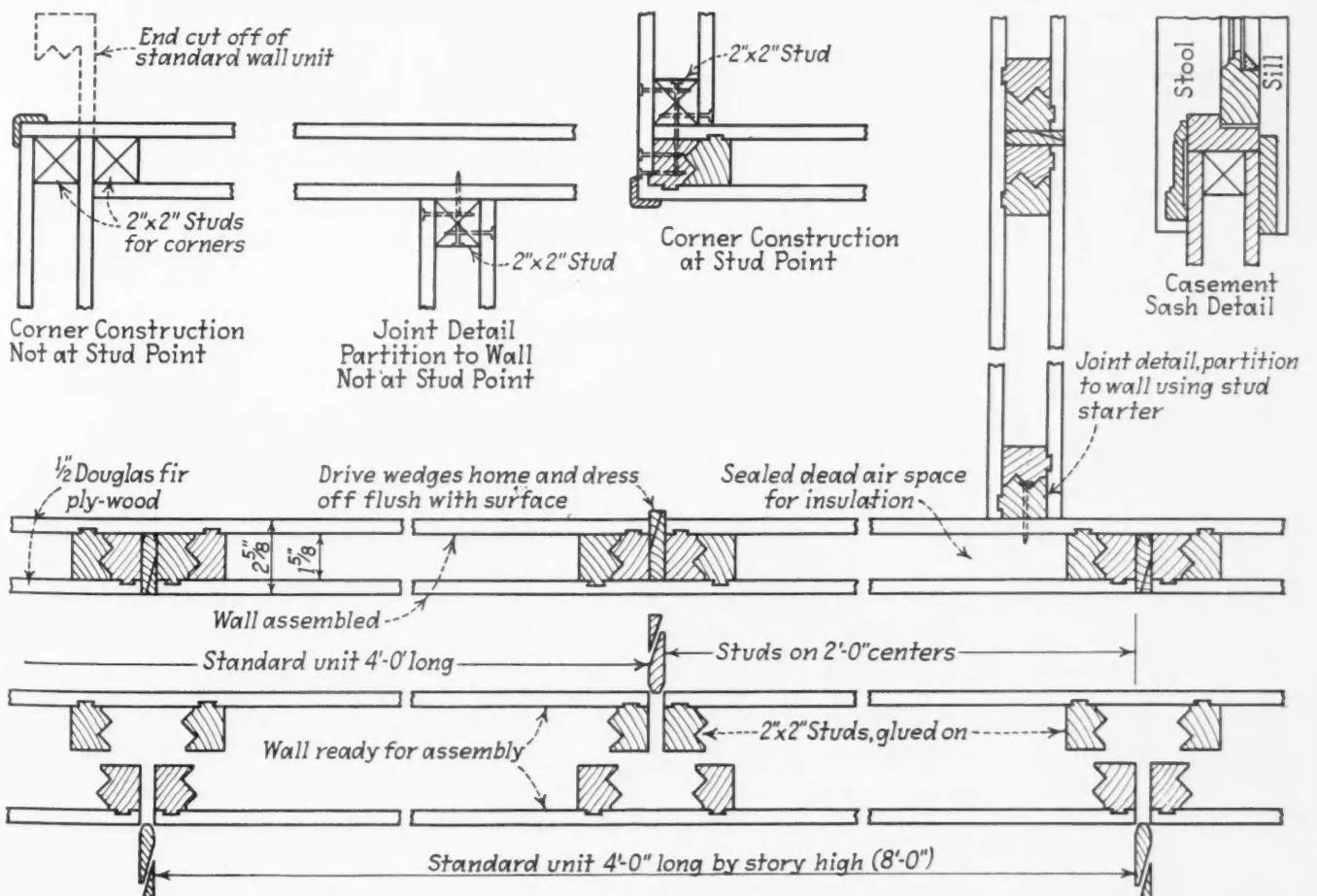
In an ordinary double constructed wall each stud or one and one-third linear feet of wall will have approximately three roughly cut sheathing joints, four fitted siding joints and an average of 130 nails, including lath nails. The ordinary window opening requires about twelve pieces of framing other than studs, the trimming of sixteen shiplap sheathing ends, and the fitting of twenty-six pieces of six-inch lap siding at the window frames. Wider siding will require less and narrower siding more fitting. The labor of setting frames and putting on inside trim is about the same on all constructions. Plastering the inside wall is in addition to carpenter labor.

Against this high labor cost of the old construction, we have for the new plywood lockbuilt unit system: The factory grooving of twenty-two feet of dovetailed grooves by one man at the rate of forty-eight feet per minute. Spreading the glue and putting in place twenty-

Carpenter with wall unit ready to be placed in partition and wedge locked.



two feet of detailed studs. The total factory labor costs, including all handling of materials, at 50c per hour by common labor is approximately .054c per one and one-third linear feet of wall. Erection labor on the job is approximately eight minutes time for one carpenter. There is no plastering to do. The wall is complete inside and out with the exception of paint.



Cross section details of wall units assembled, also of corner construction and of window trim. Standard size units stocked by lumber dealers would serve all needs.

# U. S. Housing Projects—What They Mean to Builders

*PRESENT TREND is away from slum clearance and large apartments. Extensive plans announced for subsistence homes.*

*MANY OPPORTUNITIES for builders and dealers in government housing work.*

**O**N SEVERAL fronts Uncle Sam is embarking on housing programs of special interest to builders. They point the way to future development that may have a large bearing on the building industry.

The present trend appears to be away from the policy of large city apartment projects first announced by the Public Works Administration. It was found that the difficulty surrounding construction of such projects was too great, and the cost of such housing so high that it could not be considered as "low cost" housing in any sense of the word.

A Federal Emergency Housing Corporation has been set up which, as soon as legal difficulties are ironed out, will probably begin to function in real slum clearance work. This means that certain slum areas in cities will be taken over and completely cleared of their present

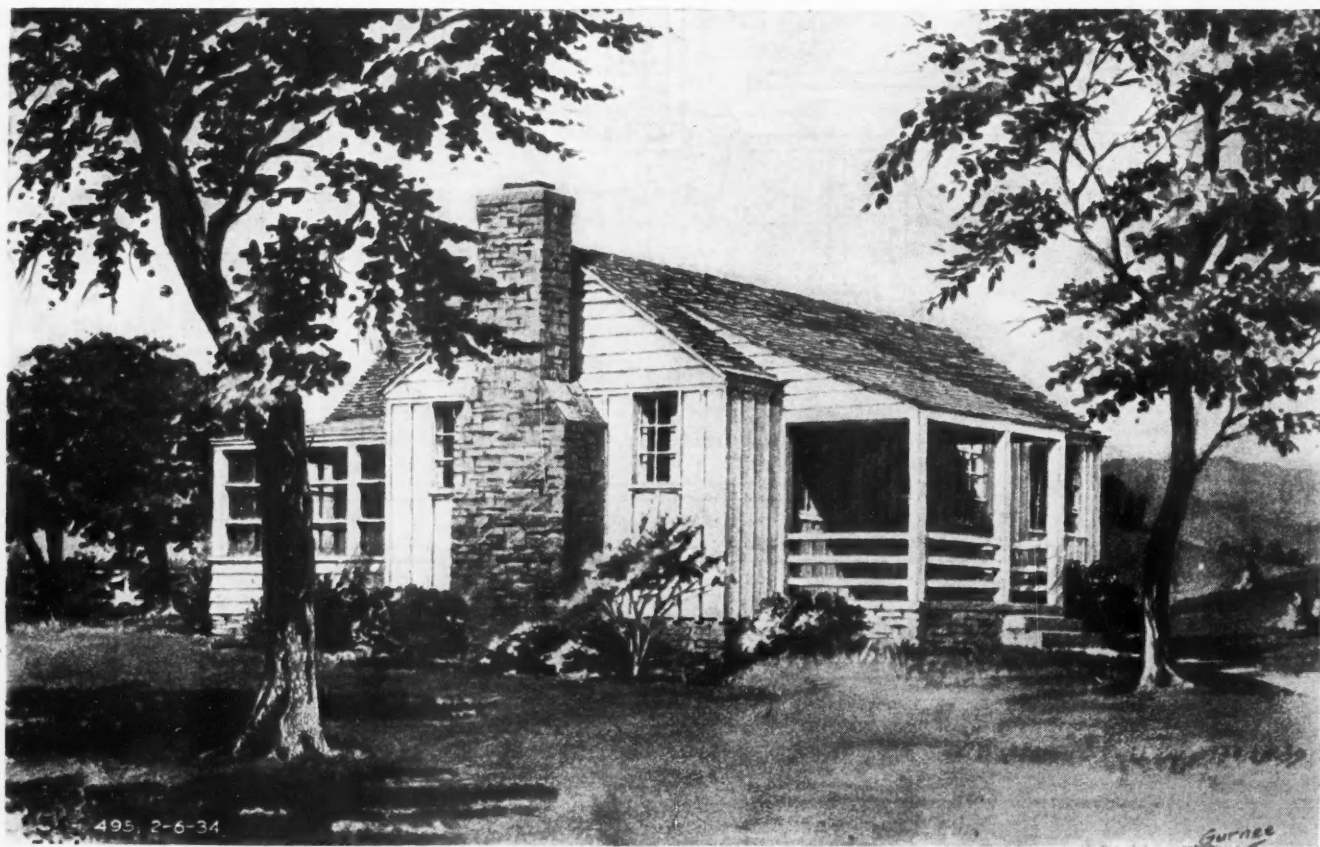
structures. The entire area will then be replanned and several large low cost housing projects erected with a portion of the area left for parks and playgrounds.

Advocates of this program contend that such a project is distinctly a governmental function, as it means condemning of large areas and a complete rebuilding—an expensive procedure which private enterprise is unwilling and unable to undertake. They maintain that the social benefits of removing the crime-infested slum areas justify the spending of government money for such work, provided the housing that replaces the old structures is of sufficient low cost to permit the people themselves to live in the newer quarters.

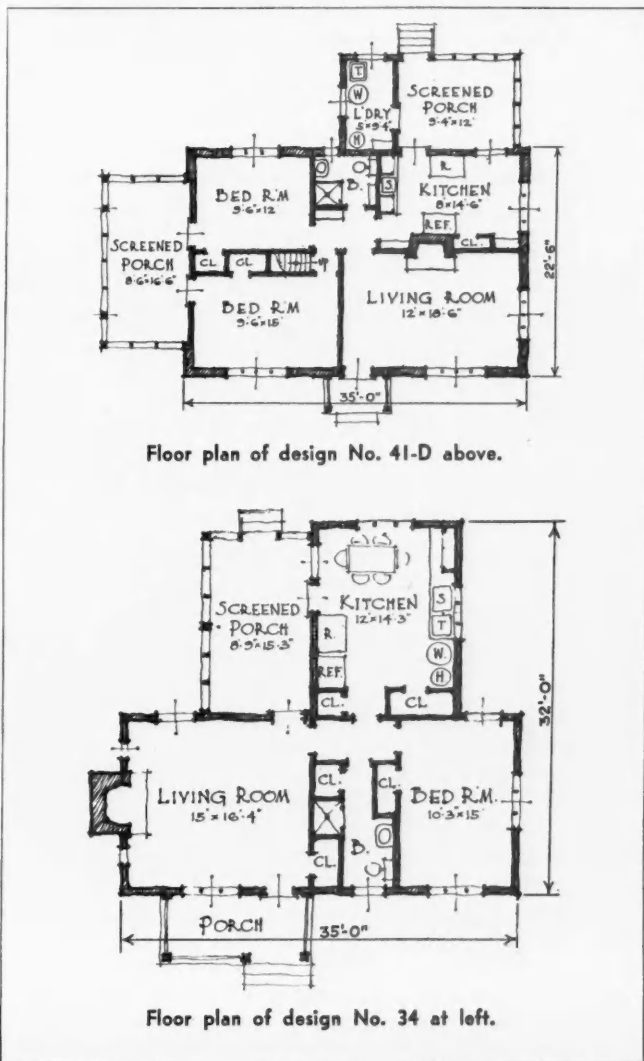
Under the direction of Colonel Horatio B. Hackett of Chicago, newly appointed general manager of the Housing Corporation, renewed activity in this field is expected.

Of more direct importance to a greater number of builders is the subsistence homestead program being carried on by the Public Works Administration. This is one division that has been making real progress, and has gotten homes actually under way in several parts of the country.

More than 30 homestead projects have been approved to date, calling for an outlay of some \$10,000,000. A revolving loan fund of \$25,000,000 was set up under the National Recovery Act to finance non-profit local corporations which will organize and manage the subsistence



DESIGN NO. 34 BEING BUILT BY THE TENNESSEE VALLEY AUTHORITY in the village of Norris, Tenn. The design is especially suited to the locality, with foundations of local stone, board and batten walls, wide porches. Cost key is 1.034—134—(750)—(33)—14—12.



Floor plan of design No. 41-D above.

Floor plan of design No. 34 at left.

FOUR-ROOM HOUSE DESIGNED by Tennessee Valley Authority for the village of Norris. Design No. 41-D. The screened porches are especially important in the mild climate. Cost key is 1.175—134—(847)—(36)—14—14.

homesteads. The director of the Subsistence Homesteads Division is Dr. M. L. Wilson.

The subsistence homesteads consist of small plots of land, usually about an acre, on which persons employed part or full time may own their own home and grow a portion of their food supply.

Such projects should be of particular interest to men of the building industry, not only for the part they can play in building such homes, but for the opportunity it offers them to secure such a home for themselves which will help tide them over the periods of depression to which the building industry is subject.

Thus far, loans to communities have been scattered to widely different points. The program is admittedly an experimental one to be tried out under varying conditions. Included in subsistence home projects approved are the following:

Birmingham, Ala. ....	\$ 750,000
Pender County, N. C. ....	1,000,000
Jasper & Putnam Counties, Ga. ....	1,000,000
Decatur, Ind. ....	125,000
Westmoreland County, Pa. ....	276,000
Tygart Valley, West Va. ....	465,000
Monmouth County, N. J. ....	500,000
Youngstown, O. ....	500,000
Dayton, O. ....	50,000
Reedsville, West Va. ....	600,000
Austin, Minn. ....	125,000
Wilmington, Del. ....	210,000
Crossville, Tenn. ....	431,500
Houston, Tex. ....	250,000
Ft. Worth-Dallas, Tex. ....	250,000
Wichita Falls, Tex. ....	125,000
Three Rivers, Tex. ....	125,000
Beaumont, Tex. ....	125,000
Northern Wisconsin ....	750,000
McComb, Miss. ....	75,000
Laurel, Miss. ....	75,000



PROPOSED U. S. subsistence home plan No. 501. A large kitchen is considered important and a screened porch. Plan is compact, inexpensive. Cost key is 1.093-132-(912) —(38)—16—17.

Tupelo, Miss. ....	75,000
Hattiesburg, Miss. ....	100,000
Meridian, Miss. ....	75,000
Rochester, N. Y. ....	100,000
Granger, Ia. ....	100,000
Longview, Wash. ....	160,000
Los Angeles County, Calif. ....	408,000

In practically every case, the homestead project is started by a local group interested in improving the living conditions of workers. A non-profit local corporation is organized which is entirely owned by the government but administered by local public spirited citizens. This local corporation plans the projects, approves the occupants and directs construction of the houses through local building organizations.

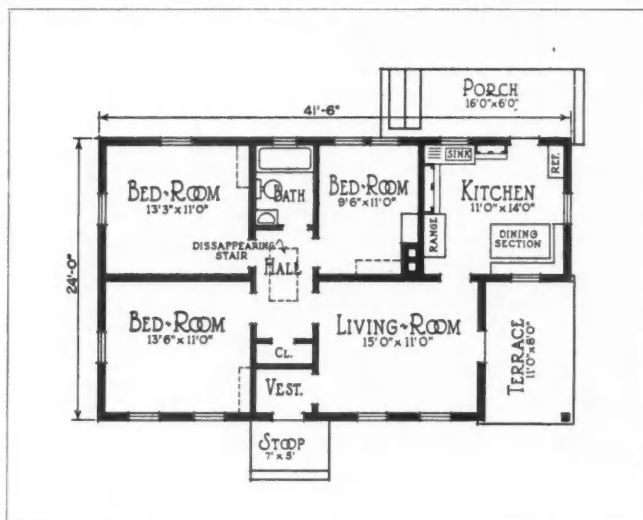
A typical project is the one to be located at Granger, Dallas County, Iowa, for which a loan of \$100,000 was recently approved. Director Wilson says of this project:

"The Granger project is to be located in the heart of the coal fields of central Iowa, and the homesteaders will for the most part be chosen from among the coal miners of that region. The purpose of the project will be to demonstrate how the subsistence homestead plan may advantageously be adapted to the needs of part time workers, by aiding them to achieve a more satisfactory standard of living on a small, part time wage.

"Approximately 1,500 miners work in the nine mines which lie within a 15-mile radius of the proposed homestead site. During 1933 these men averaged 165 net working days for the whole year, and earned an average wage of \$445.10. Included in this project will also be a small number of stranded farmers of the district who have lost their farms during the depression.

"The subsistence homesteads which will be provided in the Granger project will consist of from four to five acres of good land with a small but modern house and necessary outbuildings. The homesteaders will raise a considerable portion of their food supply to help their cash income from mining.

"Living conditions of the miners in Granger County now present an unfortunate picture. Most of the families live in small unsatisfactory dwellings clustered about the mines, or travel from ten to fifteen miles to work



from farms in outlying districts located on poor, infertile soil.

"The subsistence homestead project will provide not only better housing conditions, and fertile soil for garden purposes, but will also effect improvement in the miners' standard of living through its location in the Granger independent school district. Without burdening any existing schools, the children of homesteaders will be enabled to enjoy better educational facilities, and will be provided with the usual free bus transportation to and from school.

"Completed homesteads will cost in the neighborhood of \$2,000 and will be sold on a 20-year loan basis. It is planned to keep expense down to a minimum consistent with quality, and for that purpose it is proposed that the houses be planned with space available for various modern house facilities and conveniences which will, however, not be at first installed. This will make it possible for the homesteaders to install these at a later date if they desire and can afford them."

Still another government housing activity of great present interest is the construction of low cost homes by



the Tennessee Valley Authority at Norris, Tenn. These homes are to be occupied by residents of the section which is being replanned and constructed as part of a great program in connection with the Norris dam.

The houses being built at Norris are designed by Earle S. Draper, director of Land Planning and Housing of the Tennessee Valley Authority. They are extremely attractive and carefully planned to meet the needs of the people of that section.

An interesting example is house design No. 41-D illustrated on page 57. The comparatively mild climate of the Tennessee Valley is an important factor in the design and arrangement of the houses, according to Mr. Draper. For instance, porches take on a degree of usefulness almost unknown in a more severe climate. About eight months of the year screened porches become almost as useful as any portion of the house.

Design No. 41-D is a four-room type with two large, screened porches to supplement the space within the house itself. Including the porches, it contains 18,754 cubic feet of space. In common with most of the houses of Norris, dining space is provided in the kitchen. Much

of the time the screened rear porch will probably be used as an outdoor dining room. The kitchen contains a small pantry and tiers of open shelves provided for additional food and utensil storage.

The laundry is in a small enclosure at one end of the rear porch, where it is convenient to the back yard when hanging out clothes. Also, being near the kitchen, the laundry may be used as a scullery for the preparation of vegetables and during the canning season.

Heating throughout the houses of Norris is of the unit-heater electric type, and electric outlets are well distributed to serve appliances and lamps. All kitchens are provided with electric ranges, refrigerators and hot water supply.

This house is of brick and, in a heavily wooded setting, some exteriors will be whitewashed to add contrast and variety. The extreme simplicity of the latticed entrance is in keeping with the straightforward design.

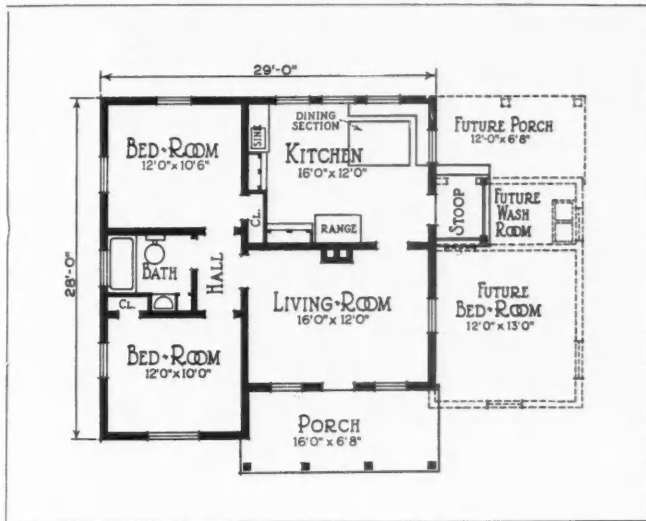
The small openings or perforations along the base of the house are not merely ornamental. They are made necessary by the fact that the Norris houses are of the basementless type, and thorough underfloor ventilation is required; not only to prevent the rotting of framework which occurs in damp, enclosed spaces, but also because any unaerated space encourages activities of termites or "white ants."

The small hall which serves as a connection between the rooms contains tiers of shelves for linen, and has a narrow stair leading to storage space in the attic.

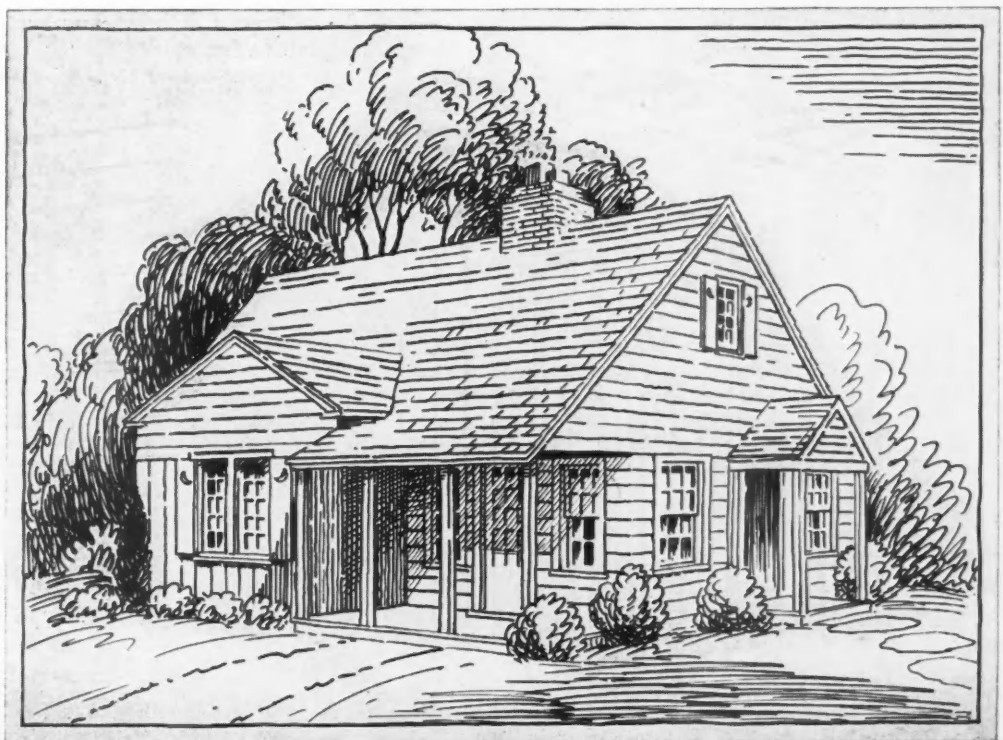
A feature of this house is the screened sleeping porch which opens directly from the two bedrooms. By this arrangement, year-around use of the sleeping porch is practicable, as the bedrooms may be used for dressing purposes. Each of the bedrooms has ample closet space, and cross ventilation is provided.

The bathroom is compact, but not crowded, with three fixtures including shower. Open shelves are built in for towels and other bathroom supplies.

The arrangement of the plumbing in this house deserves mention. Here the bathroom, the laundry and the kitchen sink are grouped so that unnecessary piping is avoided, thus, of course, reducing installation costs.



U. S. subsistence home, plan No. 2-45. This four-room house is planned so that a future bedroom and porch may be added. Construction is simple, low in cost. Cost key is .95—114—(785)—(33)—15—12.



# Spring Building for Lawn and Garden

## How to Make Ornamental Trellises, Gates and Garden Nooks; for Sale or Use

**F**IVE carpentry projects that have a real Springtime flavor and a strong appeal alike to handy craftsmen, building mechanics and lumber dealers are presented, selected from the U. S. Dept. of Commerce bulletin, "You Can Make It for Profit." With the increasing interest in garden homes, these should prove popular sellers:

Such articles may be sold completely assembled or knocked down. Marketing the articles in knocked-down kit form (containing all necessary material cut to size) will appeal to those who prefer to assemble and paint the articles. The knocked-down kit idea may be used to good advantage when the articles are to be sold at lumber yards or gasoline filling stations, as the kits take up much less space than the assembled articles.

During the past few years the highway has proved to be a potential market for selling many products. Wooden articles made for profit, when artistically displayed in and around attractively designed strategically located roadside stands, are sure to attract the attention of the passing tourist or neighbor.

Established roadside-stand proprietors selling fruits, vegetables, and other commodities may be induced to take on a line of articles made from wood. Department stores, hardware and paint stores, specialty and souvenir shops, in addition to lumber yards, offer good markets for disposing of novelties and home conveniences made from wood.

### OUTSIDE THE HOME

The designs and specifications given are merely suggestive, and may be altered to suit individual tastes and requirements.

Nothing adds so much to the general outside appear-

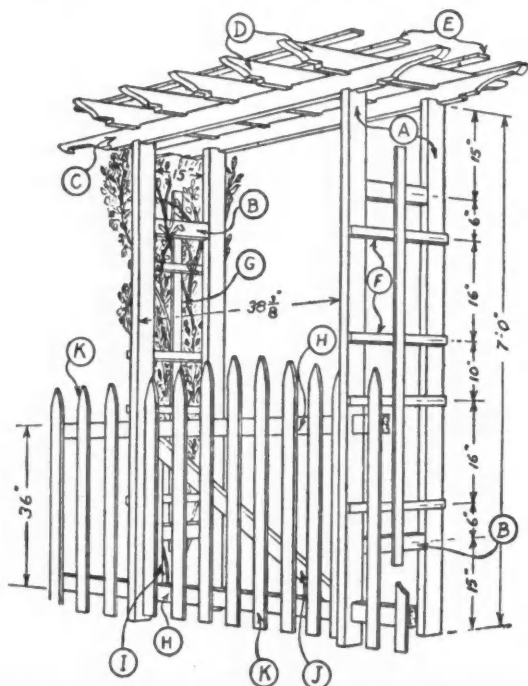


Figure 2.—Entrance Arch, Pole Fence, and Gate.

ance of a home, whether it be a costly mansion or a small bungalow, as well-designed trellises, pergolas, lawn furniture, and wood fences with attractive gates and arches. Such equipment is neither difficult to construct nor does it represent a great outlay of money, but it will enhance both the attractiveness and the value of the property.

### LATTICE WALL TRELLIS

A window, a corner or jog in the exterior side wall, a fireplace chimney, or a blank wall—these may be made more attractive by the addition of simple lattice-wall trellises. Such trellises also provide ideal supports for vines and climbing roses. See Figure 1.

*Material required.*—Standard lattice stock (dressed)  $\frac{1}{2}$  by 1 $\frac{1}{2}$ , 1 $\frac{3}{4}$ , or 1 $\frac{3}{4}$  inches. Galvanized nails or brads.

It is suggested that the upper corner joints of the main frame be mitered and nailed together. Brads or nails used to secure crosspieces to uprights should be of sufficient length to permit clinching.

### ENTRANCE ARCH, PALE FENCE, AND GATE

A well-designed, attractively painted wood fence encircling the lawn is an asset to any home, particularly when children scurry about. Figure 2 shows a simple pale fence with gate and entrance arch.

*Material required for arch.*—Four pieces 1 $\frac{3}{4}$  by 3 $\frac{3}{4}$  inches by 9 feet 6 inches, posts A. Four pieces 1 $\frac{3}{4}$  by 3 $\frac{3}{4}$  by 15 inches, braces B. Two pieces 1 $\frac{3}{4}$  by 3 $\frac{3}{4}$  inches by 6 feet, beams C. Five pieces 1 $\frac{3}{4}$  by 3 $\frac{3}{4}$  by 48 inches, rafters D. Five pieces  $\frac{1}{2}$  by 1 $\frac{1}{2}$  by 60 inches, E. Eight pieces  $\frac{1}{2}$  by 1 $\frac{1}{2}$  by 22 $\frac{3}{4}$  inches, F. Two pieces  $\frac{1}{2}$  by 1 $\frac{1}{2}$  by 66 inches, G.

*For the gate.*—Two pieces 1 $\frac{1}{2}$  by 2 $\frac{3}{4}$  by 32 $\frac{3}{4}$  inches, H. Two pieces 1 $\frac{1}{2}$  by 2 $\frac{3}{4}$  by 36 inches, I. One piece 1 $\frac{1}{2}$  by 2 $\frac{3}{4}$  by 46 $\frac{3}{4}$  inches, J. Stock for pales, K,  $\frac{1}{2}$  by 2 $\frac{3}{4}$  inches.

*The fence.*—1 $\frac{3}{4}$  by 3 $\frac{3}{4}$  inch stock for rails, H;  $\frac{1}{2}$  by 2 $\frac{3}{4}$  inch stock for pales, K. Galvanized nails.

### DRIVEWAY ARCH, GATE AND LATTICE FENCE

Figure 3 shows another adaptation of a gateway with lattice fence.

*Material required for arch.*—Four pieces 3 $\frac{3}{4}$  by 3 $\frac{3}{4}$  inches by 10 feet,

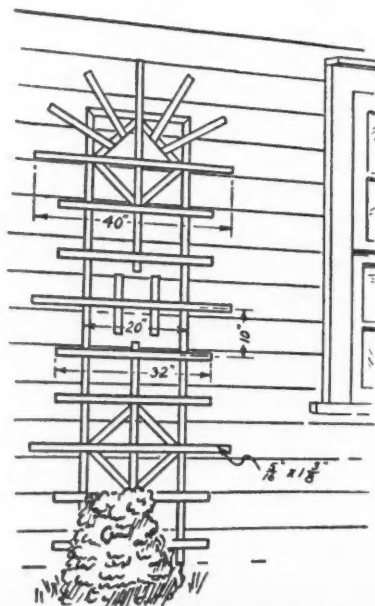


Figure 3.—Lattice Wall Trellis.

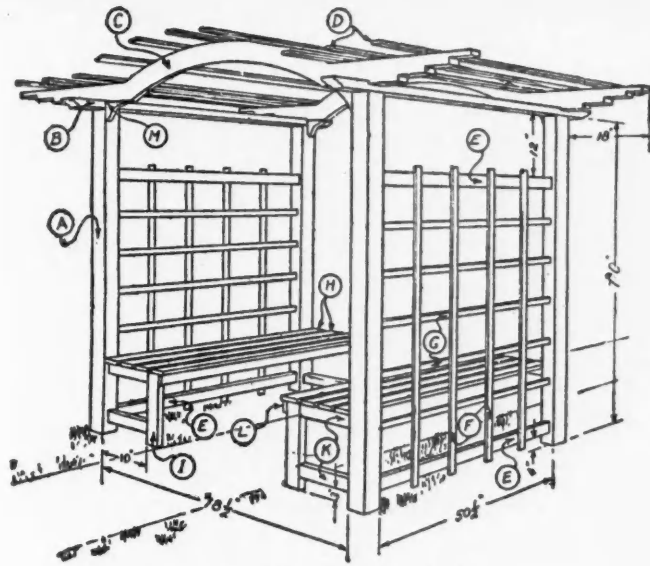


Figure 4.—Sidewalk Arch with Seats.

posts *A*. Two pieces  $2\frac{5}{8}$  by  $5\frac{5}{8}$  inches by 11 feet 6 inches, beams *B*. Eleven pieces  $25/32$  by  $2\frac{5}{8}$  by 60 inches, crosspieces *C*. Four pieces  $1\frac{3}{4}$  by  $3\frac{3}{4}$  by 36 inches, braces *D*. Ten pieces  $25/32$  by  $2\frac{5}{8}$  by 60 inches, vertical strips *E*. Four pieces  $1\frac{3}{4}$  by  $4\frac{3}{4}$  by  $4\frac{3}{4}$  inches, caps *F*.  
 For gate.—Frame,  $1\frac{3}{4}$  by  $3\frac{3}{4}$  inch stock. Lattice work,  $\frac{1}{2}$  by  $1\frac{1}{4}$  inch lattice stock. For fastening lattice work to frame,  $\frac{1}{4}$  by  $\frac{1}{4}$  inch stock.  
 For fence.—Top and bottom rails *G*,  $1\frac{3}{4}$  by  $3\frac{3}{4}$  inch stock. Lattice work,  $\frac{1}{2}$  by  $1\frac{1}{4}$  inch lattice stock. For securing lattice work to top and bottom rails *G*,  $\frac{1}{8}$  by  $\frac{1}{8}$  inch stock, *H*. Galvanized nails.

**SIDEWALK ARCH WITH SEATS**

Sidewalks, paths through gardens, or series of steps offer splendid locations for arches with or without seats. See Figure 4.

**Material required.**—Four pieces for posts *A*, each  $3\frac{3}{4}$  by  $3\frac{3}{4}$  inches by 7 feet plus depth necessary to bring bottom of posts below frost line. Two pieces  $2\frac{5}{8}$  by  $3\frac{3}{4}$  inches by 6 feet  $3\frac{3}{4}$  inches, beams *B*. Sufficient  $2\frac{5}{8}$  inch stock for two rafters *C* each 10 feet  $1\frac{3}{4}$  inches long.  $1\frac{1}{8}$  by  $2\frac{5}{8}$  inch stock for strips *D*, each 6 feet  $3\frac{3}{4}$  inches long. Four pieces  $1\frac{3}{4}$  by  $3\frac{3}{4}$  by  $50\frac{1}{2}$  inches, braces *E*. Eight pieces  $\frac{1}{2}$  by  $1\frac{3}{8}$  inches by 6 feet, lattice strips *F*. Ten pieces  $\frac{1}{2}$  by  $1\frac{3}{8}$  by  $50\frac{1}{2}$  inches, lattice strips *G*. Eight pieces  $1\frac{1}{8}$  by  $3\frac{3}{4}$  by  $57\frac{1}{4}$  inches, seat strips *H*. Four pieces  $1\frac{3}{4}$  by  $3\frac{3}{4}$  by 17 inches, legs *I*. Eight pieces  $1\frac{3}{4}$  by  $3\frac{3}{4}$  by 10 inches, braces *K*. Two pieces  $1\frac{1}{8}$  by  $3\frac{3}{4}$  by  $55\frac{1}{2}$  inches, seat rails *L*.  $2\frac{5}{8}$ -inch material for corner blocks *M*. Galvanized nails.

**GARDEN NOOK**

A secluded corner of your lawn is just the place for the garden nook shown in Figure 5.

**Material required.**—Four pieces of  $3\frac{3}{4}$  by  $3\frac{3}{4}$  inch stock for posts *A*. The length of these posts should be 6 feet 8 inches plus an amount which

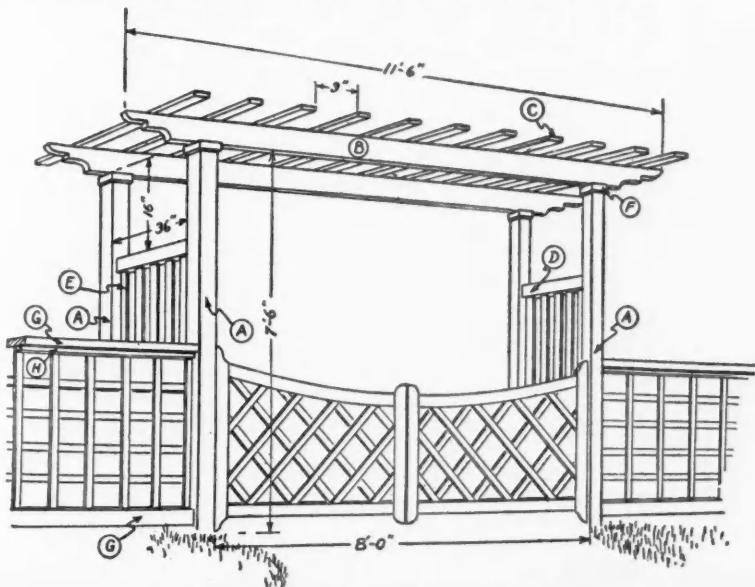


Figure 3.—Driveway, Arch, Gate, and Lattice Fence.

will permit them to extend into the ground below the frost line. Four pieces  $1\frac{3}{4}$  by  $3\frac{3}{4}$  by 48 inches, beams *B*. Four pieces  $1\frac{3}{4}$  by  $3\frac{3}{4}$  by  $28\frac{1}{2}$  inches, rafters *C*. Two pieces  $1\frac{3}{4}$  by  $3\frac{3}{4}$  by  $26\frac{3}{4}$  inches, rafters *D*. Nine pieces  $\frac{1}{2}$  by  $1\frac{3}{8}$  by 48 inches, lattice strips *E*. Two pieces  $1\frac{3}{4}$  by  $3\frac{3}{4}$  by  $24\frac{3}{4}$  inches, braces *F*. Two pieces  $1\frac{3}{4}$  by  $3\frac{3}{4}$  by  $23\frac{1}{4}$  inches, end seat supports *G*. One piece  $1\frac{3}{4}$  by  $3\frac{3}{4}$  by  $25\frac{1}{4}$  inches, center seat support *H*. Six pieces  $\frac{1}{2}$  by  $1\frac{3}{8}$  inches by 6 feet, lattice strips *I*. One piece  $1\frac{3}{4}$  by  $3\frac{3}{4}$  inches by 6 feet  $3\frac{3}{4}$  inches, front brace *J*. One piece  $1\frac{3}{4}$  by  $3\frac{3}{4}$  by  $68\frac{3}{4}$  inches, rear brace *K*. Eight pieces  $1\frac{1}{8}$  by  $3\frac{3}{4}$  by  $71\frac{3}{4}$  inches, seat slats *L*. Eight pieces  $25/32$  by  $1\frac{3}{4}$  by 42 inches, web members *M*. Two pieces  $25/32$  by  $1\frac{3}{4}$  by  $34\frac{1}{4}$  inches, web members *N*. Eight cleats *P*  $3\frac{3}{4}$  inches long of triangular cross-section cut from  $1\frac{3}{4}$  by  $1\frac{3}{4}$  inch material. Six pieces  $\frac{1}{2}$  by  $1\frac{3}{8}$  by  $22\frac{3}{4}$  inches, web members *G*. Sixteen pieces  $\frac{1}{2}$  by  $1\frac{3}{8}$  by  $18\frac{3}{4}$  inches, web members *R*. Ten pieces  $\frac{1}{2}$  by  $1\frac{3}{8}$  by  $14\frac{1}{2}$  inches, web members *S*. Ten pieces  $\frac{1}{2}$  by  $1\frac{3}{8}$  by  $9\frac{3}{4}$  inches, web members *T*. Sufficient  $25/32$ -inch material for two center circles *U*, each having a radius of 8 inches. Sufficient  $25/32$ -inch material for one center circle *V*, having a radius of  $3\frac{1}{2}$  inches. Galvanized nails.

Cleats *P* are nailed to ends of top rafters *C* and *D* and to beams *B* to strengthen these joints. There are various ways of assembling the garden nook; however, if a man attempts the job unaided, it is suggested that the back section, including the spider web, be constructed on the ground first, then the roof, front posts, and seat.

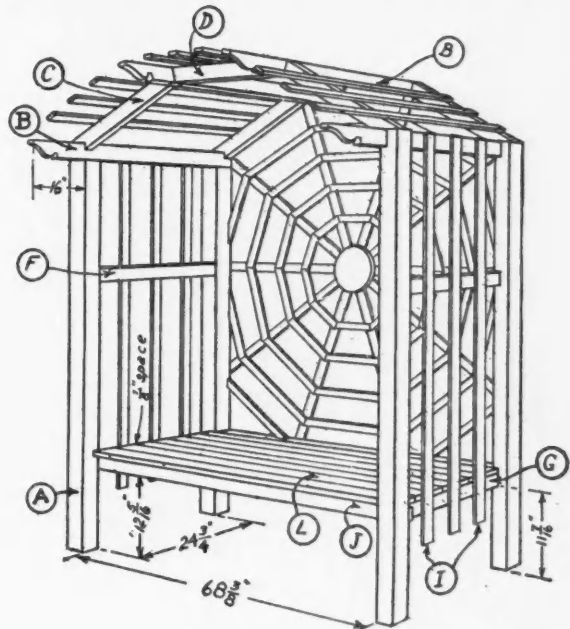


Figure 5.—Garden Nook.

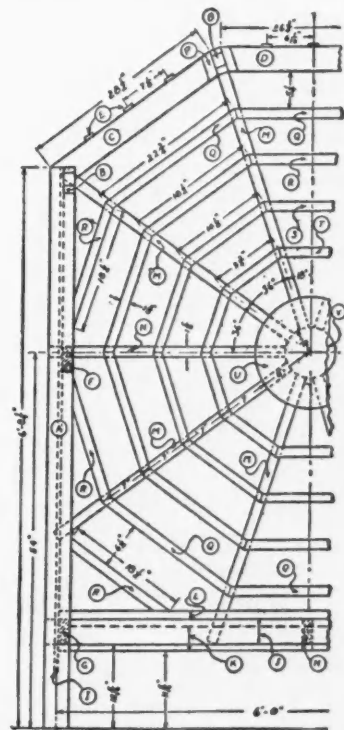


Figure 6.—Back of Garden Nook.

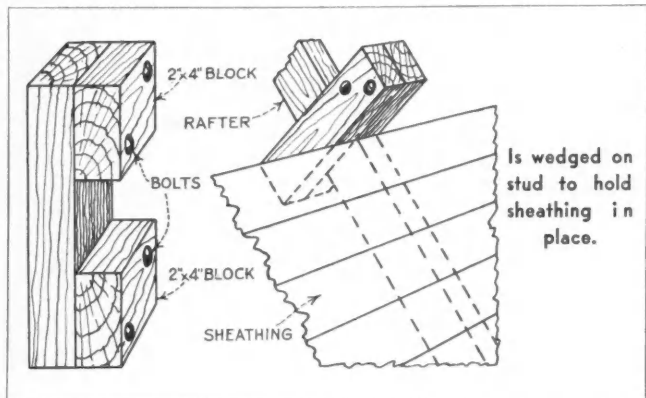
# PRACTICAL JOB POINTERS

A READERS' EXCHANGE of tested ideas and methods, taken from their own building experience. Two dollars or a year's subscription to American Builder is paid for each item published. State business connection or trade.

## Jig Holds Siding

I AM a carpenter and builder in this city and would like to pass on this handy jig to other readers, applying warped sheathing and siding boards.

Three 2" x 4" blocks are bolted together in the manner indicated so that they will slide freely along a rafter on a stud. When placed in position and driven against the sheathing board, the jig wedges and holds it securely against the adjoining work, until the board is nailed in position. A blow in the opposite direction, on the underside of the jig releases it.—JOHN S. KOVACS, Builder, Bridgeport, Conn.

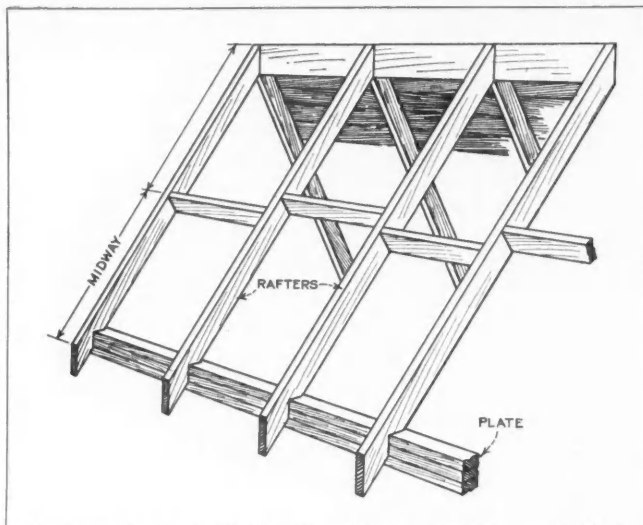
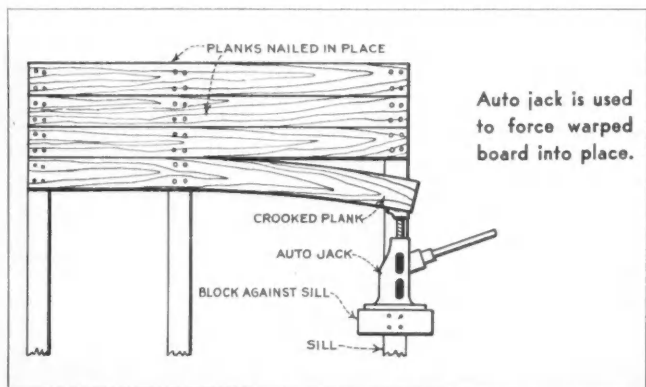


## A Carpentry Help

WHEN repairing a building it is often necessary to use a warped plank or board. Instead of trying to pry the stubborn stick in place, which invariably results in a loose joint, try this plan:

Nail a block securely against the sill or frame, about eighteen inches from the plank in question. Place the bottom of an automobile lifting jack against the block, and the top square against the end of the crooked plank. A few turns of the jack bring the plank into place where it can be nailed snugly against its mate.

This stunt proves successful with planks and boards of all sizes. The jack can be adjusted to almost any angle, and the most stubborn timber can thus be put in place at a big saving of labor and time.—F. R. COZZENS, Builder, Stockport, Ohio.



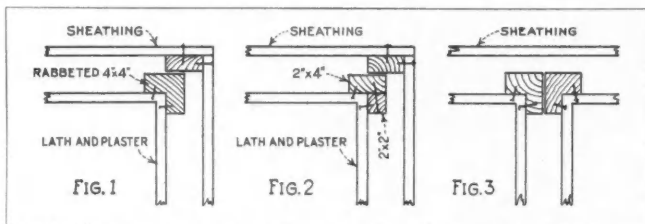
Staggered bracing stiffens roof where rafters are long.

## Stiffens Roof

FIND that the form of bracing above stiffens the whole roof structure, especially on the long rafters used on English style roofs. Staggered installation allows a better nailing job, also a method of better construction at plate.—J. J. COONERS, Builder, Mansfield, Mass.

## Corner Studs (Continued)

YOUR job pointers relating to the construction of corner studs for plastered corners have come to my attention recently as being an important and interesting study in building construction. But to tell the truth, I must say that of the kinds described by your correspondents so far and in actual practice, I have not yet seen any that would be secure against opening and cracking the plaster. This, however, has been remedied to some extent by the use of woven wire as a reinforcement, but while this helps to bind the plaster, the studs nevertheless still retain the same tendency to pull apart in the inside of the corner, due to the shrinking and greater holding power of the sheathing.



Members supporting lath and plaster can move independent of frame.

I have tried out an improved system in my own practice and have seen its stability proved. It is a corner that has a tendency to tighten when drying and is crackproof without reinforcement.

The principal difference and reason for its merit lies in the fact that the members supporting the lath and plaster are made altogether separate from the other members and not even nailed to them. The only nailing that should be permitted should be a light toe-nailing to plates at top and bottom just to hold them in position until the lath are put on and securely nailed. Then the laths can hold unaffected by other strains.

The most secure way I have found to make such inside corner members is by using a 4" x 4" with a 2" x 2" rabbet cut out, thereby making the laths fastened to only one solid piece of wood, as shown in diagram No. 1. Fairly satisfactory results can also be had by using one 2" x 4" and one 2" x 2" securely spiked together and arranged similarly, as shown in diagram No. 2. The same kind of rabbeted corners can also be used in partition walls, as shown in diagram No. 3.—J. M. MYRDALE, Carpenter, Edmonton, Alta, Canada.

### Ellipse with Steel Square

IN drawing an ellipse with a steel square I first draw lines (A-A) and (B-B). From point (a) measure one-half of the desired longitudinal axis, as (A-a). Take a flat piece of wood and mark same measurements, as shown in upper illustration. Bore hole for pencil point at point (A) and drive a nail at (a).

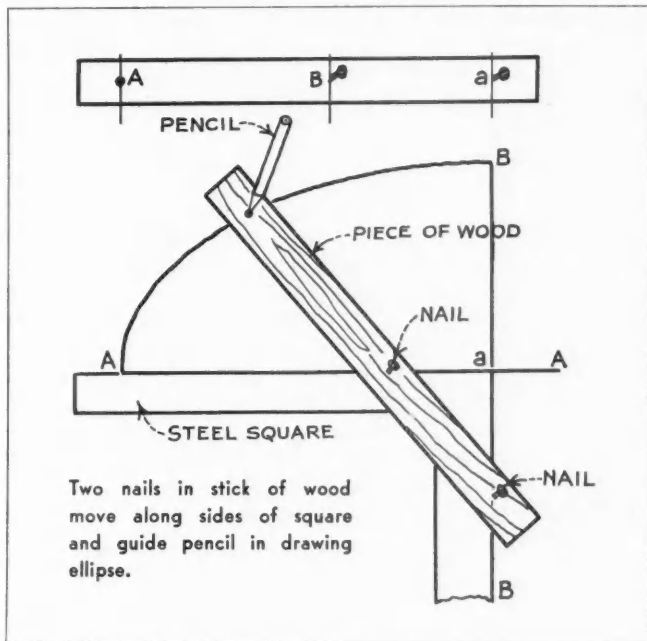
From point (a) measure one-half transverse axis as (a-B) and mark same measurements on the same stick of wood, from the nail at (a), and drive another nail at (B), slightly through the wood.

Place a steel square as shown in lower drawing with the heel at point (a) and lay the wooden strip on the square as shown and swing pencil, inserted at (A), to (A) and (B) with both nails touching the steel square.

A complete ellipse can be made turning the square over and repeating (B-A), (A-B), (B-A).

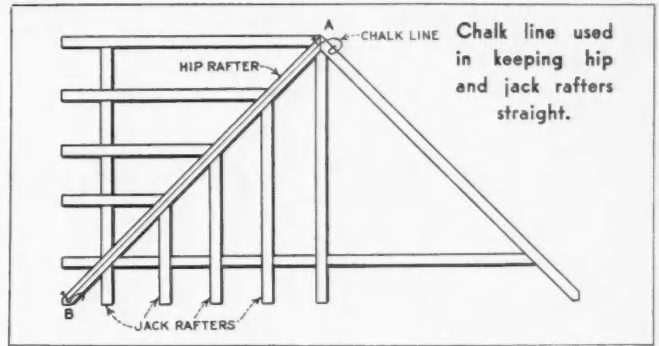
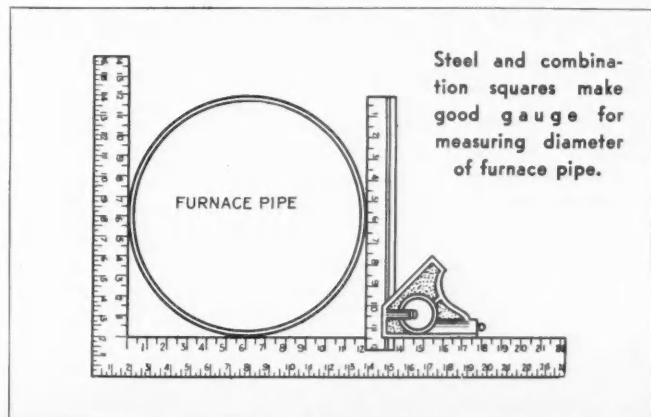
In cases where larger ellipses than 36" x 48", boards can be laid in the shape of a square and the same rules applied.

This method of drawing an ellipse is the easiest, fastest and simplest method of drawing a good ellipse that I have ever tried.—J. J. SANDAHL, Contractor, Minden, Nebr.



### Gauge for Large Pipes

I HAVE been a reader of AMERICAN BUILDER for a number of years and I benefit from the Job Pointers sent in by other readers and think this is a mighty fine idea. Some time ago while ceiling a basement, I had to fit the wallboard around the furnace pipes, etc., and found the steel and combination squares made a good gauge to find the diameter of these pipes, as shown in sketch.—GEORGE KEIM, Wausaukee, Wis.



### Keeps Hip Rafters Straight

I AM passing on my system of keeping hip rafters straight while nailing jack rafters. Take an ordinary chalk or mason line and attach it tightly to points A and B at top and bottom of hip rafter, respectively. When nailing, one man may nail the bottom of jack rafters and another man nail the top. Thus to save trouble and time with two men aligning the hip rafter the man nailing the tops can keep the hip rafter straight by sighting with the naked eye. Keep the line parallel to the center line of hip rafter.—MATT SPORER, Contractor, Joliet, Ill.

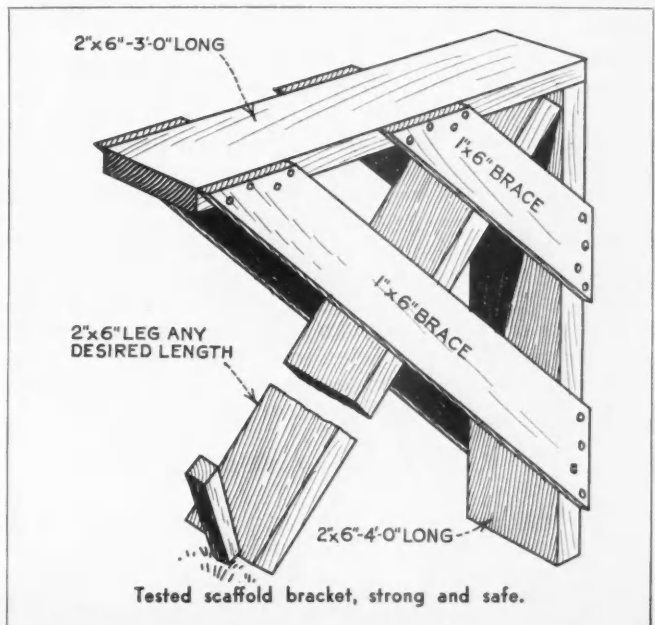
### A Safe Scaffold

THERE are many faults with the average built-up scaffold. Chief of these is the fact that, having been built and used, it must be taken down again. With this in mind, some careless builders will nail their scaffolds insecurely so they may be taken down easily, or will use defective lumber so that there will not be much loss if the lumber is ruined in wrecking.

A second fault is that the runway cannot be raised or lowered to any desired height without nailing on additional ledger boards; and a third fault is that ledger boards are often nailed to window frames, corner boards, etc., resulting in unsightly scars on the finished woodwork of the building.

An ideal scaffold should be one built securely of strong lumber, one which could be raised or lowered almost instantly to any desired height, and which would never be attached to any of the woodwork of the building. The scaffold described below approaches this ideal. It is not a new idea but a good one.

A bracket is built of 2 x 6s and braced on both sides with 1 x 6s, as shown in the drawing below. The bracket is raised and held securely at any height by inserting a 2 x 6 leg. The leg is prevented from slipping by driving a stob at the base. Two brackets will usually be sufficient to scaffold an average job, as they are easily raised, lowered or moved from place to place.—ROBERT L. HARRIS, Builder, Bagnell, Mo.



# WIRING—

## The Basis for Satisfactory Electric Service

*HOW to specify for both low-cost and best grade work.*

*WHAT Builders want to know about electrical matters.*

**O**NE of the most important and first considerations in building any structure is a properly designed and well fabricated framework; a thoroughly adequate skeleton of timbers or steel must first be erected, to support the other materials which are added later. Similarly, the basic wiring job in any building must be adequate to carry later needs or the entire electric system fails to provide that degree of efficiency which the owner desires and has every right to expect. The responsibility for this work is primarily in the hands of the contractor or builder who does the job; he controls the activities of his subcontractor, the electrician.

In the design of wiring systems a first consideration is the quality of the installation, in terms of cost, adequacy, completeness and durability of component parts. As jobs differ, so the installations differ; thus, a temporary installation sometimes need not have the most expensive materials in it; but if a wiring system is to endure throughout a number of years (or generations) it is evident that permanent materials should be used.

The leading manufacturers in this field provide materials of high quality; but, due to the demand for low costs and for other reasons, there are on the market today many electrical products of inferior or even dangerously low quality. The cheap, inefficient or temporary type of electrical supplies, which can be depended upon for only temporary or unimportant service, are all too often worked into jobs which are otherwise high grade; this low grade type of electrical product has come to be known as "bootleg stuff." Every good builder and contractor, therefore, should know enough about electrical work to guard against inferior materials and workmanship. Particularly is this true in regard to the wiring, basic factor for good future service.

### I. Various Grades of Wiring Systems

Generally speaking, wiring systems may be classed in three divisions: (1) A system complying with the National Electric Code, for low cost and temporary buildings; (2) A system designed to meet or exceed minimum specifications for up to date buildings demanding modern

convenience and adequacy; and (3) a system for permanent structures which require the finest wiring system available.

For residential structures the "Adequacy Wiring Standards for Residence Buildings" (12-page booklet) is very helpful; this may be obtained on request from the Edison Electric Institute, an association of electrical interests with offices at 420 Lexington Avenue, New York.

Commercial, institutional and public structures are treated very thoroughly in the "Minimum Specification for Adequate Wiring of Lighting Circuits in Commercial and Public Structures" obtainable also from the Institute, and the wiring problems of factories, mills, workrooms, etc., are solved in another booklet, "Minimum Specification for Adequate Wiring of Lighting Circuits in Industrial Structures".

### A System for Low Costs and Temporary Buildings

This type of system has both advantages and disadvantages. Chief among the advantages is low first cost. However, operating costs are liable to be relatively high because this type of wiring system does not take into consideration the loss of voltage in circuits due to excessive length or inadequate wire size; expansion or extension to meet increased future demand is expensive because this grade system requires no provision for increased loads; and maintenance and repair expense may be higher than normal through the use of low types or grades of material. This type of system should be used only where minimum initial cost is sought without regard to increased future demand, to operating costs, or the eventual cost of replacements or extensions.

In this type of system is most often found the "bootleg stuff" previously mentioned, although it is often claimed that the installation is of much higher grade. For instance, switch plates bearing some well known manufacturer's name may be used in connection with very inferior other materials; then, if a serious fire develops on the premises, and is traced to faulty wiring materials, the manufacturer whose switch plate alone was used, is blamed for the fire! The best way to guard against this type of system is by checking against the specifications for better work, as follows:

### System for Modern Convenience and Adequacy

Although installation cost is higher for this system, the advantages offset this consideration. The following standards are based on 115 or 115-230 volt distribution systems.

1. *Wire Sizes.* No wire smaller than No. 12 shall be used for 15 ampere branch circuits. For runs of over 50 feet from panelboard to first outlet no wire smaller than No. 10 shall be used for that portion of the circuit, and none smaller than No. 12 between outlets. Runs exceeding 100 feet from panelboard to first outlet shall be avoided wherever practicable; if they cannot be avoided the initial load shall not exceed 600 watts, except in the case of a single lamp of greater wattage, when No. 8 wire shall be used, and areas served by lighting

outlets, as specified in the governing "Minimum Specifications for Adequacy in Lighting Circuits," shall be reduced by 40 per cent.

2. *Voltage Drop* shall not exceed 1½ per cent (preferably 1½ volts) in any feeder or branch circuit where loads and circuit lengths are known and wire sizes can be computed.

3. *Initial Load* on 15 ampere lighting circuits shall not exceed 1,000 watts (except in the case of a single lamp of larger size), and the number of circuits and their outlets shall be arranged accordingly.

4. *Convenience Outlets* shall not be placed on the same circuit with outlets for general illumination. Where devices rated at 500 to 1,650 watts input are likely to be connected to convenience outlets, No. 10 and No. 8 wire shall be used instead of No. 12 and No. 10 respectively, as specified in paragraph 1 above. All convenience outlets shall be duplex outlets unless designed

to serve a single appliance or device of known character.

5. *Power Loads* or loads requiring a high starting current shall not be fed by a lighting feeder. Known power loads (for fixed or semi-fixed apparatus or appliances) shall be served by special circuits designed to carry the maximum load likely to be imposed at any time with a maximum voltage drop of 1½ per cent. Variable loads of this type served by convenience outlets (such as household or office appliances having heavy starting loads) shall be served by special circuits and convenience outlets similarly designed and suitably distinguished by polarity outlets or otherwise from ordinary convenience outlets.

6. *Conductors and Raceways.* All feeders and sub-feeders which may be required in the future to carry increased loads due to the extension of the system or to the use of higher lighting intensities or heavier power loads shall be run in rigid conduit. These conduits shall

### SWITCH WIRING DIAGRAMS

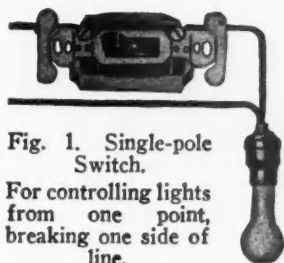


Fig. 1. Single-pole Switch.  
For controlling lights from one point, breaking one side of line.

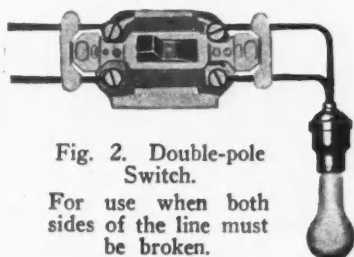


Fig. 2. Double-pole Switch.  
For use when both sides of the line must be broken.

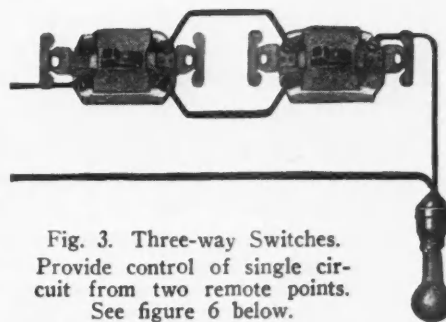


Fig. 3. Three-way Switches.  
Provide control of single circuit from two remote points. See figure 6 below.

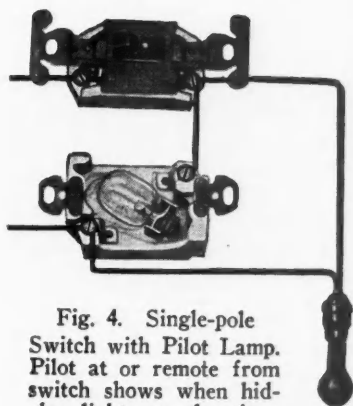


Fig. 4. Single-pole Switch with Pilot Lamp.  
Pilot at or remote from switch shows when hidden lights are burning.

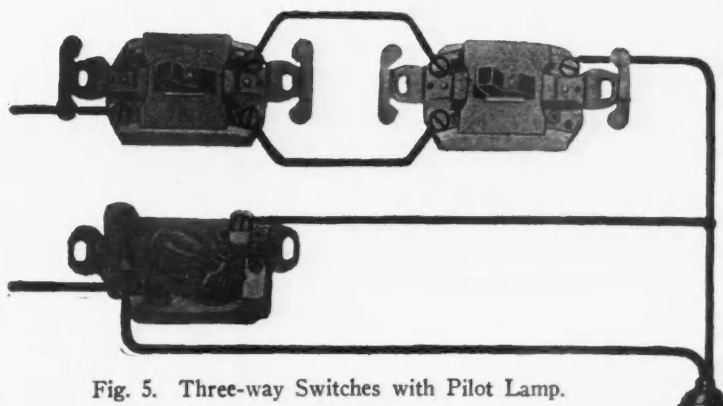


Fig. 5. Three-way Switches with Pilot Lamp.

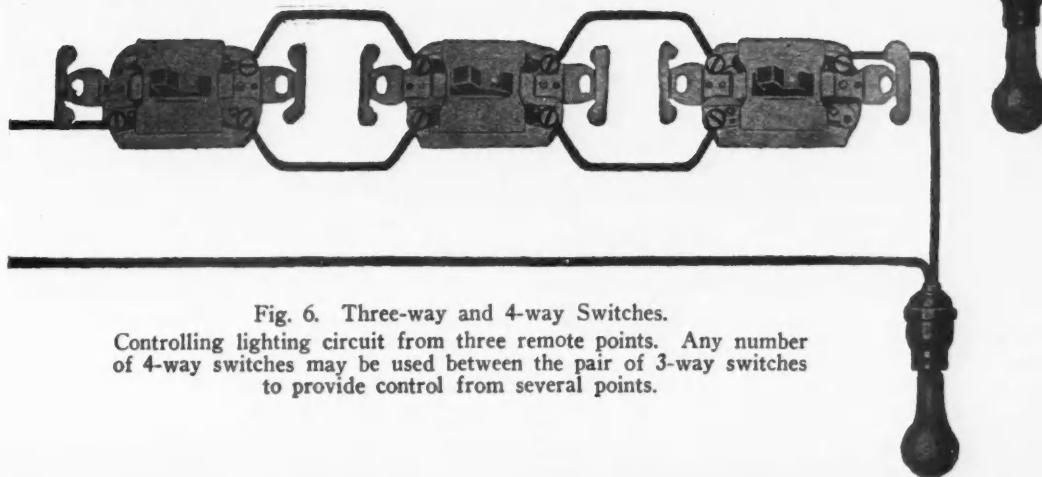


Fig. 6. Three-way and 4-way Switches.  
Controlling lighting circuit from three remote points. Any number of 4-way switches may be used between the pair of 3-way switches to provide control from several points.

be of such size as to permit the future accommodation of conductors having double the current-carrying capacity of the initial installation. All branch circuits which, by the nature of the occupancy of the building, may be subjected to future enlargement or change, should be installed in rigid conduit or underfloor ducts in order to minimize alteration and replacement expense. Branch circuits and minor extensions, including all branch switch services, may be run in armored cable where permitted by the National Electrical Code or local governing ordinances. All conductors used throughout the system shall be of flame-retarding intermediate grade rubber-covered wire, except where special types of wires or cables are required by governing codes.

7. *Wiring Materials.* All other wiring materials, including switches, outlets, lampholders, switch and outlet plates, and special fittings and accessories, shall be of that type and quality best adapted to render adequate and enduring service under the conditions imposed on each part of the system.

#### Finest Wiring System Available

This grade of wiring system is designed to provide the maximum of convenience and performance for present and estimated future requirements, and the maximum durability of all elements under the most advanced standards of present-day commercial practice. Standards for this grade of wiring conform to those mentioned in the preceding section, with the following exceptions:

1. *Wire Sizes.* Same except that no wire smaller than No. 10 shall be used for runs over 35 feet from panelboard to first outlets; runs from panelboard to first outlet shall not exceed 75 feet wherever practicable and if unavoidable initial load shall not exceed 500 watts, except in the case of a single lamp, etc., etc.

2. *Voltage Drop* shall not exceed 1 per cent (preferably 1 volt) in any feeder or branch circuit, etc.

4. *Convenience Outlets* shall not be placed, etc. (Also) All convenience outlets intended primarily for supplementary lighting loads shall be duplex outlets. All convenience outlets intended to serve appliances or power devices of known character shall be of the polarity type.

5. *Power Loads* (same as preceding section except) maximum voltage drop not to exceed 1 per cent.

6. *Conductors and Raceways.* All conductors shall be carried in rigid conduit regardless of the type of building, except that branch circuits may be run through underfloor ducts where circumstances warrant. All conduits and raceways shall be of sufficient size to permit the ultimate doubling of the capacity of the initial circuits. All the conductors shall be of flame-retarding 30 per cent performance rubber covered wire (balance as in previous section).

#### Special Requirements Applying to Dwellings

In addition to the standards set up in the section "System for Modern Convenience and Adequacy," the finest wiring system available should include the following special features in dwelling work:

8. *Twin Convenience Outlets* shall be provided at intervals not exceeding 5 feet in the walls or baseboard of every room not devoted to specific service purposes, such as kitchens, laundries, bathrooms and passageways; and at least one twin outlet shall be provided in every wall section between doors, or room corners, more than 18 inches wide, where any piece of furniture or any decorative or service lighting unit might at some time be placed.

9. *"Step-Saver" Switches* (three-way and four-way as required) shall be provided to control at least one

major light source in every room having two or more doors, these switch controls to be placed at each door. In addition, three-way and four-way switches shall be used to control lights in all halls or passages, between house and garage, and at any other place where a person passing from one point to another may control the lighting from any point of entrance or exit.

10. *Mercury Tube Switches* shall be used to control light sources in every bedroom, nursery, bathroom, or hallway between such rooms, and elsewhere that the sound of operating a snap-switch may prove objectionable to any occupants of the dwellings.

11. *Separate Circuits* or special power circuits shall be provided to serve convenience outlets in kitchens, pantry, dining rooms, living rooms, principal bedrooms, bathroom or other areas where any portable appliance drawing 1,000 watts or more (such as a large automatic toaster, waffle iron or radiant heater) may be used.

#### II. Wiring Materials

Each utility company supplying electrical service establishes rigid requirements governing the materials that must be employed from the utility company's service pole through the meter and service switch to the distribution panel. There is therefore little opportunity or need to select or specify these materials.

Distribution materials, which include conductors, their protective enclosures or raceways, and the outlet boxes and similar accessories required for the distribution of electrical current from the service entrance or distribution center, must be of known quality to ensure longevity and satisfaction in service. It is wise for the contractor or builder thoroughly to satisfy himself, by investigation and reference to established text books and other works on this subject, that he is obtaining the grade of distribution materials he wants in each job; in the case of building wires, for instance, grades are often identified by the color of the material surrounding the wire.

Unless wires are run in rigid conduit, underfloor ducts, or other protective raceways, they must be safeguarded against mechanical injury by a flexible enclosure in addition to the insulation required for electrical protection only. The armored and sheathed cables made for this purpose are primarily used in stud type buildings where the installation of rigid conduit would be difficult or excessively expensive, and for making minor extensions to branch circuits in other types of buildings where, for similar reasons, the use of a conduit or a raceway is not practical.

Raceways, such as rigid conduits, flexible conduit, and underfloor ducts, have three distinct advantages: (1) they provide the requisite mechanical protection for wires; (2) they permit wires to be installed after the structure is finished and thus eliminate the possibility of circuits being injured during construction work; and (3) they permit withdrawing existing circuits for repair or replacement with new or additional circuits of greater capacity. The use of such raceways is required in all fireproof buildings; their advantages are no less important in residences and other structures.

#### Junction and Outlet Boxes

All types of wiring systems, including armored cable, non-metallic sheathed cable, and systems run in rigid conduit, metallic tubing, or underfloor ducts, must be connected at their outlets and at junction points (other than panelboards) in metal outlet or junction boxes of prescribed type. Octagon boxes should be used for sup-

(Continued to page 80)



# You Protect Your Reputation and Your Client's Pocketbook When you Specify INSULITE for Remodeling Jobs and New Building

*This remarkable cold-press process insulating board adds bracing strength and beauty, deadens sound and provides durable, efficient insulation.*



● Proper insulation is of primary importance in every remodeling or new building job that you undertake this spring. People everywhere are now aware of the fact that correct, efficient insulation will save them hundreds of dollars in fuel bills—bring them increased comfort the year 'round. Contractors and architects who specify and use genuine Insulite Insulating Board and Insulite Lok-Joint Lath will find that they meet every requirement of the most exacting client.

Insulite Insulating Board is made of clean, raw-wood fibres by a cold-press process—none of the natural gum, toughness or life is *cooked out*. It comes in convenient-sized, cream colored boards and is easily and quickly applied. Used for new construction in place of ordinary sheathing or under roof rafters, Insulite Insulating Board provides greater bracing strength and insulates the building in the bargain. Used for lining attics or as interior finish, Insulite makes a particularly attractive and trim looking job—pays for the investment by savings on fuel—builds good-will for you.

### **Insulite Lok-Joint Lath**

Here is an insulating lath so simple to plaster over that it will save contractors hundreds of dollars yearly. It re-

duces troublesome yielding under trowel pressure such as is found where other plaster bases are used. Three U-shaped, galvanized metal loks, 16 inches apart on each 18 x 48 in. unit makes the shiplap joint self-locking. These re-inforcements are placed to come midway between the studding, so that the laths are re-inforced every *eight inches!*

These loks also act as a plaster re-inforcement at the joints. Lok-Joint Lath has flush surface—not beveled—thus it eliminates extra trowel strokes at every joint and provides a strong unbroken wall of insulation.

For your assistance in specifying the proper insulation for any type job, we have prepared a remarkable booklet which you can obtain *absolutely free and post-paid*. Simply check and mail the attached coupon today.



### **Pin to Letterhead and Mail**

The Insulite Co.,  
Minneapolis, Minn., Dept. 53-1

Please send me free and postpaid a copy of your booklet "Specifications and Details on the Use and Installation of Insulite." I understand this does not obligate me in any way.

Name.....

Address.....

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

**INSULITE**  
*The Original Wood-Fiber Insulating Board*

# NEWS—building activities of the month

## General Contractor Registration

AT A meeting in Washington on March 10, the Divisional Code Authority for general contractors arranged for the work of securing the registration of all construction work exceeding \$2,000 in value undertaken by general contractors. Forms have been printed and can be secured from the office of the Associated General Contractors, Munsey Bldg., Washington.

The following officers were elected by the Divisional Code Authority for general contractors: chairman, A. E. Horst, of Philadelphia; vice chairman, A. C. Tozzer, of New York; treasurer, E. M. Rust, of Washington; secretary, E. J. Harding, of Washington.

The general contractors' code covers three groups: building contractors, heavy construction and railroad contractors and highway contractors. The building division is represented on the Divisional Code Authority by W. F. Austin, president, W. E. Wood Company, Detroit, Michigan; W. A. Klinger, president, W. A. Klinger, Inc., Sioux City, Iowa; A. N. Miller, Washington, D. C. (residential); F. L. Shackelford, vice president and treasurer, Potter & Shackelford, Inc., Greenville, S. C.; A. C. Tozzer, executive vice president, Turner Construction Co., New York City; Robert A. Whidden, president, The Whidden Company, Boston, Mass.

## New Finance Plan

A NEW sales closing, non-recourse finance plan has been announced by the Ruberoid Co., New York roofing manufacturers, that will assist builders and dealers in carrying on repairs, remodeling and home improvements.

Three important features of the Ruberoid deferred payment plan are that it may be used (1) without credit risk, (2) without deduction for service, and (3) without waiting for money.

The plan is available to dealers, applicators or contractors with a reputation for good workmanship and good credit relations. Contracts will be financed when the value of the roofing material or allied product used, based on the cost to the applicator, is 25 per cent or more of the total amount to be financed. The minimum amount of note purchase is \$50.00. There is no maximum amount except as determined by the ability of the consumer to meet the obligation.

Down payments may be as low as 10 per cent of the cash price of the job, and time length of credit extended may be from 4 months to 24 months. The finance charge is computed by deducting the down payment from the cash price, and to the unpaid balance adding a carrying charge of 1 per cent per month. The minimum charge for handling any one account is \$12.00.

## Death of R. A. Long

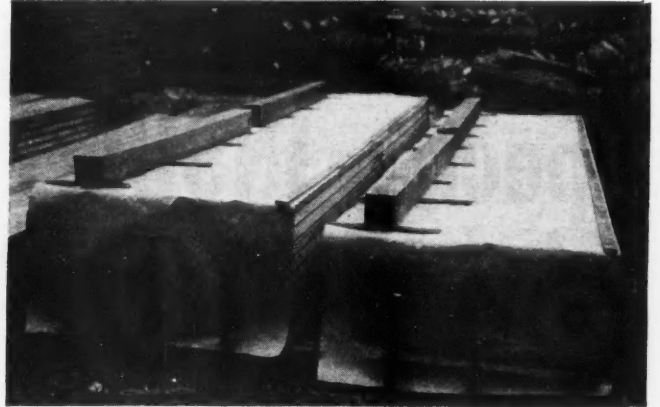
ONE of the lumber industry's oldest friends and the nation's benefactor, R. A. Long, founder and chairman of the Board of Directors of the Long-Bell Lumber Co., passed away on March 15. The lumber industry, the building industry and the entire nation mourned the death of this national leader in business, religion and philanthropy.

## March Home Building Soars

RESIDENTIAL building contracts awarded during the first half of March reported by F. W. Dodge Corp. were \$15,945,000. This is more than a 100 per cent increase over February and compares with \$16,500,000 for the entire month of March last year. Estimates for the entire month of March this year, based on the first fifteen days, indicate it will exceed March, 1932, and will be the best residential construction month since late in 1931.

## England to Build 285,000 New Houses

A WAR on bad housing has been declared by the National Government of Great Britain. A five-year program was announced March 13 calling for the construction of 285,000 new dwellings at a cost of \$575,000,000. Work will start soon.



Protection of lumber with building paper, when properly piled, is satisfactory, according to U. S. Forest Products Laboratory.

Programs already submitted by local authorities provide for the demolition of 266,851 houses and their replacement by 285,000 new dwellings.

Plans have been accepted provisionally for new homes for 1,187,173 persons covering areas with a population of over 36,000,000 or 90 per cent of the total population of England and Wales.

Of 1,716 local housing authorities concerned, only 52 have not yet formally submitted programs. It is expected that when all the programs are approved the total new houses to be built under the scheme for the next five years will be about 300,000.

London has submitted the biggest single clearance program with a total of 33,000 dwellings to be demolished and 265,000 persons to be rehoused. Next comes Leeds with 30,000 houses and 111,000 persons. Manchester, Liverpool, Sheffield, Birmingham and other thickly populated industrial areas have all submitted vast clearance schemes.

The cost of the campaign is estimated at \$575,000,000 and will provide continuous employment for 110,000 persons.

## Copies of Construction Code

COPIES of Chapter I—General Provisions, of the Code of Fair Competition for the Construction Industry; Chapter II—General Contractors Division; and Chapter III—Painting, Paperhanging and Decorating Division, are available from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 5 cents per copy.

The Construction League of the United States, 1741 New York Ave., N. W., Washington, D. C., has printed the Code in letter size on heavy bond paper with headings inserted to assist the reader, and copies of Chapters I, II and III may also be obtained at 5 cents per copy from that office. Other Chapters, as approved, will be published by the League at 5 cents per copy, and orders may even be placed in advance.

Chapter III—Painting, Paperhanging and Decorating Division, was approved by the President on March 12, and became effective March 22.

## PWA Funds to Housing Corporation

TRANSFER to the Public Works Emergency Housing Corp. of \$23,670,500 previously allotted to seven low cost housing and slum clearance projects has been announced by Public Works Administrator Harold L. Ickes. The housing corporation now has \$123,670,500 available for housing and slum clearance.

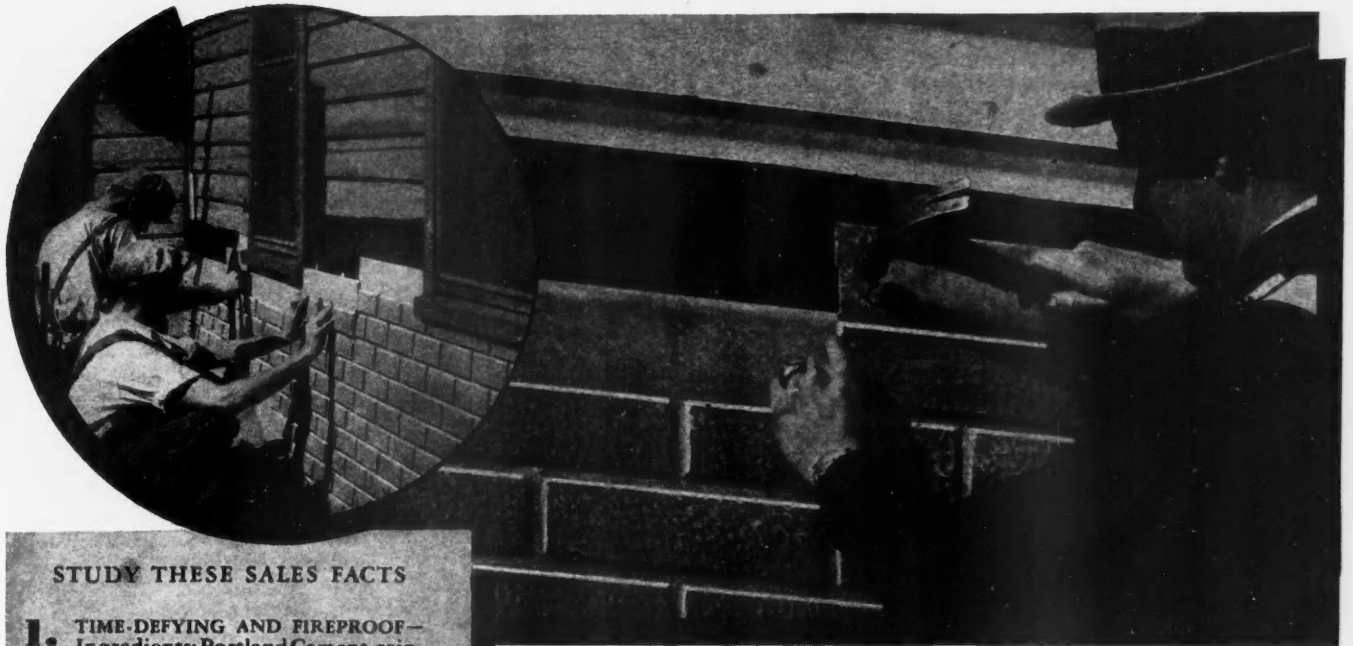
In order to make the transfer it was necessary to rescind housing allotments previously made to Brooklyn, N. Y., Hutchinson, Kans., Cleveland, Ohio, Indianapolis, Ind., Atlanta, Ga., and Chicago, Ill. This does not mean, however, that all these projects have been abandoned by the PWA. Some projects considered suitable and practicable may be constructed either

(Continued to page 70)

# IT'S NEWS!

## WHEN ASBESTOS-CEMENT "BRICKS" CAN BE NAILED ON IN STRIPS—

... and as usual It's RU-BER-OLD News



### STUDY THESE SALES FACTS

1. **TIME-DEFYING AND FIREPROOF**—Ingredients: Portland Cement, reinforced with Asbestos Rock Fibres.
2. **TAPERED CONSTRUCTION**—Brick faces slightly elevated so that finished job looks like real brick. Strips 6" x 30" contain 3 Bricks 2½" x 9½".
3. **ROUGH BRICK TEXTURE**—Exposed area of siding faithfully reproduces rough brick.
4. **BRICK COLORS**—Redtone and Buff with Dark Gray mortar joints. The mineral oxide colorings are an integral part of the siding.
5. **EASE OF APPLICATION**—Self-spacing, self-aligning. Soldier courses for base and over windows—corner pieces mitered for perfect fit.
6. **DOUBLE MARKET**—A volume producer for re-siding work, but equally efficient for new construction.

### Contractors find Eternit "Brick-Type" Siding Popular and Profitable

**H**ERE is an ingenious, fire and time-defying rigid siding that has all the beauty of natural rough textured bricks yet is nailed on in three-in-one strips\*. Moreover, this unique siding insulates and beautifies as it weatherproofs. It eliminates paint bills forever.

No wonder owners of frame, paint-starved or stucco-peeled buildings as well as prospective

home owners marvel at this latest contribution to better and more economical construction.

Study the sales facts. Note the time-saving application features. Then send us your name for samples so you can get your share of this non-competitive, profit-making modernizing business. Many are making money with this product. You can, too. Clip, fill in and mail the coupon NOW.

\*Pat. Nos. 1,688,405 and 1,770,599

### The RUBEROID Co.

ROOFING MANUFACTURERS FOR OVER FORTY YEARS

ETERNIT MILLS, Division of THE RUBEROID CO.

Offices: BALTIMORE, MD., CHICAGO, ILL.,  
ERIE, PA., MILLIS, MASS., MOBILE, ALA.,  
NEW YORK, N. Y.

Factory: ST. LOUIS, MO.



THIS COUPON WILL BRING YOU SAMPLES

Asbestos-Cement Shingles  Asphalt Shingles and Roofings

Asbestos-Cement Sidings  Built-Up Roofing Materials

"Newtile" and "Newmarble"  Safe-n-Dry Sheathing Paper

ETERNIT MILLS, DIVISION OF THE RUBEROID CO.  
95 Madison Avenue, New York City, N. Y. AB-4-34

Please send full particulars about Eternit Brick-Type Asbestos-Cement Siding. Check at left for added information.

Name.....

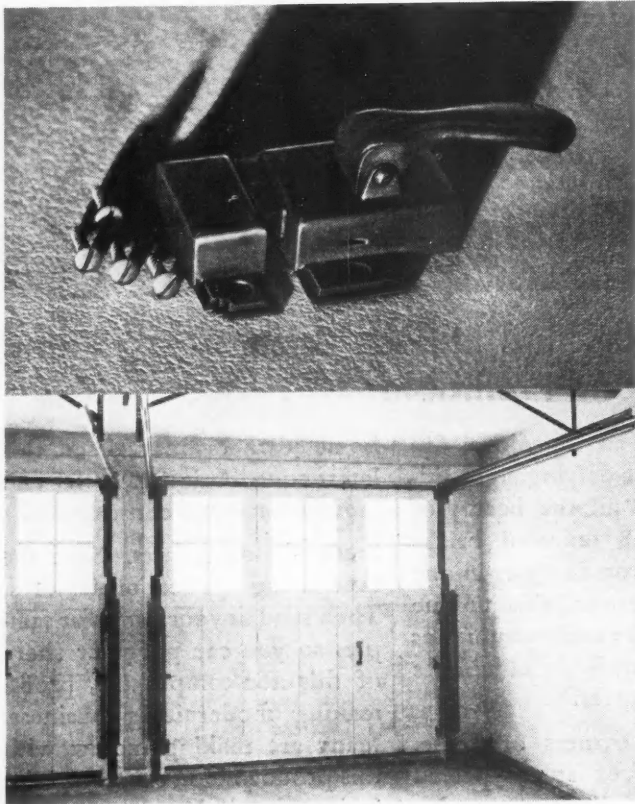
Address.....

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

# FROM A TO Z

Whether it's a pair of bright strap hinges, a fancy cupboard turn, a high grade surface butt or an elaborate set of garage door equipment . . . you'll find just the thing in the Frantz line that fits your customer's needs and pocketbook. Not alone that, you can recommend or specify any item of Frantz Guaranteed Builder's Hardware with the assurance that your customer is getting the most for his money. If you are not now familiar with the Frantz line, you'll find it worthwhile getting acquainted with the Frantz dealer in your community. He'll gladly share profits with you on equipment you help sell.

FRANTZ MANUFACTURING CO., Sterling, Ill.



# FRANTZ

Guaranteed BUILDERS HARDWARE

## NEWS OF THE MONTH

(Continued from page 68)

er by the housing corporation or by the Administrator.

The allotments rescinded follow: The Spence Estate Housing Corp., Brooklyn, N. Y., \$2,025,000; Hutchinson Suburban Housing Assn., Hutchinson, Kans., \$40,000; Cleveland Homes, Inc. (sponsored by the Business Recovery Commission of the Mayor of Cleveland, Ohio), \$12,000,000; Indianapolis Community Plan Committee, Indianapolis, Ind., \$4,460,000; Techwood, Inc., Atlanta, Ga., \$2,600,000; University Housing Corp., Atlanta, Ga., \$1,212,500; Harms Park Housing Corp., Chicago, Ill., \$1,333,000.

In every case, except that of Hutchinson, Kans., the allotments were rescinded because the local interests sponsoring the project failed to meet the PWA requirements as to equity after the allotment was made. In the case of the Hutchinson Suburban Housing Assn., the applicant failed to execute the contract.

### Predicts Acute House Shortage

DR. ARTHUR J. MERTZKE, chief economist of the Home Loan Bank Board, was the chief speaker at the inaugural luncheon meeting March 5 of the Cleveland Renovize Exposition. He predicted an acute shortage in dwelling because of lack of home building the past four years.

"This Renovize Exposition," said Dr. Mertzke, "is an effort to mobilize common sense in a common endeavor, turning attention to the obvious fact that several million buildings in this country, particularly homes, need renovizing to build them up again from the poor estate into which they have fallen through neglect in the last few years.

"From the last census figures we learn (and the condition is even worse now) that more than a third of dwellings in this country were valued at less than \$2,000, the vast majority being below reasonable living standards. About one-sixth are valued at less than \$1,000. In other words, we have more than 6,500,000 dwellings unfit for human habitation and nearly 500,000 more decidedly subnormal."

After citing the federal government's establishment of credit facilities through the Home Loan Bank, Home Owners' Loan Corp., Dr. Mertzke told the brighter side: "The percentage of vacancies is so much below normal that any further general recovery will bring an acute housing shortage."

"We cannot go to the extreme indefinitely," he continued. "We must swing back from depression in the construction industry through sheer pressure of demand. Not only will we need a great deal of new construction but we shall need every property that can be rehabilitated for use, particularly dwellings."

### New Federal Mortgage Bank?

A NEW, permanent Federal Mortgage Bank which would be "a great stabilizing agency for all real estate and building credit" is being considered by economic advisers of the Administration. The National Association of Real Estate Boards and other bodies are backing the Bill.

Provisions are: 1. That a corporation be set up with \$500,000,000 capital supplied by the United States, such institution to be known as the Federal Mortgage Bank. It provides that the bank, under proper safeguards, may issue bonds against mortgages in its possession. Interest on the bonds would be guaranteed by the United States until the principal is paid.

2. That any individual, firm or corporation engaged in the business of making first mortgages on urban real estate be eligible to use the facilities of the bank, provided such mortgage lending agencies are found to be in good financial condition and their practices are sound and ethical.

The function of the bank would be to supply a place of sale or discount under proper safeguard for all sound mortgages on real estate devoted to other than agricultural uses. Management of the bank, it is proposed, would be vested in the Federal Home Loan Bank Board. The institution would fill the gap left by two present government agencies—the Federal Home Loan Banks, and the Home Owners' Loan Corporation.

(Continued to page 72)

# A CHALLENGE To the Floor Sanding Industry

## New Reid-Way "8" Establishes World Record

In a series of tests the new Reid-Way "8" has outperformed and outproduced every machine with which it has been compared. More than that—it has established what we frankly believe to be a world record in production—a record in which we have such thorough confidence that we are publishing the test figures in this advertisement, and can guarantee to approximate this performance, more or less, at any time.

### These Figures Tell the Story

Using one sheet of No. 3 Paper cutting with the grain on a plain Red Oak Floor, the new Reid-Way "8" was operated for two hours. Dust in the bag was weighed every thirty minutes.

First 1/2 hour.....	5 lbs. 11 oz.
Second 1/2 hour.....	5 lbs. 6 oz.
Third 1/2 hour.....	4 lbs. 8 oz.
Fourth 1/2 hour.....	4 lbs. 3 oz.

GRAND TOTAL.....19 lbs. 12 oz.

## Try This on Your Sander

Our challenge to you is that you try this same test on your sander, or any sander up to 1/2 H.P.—then compare your figures with the record of the new Reid-Way "8" with its sturdy 1 H.P. motor. We are willing to let this remarkable machine sell itself on its own merits.

## Only One Moving Part

The new Reid-Way "8" with its one moving part motor-sanding drum is the most powerful light weight sander ever built—yet light enough to be easily carried. It reduces hand work to a minimum because it works right up to the quarter round on either side. A new vacuum arrangement makes the new Reid-Way "8" as completely dustless as a sander can be.

## Low Introductory Price Attractive Purchase Plan

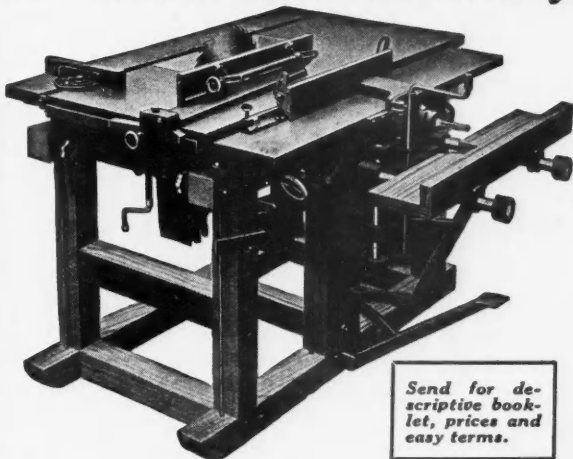
Write now, for illustrated bulletin and complete details on the new Reid-Way "8". Learn about our Low Introductory Price and Attractive Purchase Plan.

## THE REID-WAY CORPORATION

2955 First Avenue

Cedar Rapids, Iowa, U. S. A.

## There's No Economy in Worn-Out—Out of Date Machinery



Send for descriptive booklet, prices and easy terms.

Modernize your equipment with Monarch machines on our present low price, easy term plan, an opportunity that may never come again.

Install a Monarch Variety Woodworker and enjoy the efficiency of this four-in-one machine—cut off and rip saw with boring attachment, mortiser and jointer.

Other big time and money-saving machines include jointers, band saws, lathes, and the marvelous 20th Century Woodworker.

AMERICAN SAW MILL MACHINERY CO.  
60 Main Street Hackettstown, N. J.

a prime factor in marketing:

# SPEED



MISSOURI  
PACIFIC  
LINES

SHIP AND TRAVEL  
VIA THE  
ST. LOUIS GATEWAY

"A SERVICE INSTITUTION"

## Should Stucco Be Painted?

### The Facts About This Widely Discussed Question

**Y**ES, stucco should be painted. The nature of stucco demands that it have a protective coating. And a stucco home is so much more beautiful when it is painted. Many paint men agree, however, that oil paint is not the logical answer to this problem. The alkaline reaction of stucco (especially after alternate rains and hot sun) tends to break down the film of oil paint and that always means trouble. To paraphrase an old axiom: "Oil and Alkali don't mix."

Twelve years ago Reardon Company chemists formulated a paint for use **only** on stucco and other masonry wall surfaces. That paint is:

## BONDEX Waterproof Cement Paint

BONDEX eliminates all risk in the painting of stucco and other exterior masonry surfaces. With BONDEX you can secure a beautiful, waterproof job on any unpainted masonry wall surface. There is no oil in BONDEX and it is absolutely alkali-proof. This means that there will be no danger of color "burn-outs," mapcracking or peeling where BONDEX is used. BONDEX bonds with unpainted masonry in such a way that it becomes an inseparable part of the wall itself. BONDEX is simple to use and quite economical when you consider its excellence.

BONDEX combines foolproof utility with permanent beauty. It is made in 16 colors (and pure white) which were formulated after a careful survey of color preferences among architects, builders, painters and property owners. All BONDEX colors dry perfectly flat and have a richness of color-tone which is unusual in an exterior paint. Naturally, there are many imitations of BONDEX but you can be sure there is **only one** BONDEX because it is protected by a Government patent. Ask your paint or supply dealer about BONDEX or write to your nearest Reardon Factory for a color chart and complete information.



**THE REARDON COMPANY**  
St. Louis Chicago Los Angeles

#### Attention Dealers!

It is our policy to cooperate with dealers in the marketing of BONDEX. We invite you to write your nearest Reardon Factory for the BONDEX proposition.

## NEWS OF THE MONTH

(Continued from page 70)

The operation of the bank, according to a N. A. R. E. B. Finance Committee report, is designed to be profitable. There should be a substantial differential, it says, between the usual interest obtainable on mortgage loans and the rate necessary to be paid on Federal Mortgage Bank bonds. This differential should be sufficient to provide the cost of operating the bank, a return to government on the invested capital, and the setting up of some reserve, if deemed necessary, to take care of any losses in periods of stress.

The bill contemplates that mortgages shall originate through external sources, and these mortgages shall be serviced by the originating agency, if the bank deems it advisable.

The Federal Mortgage Bank "is not designed as an emergency or relief agency but as a permanent institution," W. S. Schmidt, chairman of the Committee, points out. "Bonds of the proposed bank would represent the ultimate in security, since they would have the security of government bonds plus the underlying basic wealth of real estate."

### Urges Billions for Housing

**A** GIGANTIC housing program, financed by two billion dollars taken from profits made on gold and now held as a stabilization fund, was advocated in an address at Paducah, Ky., Mar. 19, by Dr. Paul H. Douglas of the University of Chicago.

Dr. Douglas told a luncheon club the housing idea was his "solution to the problem facing the government in the event industry has not absorbed unemployment after CWA ends." He added the plan had been told to officials at Washington and had been viewed "favorably."

"The housing idea is a gigantic and daring experiment," he said, "but I believe it will be the only thing capable of filling in, if industry is unable to take up what CWA throws off."

### Governor Opens "Magic Home"

**G**OVERNOR George White of Ohio, formally dedicated the Westinghouse "Home of Tomorrow" at Mansfield, Ohio, to the future of American home building in a simple ceremony Feb. 21. Llewellyn Evans, Washington, D. C., chief of electrical operations of the Tennessee Valley Authority and Henry G. Brunner, state manager of the Ohio Home Owners' Loan Corporation, were in the party. A. E. Allen, vice president of Westinghouse in charge of all Mansfield operations, conducted the governor and his party through the home.

### More Modern Homes at Fair

**T**HE colony of modern homes at the new World's Fair of 1934 will be bristling with new ideas and suggestions. Houses are to be completely redecorated. Some will be extensively remodeled. Others are to be removed, and replaced.

Two new structures in the 1934 modern homes group will be a two-story steel house by General Houses, Inc., and the five-room bungalow of the Stran-Steel Corporation.

The Crane Co. is erecting a new 285-foot exhibit. In the middle of the building an illuminated tower will rise 60 feet as background for a giant 45-foot shower.

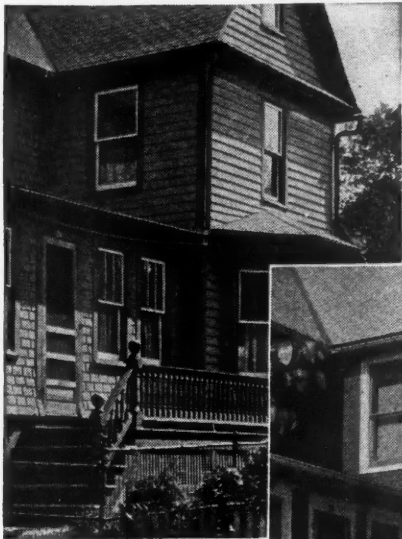
Home Planning Hall, general exhibit building of this group, is devoting more space to the latest equipment and appliances for the home, and to booth exhibits by the companies who cooperate in the furnishing of the homes clustered about it.

Two other houses not a part of this group are to be built on the Farm show south of the Home Planning Area. One is to be a model farm house of 1950, with working quarters on the first floor and living quarters on the second. The first floor will include the kitchen and a shower room, milk room, etc.

The second house, called the "subsistence farm house," is to be a structure of four or five rooms built not to exceed the cost of \$3,000. This house is being designed to meet the needs of the present day effort to get people on farm plots.

# SIDING

that helps you sell  
*Modernization!*



← **BEFORE  
MODERNIZATION**

A home in Endicott, N. Y., before Flintkote Brick Siding was applied.



**AFTER →  
MODERNIZATION**

The same home after walls were covered with Flintkote Brick Siding. Applied by Lock-Tite Roofing Co., Inc., Binghamton, N. Y.

To get a modernization job, first of all you must sell the home owner on the idea. Flintkote Brick Siding will help you do this!

Flintkote Brick Siding has everything homeowners want—outstanding beauty, exceptional durability, complete protection from the weather.

Flintkote Brick Siding is easily applied—saves you time and labor... widens your profit on each Flintkote job.

Supersaturated, and with Stabilized Coating to protect the saturation, Flintkote Brick Siding gives extra

value, extra wear. Highest quality is assured by controlled manufacturing processes and specially selected raw materials.

**A Complete Line of Shingles**

Use Flintkote Shingles for your re-roofing jobs. The line is complete, including a style, weight and color for every type of building.

For complete information and samples, write The Flintkote Company, 50 West 50th Street, New York. Branches in all principal cities. Factories and Warehouses from Coast to Coast.



# FLINTKOTE

Wide Variety . . . True Economy



—Here are this  
**BUILDER'S  
REASONS**

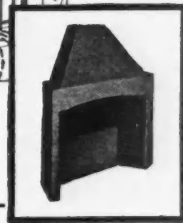
I've discovered a sure-fire way to go after building and remodeling camps. I start by talking about the difference the Heatilator Fireplace will make in the owner's enjoyment of his camp. It actually adds weeks to his camping season. And he never has to put up with the fuss and annoyance of a 'smoker'. The Heatilator simply can't smoke when it's correctly installed. As for warmth—the Heatilator gives him just about all the heat he'll ever need. That's because this Heatilator circulates heat—acts just like a warm air furnace. There's where its scientific design comes in. Then there's the fact that the owner can choose any style of fireplace that fits his fancy—Heatilator doesn't change the appearance of either the mantel or hearth.

"But the big point is that honest-to-goodness heat you get from this modern fireplace—reaching out into every corner—keeping all rooms cozy on the rawest days. And all this comfort costs just a few dollars more than an old-style fireplace that never did give any real heat for more than a few feet in front. Yes sir, this Heatilator is a great sales opener for me—and don't think I'm not using it."

## Heatilator Fireplace



Pats. Pend.



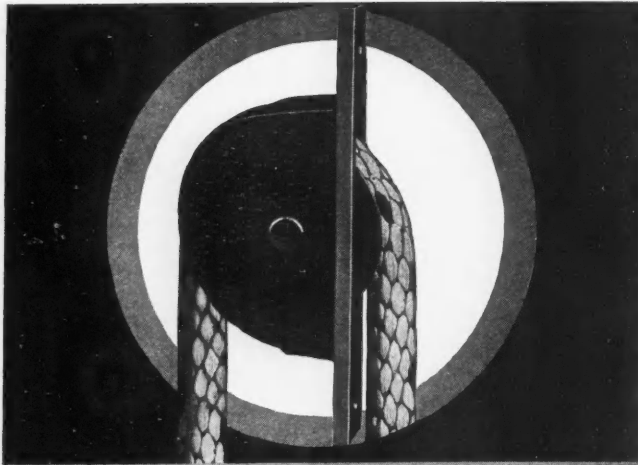
Warm air rises—spreads over room. Air currents return to fireplace along floor.

The Heatilator Unit—complete and ready to install.

HEATILATOR COMPANY  
614 E. Brighton Ave., Syracuse, N. Y.

Give me some more facts about Heatilator—facts that I can use in my selling.

Name.....  
Company.....  
Address.....



*no* **REPLACEMENT  
COSTS** *in thirty  
years*

An average service of 30 years has been established by test for Samson Spot Cord.

More than forty years of actual use substantiates these tests.

Samson Spot Cord is specified by architects because such specification is definite and positive—Spot Cord is made in one grade only and is identified by the trade mark, the colored spots. Substitution is easily detected and is unnecessary because Samson Spot Cord is available to contractors and builders through Hardware and Supply dealers in every section of the United States.

**SAMSON CORDAGE WORKS**  
89 Broad St. Boston, Mass.

**ONE GRADE**  
*Positive identification*

Made of extra quality fine three ply yarn, and guaranteed free from imperfections. Firmly braided, smoothly finished. Six standard sizes.

If you haven't a Spot Cord specification folder in your files write for copy. It gives complete data, comparative tests, etc.

## NEW PRODUCTS

FOR FURTHER INFORMATION about any new product write the American Builder Information Exchange, 105 West Adams Street, Chicago, Ill.

### High Production Sander

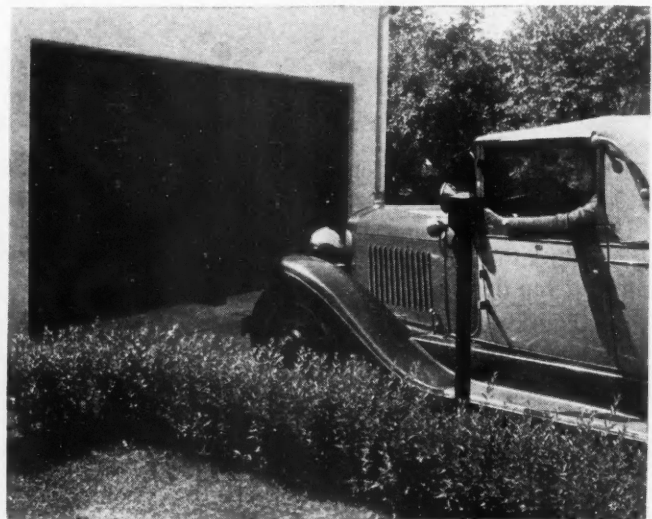
A PIONEER manufacturer of light floor sanding machines announces a new 8-inch model which has been designed for unusually high production. The manufacturer reports that in public tests this machine has removed 19 pounds of material in two hours. In each test, only one sheet of No. 3 paper was used. The designer attributes production claims for this sander to a new type of efficient induction motor.

The major parts of the frame are of polished, cast aluminum. A simple, patented sanding drum which houses the motor makes possible the elimination of all driving mechanism. As a result, this floor sander is said to be lighter than conventional 8-inch models. A new type of dust bag effectively filters dust yet allows a free passage of air. The machine will be introduced at a very low price.

### New Electric Door Opener

IN order to provide owners and purchasers of overhead type doors with most of the advantages of automatic door operation, a well known firm has brought out a new electric door opener. This device will open the door automatically and may be actuated from a wall switch, a driveway post, or a driveway plate. It is quite inexpensive compared to motor-driven equipment.

Automatic opening only is provided, the door being closed by hand in the usual manner. A magnetic latch holds the door closed. When it is released by the control switch, the door is pulled up by extra tension in the balance springs. The latch may also be released by hand when desired.



New electric door opener has economy appeal.

### Floor Resurfacing Material

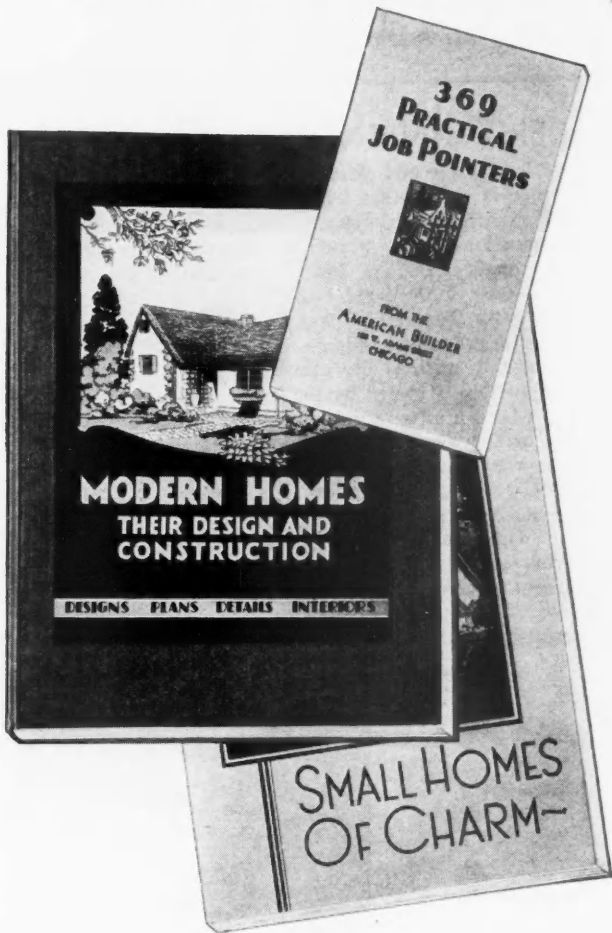
A RECENT type of floor repair material has many advantages in repairing worn or broken factory floors, trucking aisles and platforms. The material is mixed with sand and cement and the mortar is laid cold, one-half inch thick. The first cost is somewhat lower than other types of plastic flooring.

Where concrete floors are to be patched or resurfaced, chipping, roughening or acid-washing are not necessary. Ordinary cleaning is sufficient. It will bond to concrete, wood, brick, wood block, asphalt or composition floors and is ready for traffic thirty-six hours after being laid.



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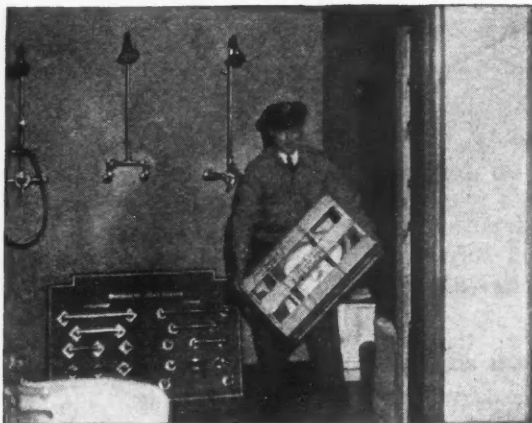
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The trap way of the bowl is  $2\frac{1}{4}$  inches and will easily pass a  $2\frac{1}{8}$  inch ball. The rate of flow from the valve to the bowl is from 15 to 18 gallons per minute. Most bowls require a rate of flow of about 25 gallons per minute to syphon properly. This lower rate of flow required by the new combination is important especially where a large number of closets are being installed—in a hotel or apartment house, for instance; also in tall buildings where the water supply rate is often diminished on the upper floors.

Bowls can be furnished in any standard color with seat matching—also with mother-of-pearl seat. Choice may be had of closed-front seat with and without cover—open-front seat with and without cover—and black hard rubber composition open-front seat. Bumper furnished with seats having cover; check-hinge furnished with seats without cover.



Scientifically designed closet has silent action, uses small amount of water.

### New Type Water Paint

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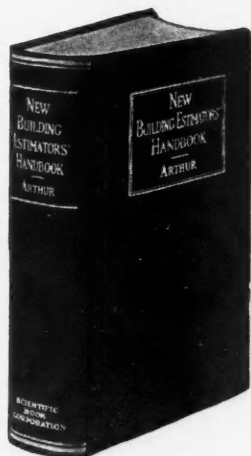
This product may be applied on damp or dry masonry surfaces of every description, including fresh lime plaster, Keene's cement, green concrete, brick, stone and tile—either by brush or spraying. Once applied to the surface it quickly hardens and is therefore unaffected by moisture, efflorescence or similar ills which affect the appearance of moist plaster, masonry or concrete surfaces. It will not discolor or rub off, and may be washed, as desired, without affecting the durability or color of the product.

Particularly interesting is the fact that this new product may be applied to lime plaster or Keene's cement as soon as it is set up (but before drying out) without incurring any danger of alkali-spotting or lime-burning; and that, unlike ordinary water paints, it can be used with equally good results on exterior as well as interior surfaces. Although a water paint, it produces a waterproof surface. This result is not commonly possible with water paints and makes this product adaptable where water paint is desirable but cannot be used because it will not harden, rubs off and is not waterproof.

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A glance at the following chapter headings will give some idea of the scope of this volume.

### Contents by Chapters

1. Measurements of Building Work. 2. The Quantity System of Measuring. 3. Speed and How Affected by (1) Climate; (2) Hand vs. Machine Labor. 4. Excavation and Filling. 5. Piling and Underpinning. 6. Concrete Work. 7. Reinforced Concrete. 8. Stone, Gravel, Marble and Terra Cotta. 9. Brickwork. 10. Cement Stone. 11. Structural Iron and Steel. 12. Tile and Gypsum Fireproofing. 13. Steel Sash and Steel Buildings. 14. Plaster. 15. Carpenter and Joiner Work. 16. Millwork. 17. Glass. 18. Roofing. 19. Sheet Metal Work. 20. Hardware. 21. Painting. 22. Plumbing and Gas Fitting. 23. Heating. 24. Electric and Conduit Work. 25. Tiling. 26. Asbestos Materials. 27. Dairy Barns. 28. Silos and Tanks. 29. Municipal Work. 30. Weights and Measures. Index.

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## 21 Ways to Get Business

(Continued from page 25)

if you can't get an opportunity to figure. Ask them to give you a sample of how they like to have their reports made out.

(17) You can hire a girl with a pleasant voice to call prospects over the telephone. Take your city directory and telephone book or if you have a criss-cross directory, use it. Pick out likely districts and write out a talk for your telephone girl, or have the office girl try while she is not busy or do the calling yourself. Try something like this—"We have competent carpenters and painters who need work. This is the Home Improvement Company speaking, etc."

(18) Appraising properties is often a money producer for you at unexpected times.

Many loan companies, insurance loan agencies or building and loan associations may desire to have property replacement values figured, and no one knows better what these costs are than the contractor and his knowledge is worth something. Keep records of your construction costs,—the year, the cubic contents, the square foot, and the total cost. Don't fail to charge when asked to tell what a house, flat or building will cost.

(19) Adjusting Fire Losses.—Your friend's house burns down and the insurance adjuster offers the friend \$1500.00. Your friend should call you in to figure what the repairs can be made for. You can sometimes secure a larger amount (if really justified) for your friend. He should pay you for these services. Don't fail to tell your friends of this service.

(20) Wrecking Old Houses and Buildings.—Locate old buildings which are beyond repair. Offer the owner a small figure to wreck the building. You can use the material. The owner can cut down his taxes.

(21) Subscribe to F. W. Dodge Reports. Keep a check on what companies, individuals, etc., are going to build or remodel. See them. If you can't get around to all prospects, send a circular or letter telling them of your line of work.

The Painter and Decorator, the Sheet Metal Contractor, the Roofer, the Electrician, the Marble and Tile Man, the Plumber, the Heating Contractor, the Excavator, the Stone Mason, the Brick Contractor, the Carpenter Labor Contractor, the Lathing Contractor, the Floor Sander, the Concrete Contractor, all have different problems to face in getting jobs from General Contractors, from Architects, from Owners, and from Agents, but many of the ideas given can be used.

House to house canvassing is a tiresome grind; however, for the roofer and painter it is one of the best ways of finding real prospects. Use a city directory and when you go to a house inquire for the owner by name. The directory shows who lives in the property whether the owner or not. If a renter, ask him where the owner lives.

Sub-contractors, above all things keep after the general contractors with whom you have been successful, and ask for another tryout with the ones you did not get along with so well. Kiss and make up.

Whenever you have completed a job, get a letter of recommendation; bind them in a loose leaf binder or photo album; take them with you when you are looking for a job. Most people think all building contractors are crooks—show your recommendation letters—that you are *one* who is honest, experienced and reliable.

Two spinsters were discussing men. "Which would you desire most in your husband: Brains, wealth or appearance," asked one. "Appearance," snapped the other, "and the sooner the better."

And appearance of a contract or a lot of them is what we want.

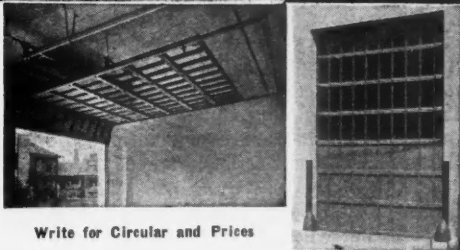
Now, my suggestion as to how to get the most jobs is to try all twenty-one of the ways outlined. *Tonight* draw up your plan of campaign. Getting jobs depends on *YOU*; there are plenty of them. Next month read my article on "How To Be A Better Contractor," and the following month, "How To Finance Jobs." Don't you dare Fan Mail me with the suggestion, "It can't be done."

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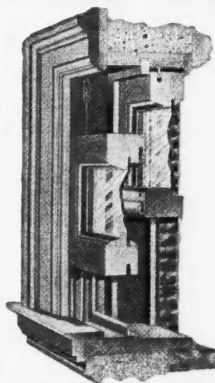


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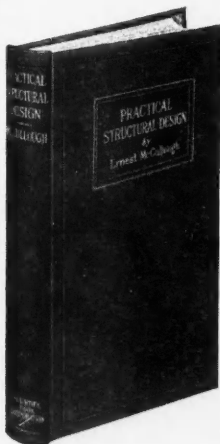
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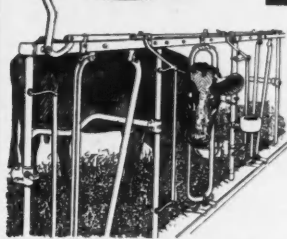
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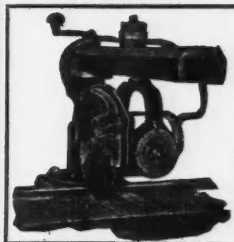


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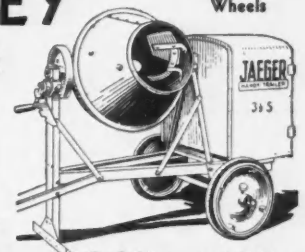
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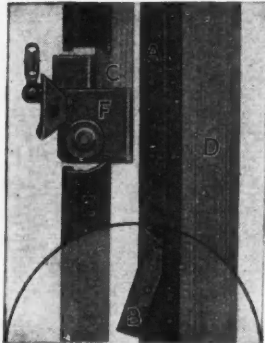
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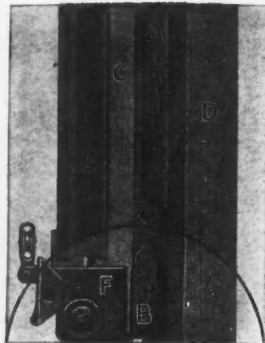
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Illustration at left shows door opening without friction; above, door sealed tight on closing.



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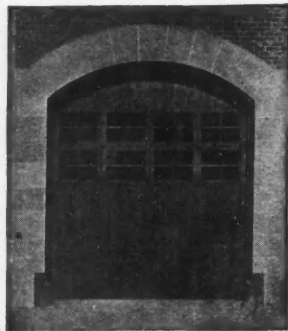
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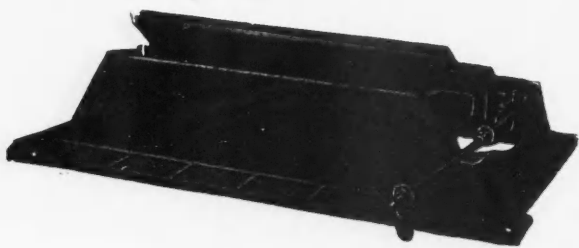
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## Wiring—for Satisfactory Electric Service

(Continued from page 66)

porting fixtures other than switches on walls or ceilings, and as switch boxes where firm support or extra heavy service is desired; they come in depths of 1½ and 2½ inches, with various arrangements of knockouts and various provisions of fixture studs. Round Boxes are made in shallow depths of 1½ and ¾ inches and are used principally for mounting fixtures in plastered walls and ceilings, the depth of the box being equal to the depth of the plaster. Square Boxes are similar to Octagon Boxes in all respects except shape; they are used for the same purposes but where more space for switches, receptacles or other devices is required. Utility Boxes are made in various sizes and shapes, from 2½ x 2 x 1½ inches to 4¼ long, 2½ wide, 2½ inches deep; they are used primarily for exposed work, or as junction boxes, or to meet special requirements of size or shape. Gang Boxes are made in a number of sizes for mounting from two to nine flush devices, such as switch plates, etc. It is important that all boxes be firmly mounted on suitable metal hangers or cleats in all new work, and wherever practical in alterations.

### Switches, Service Outlets and Plates

All normal lighting and power circuits terminate in an outlet box equipped with either a switch or a service outlet. The number and location of these switches and service outlets definitely influence the grade or quality of the wiring system.

The switches used in outlet boxes are commonly snap switches, of which there are three types—rotary, push-button, and tumbler switches. Of these three, the rotary and push-button types have largely been superseded by the tumbler switches because the latter are of simpler construction, of lower cost for equivalent grades, and are easier to operate. They are also superior in appearance.

Outlet switches of all types (with a few exceptions) are made in the following forms:

Single-pole switches break the circuit on one side only, as illustrated in Figure 1. A single-pole switch must not be placed in the grounded conductor of a circuit. Double-pole switches interrupt both sides of a circuit, as shown in Fig. 2. They are required for 3-wire circuits to open both sides of the circuit, and are also used on appliances such as washing machines, ironers and other units of relatively heavy capacity, because with the standard outlet plug the identified grounded wire of a circuit is lost in the flexible cord, and thus both sides of the circuit must be opened to avoid possibility of the device remaining alive. Three-way switches are single-pole switches designed for the control of a single circuit from two separate points; either of the switches shown in Figure 3 will control the lamp connected thereto. Four-way switches permit the control of a single-circuit from more than two points; they are installed at the intermediate point between three-way switches, as shown in Figure 6; with such a combination of three- and four-way switches, a single circuit may be controlled from any number of different points. In addition to the switches described above, a wide variety of special types of switches are available.

Convenience outlets are used to provide a means of connecting portable lamps and appliances to a live or switch control circuit by means of a flexible cord and connector. In addition to single and duplex convenience outlets, combination outlets are available which combine convenience outlets with switches or pilot lights in a variety of forms. Outdoor outlets, which are weatherproof, are recommended for porches, etc.

## Rush to Buy Subsistence Homes

**B**UYERS swamped the offices of the Mahoning Homestead Gardens, Inc., Youngstown, Ohio, U. S. subsistence homestead project, with a flood of applications to purchase, when books were opened recently.

With a \$500,000 government loan in its possession the company will be ready shortly, its officers said, for construction of 160 model houses on 300 acres of land in Mahoning, Trumbull and Columbiana counties.

They will be sold on long term payments to families selected from the list of applicants. The company plans to keep six-room houses within a \$4,000 price limit, and to sell them with one to two acres of land on monthly payments of \$30 or less, including taxes, interest and insurance. The payments would continue for 25 years—which will make monthly payments small.







# 1934 BUYERS' GUIDE



## Latest Information—INDEXED

### Selected List of Manufacturers' Literature

For the Service of Builders, Contractors, Architects and Dealers

THE publications listed in this 12-page section are the most important of those issued by leading manufacturers identified with the building industry. They may be obtained without charge either by using the coupon on page 93, listing the numbers of the catalogs desired and mailing to AMERICAN BUILDER, 105 West Adams Street, Chicago, or by applying on your business stationery to the manufacturers direct, in which case kindly mention this publication. Either the titles or the numbers may be used in ordering. This list is an editorial feature maintained for the convenience of our readers.

DIRECTORY HEADINGS ARRANGED ACCORDING TO THE STANDARD CONSTRUCTION CLASSIFICATION ADOPTED BY THE AMERICAN INSTITUTE OF ARCHITECTS

- |  |  |                              |
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### 3. MASONRY MATERIALS.

ALPHA PORTLAND CEMENT CO., Easton, Pa.

300—**Cement**—"Alpha Cement—How to Use It." A 112-page book giving practical building information on various types of cement work.

UNIVERSAL ATLAS CEMENT CO., 208 So. LaSalle St., Chicago, Ill.

302—**Cement, White Portland**—"Terrazzo." The source-book on fine terrazzo for permanently beautiful floors. Contains full-color floor illustrations, sample terrazzo plates in natural colors and complete specifications.

LOUISVILLE CEMENT CO., Louisville, Ky.

303—**Mortar**—"Facts About Brixment." This 17-page illustrated booklet gives a clear, concise explanation of requirements for good mortar, and how Brixment meets these requirements.

NATIONAL LIME ASSN., Washington, D. C.

304—**Lime**—"Specifications for Lime Plaster." Mimeographed folder containing specification covering preparation and erection of backing—recommended plaster mixes and application.

NATIONAL MORTAR & SUPPLY CO., 212 Ninth St., Pittsburgh, Pa.

306—**Lime**—Information regarding working qualities and economy of Banner lime mortar; its use in making water tight walls, etc.

SOLVAY SALES CORP., 61 Broadway, New York City

307—**Calcium Chloride**—"Solvay Calcium Chloride in Concrete Construction." 32-page illustrated booklet describing the uses and advantages of Solvay calcium chloride in various types of concrete construction.

BINNEY & SMITH CO., 41 East 42nd St., New York City

308—**Mineral Colors**—"Mapico Colors." A color card, use data and descriptions of the colors.

CLINTON METALLIC PAINT CO., Clinton, N. Y.

310—**Colors, Mortar**—"The Importance of the Color of Mortar in Architecture." Four pages, giving full data with directions for using Clinton mortar color in brick work and Clinton cement colors in concrete.

GODFREY L. CABOT, INC., 940 Old South Bldg., Boston, Mass.

312—**Pigment**—"Dark Colored Concrete." 8-page general descriptive folder, containing illustrations, specifications, and dark color chart of cement and concrete pigment emulsified carbon.

RICKETSON MINERAL COLOR WORKS, Milwaukee, Wis.

313—**Colors, Mortar**—Information on mortar colors, cement and plaster colors.

### 4. CONCRETE AND MONOLITHIC CONSTRUCTION.

COLORITE INDUSTRIES, INC., Holland, Mich.

315—**Molds, Pottery & Furniture**—"Concrete—The New Gateway to Money Making Opportunities." 32-page catalog in colors showing equipment for making garden furniture, flagstones, urns, also treatise on opportunities of business under exclusive franchise.

LIVING-STONE CO., 1808 W. Lanvale St., Baltimore, Md.

318—**Bond, Concrete**—"Living-Stone Concrete Bond." 4-page folder describing material for bonding old and new concrete. The base can be laid and the top finish placed days, weeks, months or years thereafter and a perfect bond will be obtained.

PORTLAND CEMENT ASSN., Room 154, 33 W. Grand Ave., Chicago, Ill.

320—**Floors, Reinforced Concrete**—"The Key to Firesafe Homes." A 20-page booklet containing 30 photos showing construction and floor finishes; 5 line drawings, concrete floor details.

### 5. BRICK WORK.

H. W. COVERT CO., 229 East 37th St., New York City

324—**Dampers, Fireplace**—"Covert Fireplace Construction." A valuable handbook for the builder of successful wood-burning fireplaces.

HEATILATOR Co., Syracuse, N. Y.

325—**Fireplaces**—"The Fireplace That Circulates Heat." A complete descriptive catalog giving information on Heatilator fireplaces, with list of sizes, prices, dimensions and details.

PEERLESS MANUFACTURING CO., Inc., Louisville, Ky.

326—**Fireplace Fittings**—Folder describing dome dampers, garbage receivers, ash pit doors, coal windows, etc.

### 7. WATERPROOFING AND DAMPPROOFING

THE ANTI-HYDRO WATERPROOFING CO., 265 Badger St., Newark, N. J.

328—**Waterproofing**—Specifications and data on waterproofing problems using Anti-Hydro materials.

GLUKOTE Co., 1225 University Ave., St. Paul, Minn.

329—**Waterproofing**—"Stuk-Rok General Folder and Supplemental Bulletin A." To explain method and details for applying waterproofing coat on interiors.

THE REARDON Co., 2200 N. 2nd, St. Louis, Mo.

330—**Waterproofing**—Information regarding the extensive Reardon line of waterproofing material to solve all waterproofing problems.

### 8. STONE WORK.

THE BRIAR HILL STONE CO., Glenmont, Ohio

331—**Sandstone**—"Briar Hill Golden Tone Ashlar Wall Facing." A 16-page booklet describing and illustrating Briar Hill ashlar in actual colors. Many fine stone houses illustrated.

INDIANA LIME STONE CO., Bedford, Ind.

332—**Lime Stone**—Specifications and details for lime stone veneer, for homes of popular size; photographs of actual installation.

### 10. BLOCK CONSTRUCTION.

PORTLAND CEMENT ASSN., Room 154, 33 W. Grand Ave., Chicago, Ill.

334—**Masonry, Concrete**—"Concrete Masonry Construction." 48-page illustrated handbook giving complete information on the use of concrete masonry for all types of building construction.

### 12. ROOFING, SHEET METAL AND SKYLIGHTS.

THE BARBER ASPHALT CO., 1600 Arch St., Philadelphia, Pa.

336—**Shingles, Asphalt**—"Genasco Barlock Asphalt Shingles." A 16-page, four color folder illustrating and describing the advantages of these Dutch Lap shingles.

THE BARRETT CO., 40 Rector St., New York City

339—**Roofings, Asphalt Shingles**—Information regarding Barrett giant self-spacing shingles available in a wide variety of colors.

CERTAIN-TEED PRODUCTS CORP., 100 E. 42nd St., New York City

341—**Roofing Products**—"Millerized Roofing, Shingles and Related Products." A 5-color catalog showing beautiful reproductions of complete line of shingles; also contains specifications for roofing, shingles, etc.

W. E. DUNN MFG. CO., Holland, Mich.

343—**Tile, Roofing**—"Your Roof—Make It Permanent, Colorful, Fireproof." A folder on concrete roofing tile in forty permanent colors, shades and textures.

THE FLINTKOTE Co., 100 E. 42nd St., New York City

344—**Roofings**—Information regarding new Flintkote thatch shingles.

RED CEDAR SHINGLE BUREAU, 4455 Stuart Bldg., Seattle, Wash.

345—**Shingles**—"Over-Roofing." Information telling how to lay a good job of Red Cedar shingles over an old roof.

THE RUBEROID CO., 95 Madison Ave., New York City

349—**Shingles**—“Eternit Timbertex Asbestos-Cement Shingles.” Folder illustrating three colors in which these shingles may be secured.

350—**Shingles**—“Ruberoid Supertab Strip-Shingles.” Folder showing advantages of using this shingle for roofing or re-roofing.

AMERICAN SHEET AND TIN PLATE CO., Pittsburgh, Pa.

355—**Steel, Rust Resisting**—“Keystone Rust Resisting Copper Steel.” Booklet showing advantages of copper steel alloy to resist corrosion.

THE EDWARDS MANUFACTURING CO., 401-417 Eggleston Ave., Cincinnati, Ohio.

356—**Sheet Metal**—“Edwards Sheet Metal Products.” 60 pp. catalog with 14 detail drawings. Corrugated interlocking, V crimp, Standing Seam roofings. Metal shingles, metal tile, trough gutter, etc.

MILCOR STEEL CO., 4111 W. Burnham St., Milwaukee, Wis.

359—**Equipment, Metal**—“Sheet Metal Handbook.” A complete catalog of Milcor sheet metal building products designed for the use of sheet metal shops and hardware stores.

360—**Tile and Shingles, Metal**—“Architectural Sheet Metal Guide.” A catalog for architect, builder and sheet metal man. Shows the effective and economical use of metal tile roofing, metal cornices and, architectural ornaments together with the complete line of Milcor skylights and ventilators.

### 13. STRUCTURAL STEEL AND IRON.

AMERICAN INSTITUTE OF STEEL CONSTRUCTION, New York City

362—**Steel, Structural**—“Manual of Steel Construction.” The standard handbook of the steel construction industry for designers, detailers and fabricators, giving the use and details for the various structural sections.

BETHLEHEM STEEL CO., Bethlehem, Pa.

364—**Joists, Steel**—“Kalman Steel Joists.” This booklet illustrates the uses of such steel joists; also contains drawings, illustrations of safe loads, etc., and pictures of buildings which have used this economical fire-proof construction for hotels, schools, etc.

JONES & LAUGHLIN STEEL CORP., Pittsburgh, Pa.

366—**Beams, Steel**—“J & L Junior Beam Floors for Residences.” 24 pages, illustrated, describe in detail the advantages of the J & L Junior Beam steel and concrete floor for house construction, and give detailed instructions for layout and installation.

STRAN-STEEL CORP., 6100 McGraw Ave., Detroit, Mich.

370—**Framing, Steel**—Engineering data sheets on fire-safe, shrink-proof, nailable, light steel framing, giving details, standard lengths, load and span tables, for architects, engineers, builders, contractors, etc.

TRUSCON STEEL CO., Youngstown, Ohio

371—**Joists, Steel**—“Truscon Steel Joists for Residences.” An 8-page folder illustrating and describing the use of steel joists for fireproof floors.

### 14. MISCELLANEOUS STEEL AND IRON.

THE MAJESTIC CO., Huntington, Ind.

375—**Doors, Windows, Steel**—“Majestic Building Products for Homes of Character.” 32-page booklet for distribution to home owners, contractors and architects with detail drawings of coal windows, access doors, package receivers, etc.

MILCOR STEEL CO., 4111 W. Burnham St., Milwaukee, Wis.

376—**Trim and Accessories, Metal**—“Richsto Metal Trim Catalog and Milcor Metal Trim Supplement 100-A.” Beautifully illustrated, descriptive catalogs of Richsto and Milcor metal trim, covering metal base, window stools, door and window casing, etc. of inestimable value to architects and builders.

### 15. ORNAMENTAL METAL WORK AND MATERIALS FOR SAME.

ALUMINUM COMPANY OF AMERICA, 1820 Gulf Bldg., Pittsburgh, Pa.

379—**Sheet Aluminum, Corrugated**—“Alcoa Aluminum Corrugated Sheets for Industrial Uses.” Complete illustrated 32-page book containing advantages and construction details for corrugated sheet buildings made of Alcoa aluminum.

THE AMERICAN ROLLING MILL CO., Middletown, Ohio

382—**Alloys, Stainless Steel**—“Armco Stainless Steel Alloys.” A 26-page handbook describing Armco 17 and Armco 18-8 stainless steels, their properties, and helpful working data.

383—**Sheets, Galvanized**—“Armco Ingot Iron Sheets and Formed Products.” A small, 23-page booklet which gives a brief discussion of ingot iron and the forms in which it is available.

THE INTERNATIONAL NICKEL CO., Inc., 67 Wall St., New York City

385—**Metal Work, Ornamental**—“Practical Design in Monel Metal.” 72-page book on practical design and craftsmanship in Monel Metal with full-page plates of applications in ornamental work.

REPUBLIC STEEL CORP., Republic Bldg., Youngstown, Ohio

387—**Steel, Stainless**—“Enduro, Republic's Perfected Stainless Steel.” 14-page

catalog, illustrated, featuring Enduro stainless alloys for architectural uses, with typical installation details.

388—**Sheets, Iron**—“The Path to Permanence.” 64-page catalog, illustrated, describing rust-resisting Toncan iron sheets for structural and industrial applications.

### 16. FIRE RESISTING DOORS, WINDOWS AND TRIM.

CORNELL IRON WORKS, Inc., 3610-3630 13th St., Long Island City, N. Y.

389—**Doors, Rolling**—“Cornell Rolling Doors.” 32-page catalog illustrating various uses for rolling steel doors.

THE KINNEAR MFG. CO., 7th & Fields Ave., Columbus, Ohio

390—**Doors, Steel**—Information regarding the Kinnear rolling steel doors and windows.

MILCOR STEEL CO., Milwaukee, Wis.

391—**Trim, Metal**—Information regarding Milcor trim and stools with expansion wings with details of Richsto metal trim.

TRUSCON STEEL CO., Youngstown, Ohio

392—**Windows, Pivoted Steel**—“Truscon Pivoted Steel Windows.” A 16-page folder showing typical installations, drafting room details and methods of erection.

KNAPP BROS. MFG. CO., 605 W. Washington Blvd., Chicago, Ill.

394—**Trim, Metal**—“Sanitary Interior Metal Trim.” 136-page handbook for architects and contractors shows plans, specifications and pictures of plastered-in sanitary interior trim, complete window trim units, dual face boards, all-metal door frames, etc.

### 17. SPECIAL DOORS AND WINDOWS.

CORNELL IRON WORKS, Inc., 3610-3630 13th St., Long Island City, N. Y.

395—**Doors, Garage**—“Cornell Float-Over Doors.” Folder illustrating installations of both wood and steel doors which can be operated by hand, chain or motor.

CRAWFORD DOOR CO., 7881 Conant Ave., Detroit, Mich.

396—**Doors, Garage**—“Overhead Operating Doors.” Installation data and specifications on Crawford garage doors.

FRANTZ MFG. CO., Sterling, Ill.

397—**Hardware, Garage Door**—“Over-the-Top Door Equipment.” 16-page booklet of text, photographs and details fully explaining this equipment to dealers.

THE KINNEAR MFG. CO., 7th & Fields Ave., Columbus, Ohio

398—Doors, Garage—"Kinnear Roll-Top Door." 12-page illustrated handbook on upward-acting garage doors and rolling doors both hand and electrically operated.

THE MAJESTIC CO., Huntington, Ind.

399—Doors, Garage—"Majestic Building Products for Homes of Character." 32-page booklet for distribution to home owners, contractors and architects, which describes and illustrates the Majestic Roll-N-Fold garage door.

NATIONAL MANUFACTURING CO., Sterling, Ill.

401—Hardware, Garage Door—"No. 900 Overhead Data Sheet." 4-page circular, listing sizes and detailed information on National overhead doors.

OVERHEAD DOOR CORP., Hartford City, Ind.

402—Doors, Garage—"The Overhead Door—The Satisfactory Door." 8-page broadside, sets out the uses and features of the Overhead Door in an illustrated manner.

ROWE MANUFACTURING CO., Galesburg, Ill.

405—Door, Garage—"Catalogue Folder." 8-page folder, illustrated, featuring the Ro-Way overhead door for use in garages, service stations, warehouses, and all kinds of commercial and industrial buildings. Special illustrations describe details of the exclusive Ro-Way Sealtite Mold.

TRUSCON STEEL CO., Youngstown, Ohio

406—Doors, Garage—"Truscon Overdoors." A 4-page folder of descriptive details and specifications.

THE STANLEY WORKS, New Britain, Conn.

407—Doors, Garage—Information regarding "Rollup" and "Swingup" garage doors as made by Stanley.

J. G. WILSON CORP., Norfolk, Va.

408—Doors, Sectionsfold—Information regarding Wilson Sectionsfold doors operating overhead for public garages, private garages, factories, warehouses, filling stations and other commercial buildings.

## 19. CARPENTRY.

HASKELITE MANUFACTURING CORP., Rm. 1905, 208 W. Washington St., Chicago, Ill.

414—Lumber—"Phemaloid Compound Lumber." Booklet on Phemaloid gives general description of physical characteristics, sizes, etc. Book on World's Fair gives particular reference to the use of Phemaloid in buildings at "A Century of Progress."

LONG-BELL LUMBER SALES CORP., R. A. Long Bldg., Kansas City, Mo.

415—Lumber, Fabricated—"Enterlock Fabricated Building Lumber." 4-page folder, illustrating a new and better way to build with shaped lumber which comes ready to use and which does not limit design or architectural expression.

CELOTEX CO., 919 N. Michigan Ave., Chicago, Ill.

421—Board, Tile—"Interiors of Celotex Tile Board." Illustrated 8-page leaflet showing patterns and designs, and types of joints.

422—Sheathing—"Celotex Sheathing." 8-page leaflet describing combined structural strength, durability and insulation advantages, with strength test data, and sizes.

CERTAIN-TEED PRODUCTS CORP., 100 E. 42nd St., New York City

424—Wallboard, Gypsum—"Best Wall Builds Better Walls." Describing the original gypsum wallboard which has more rigidity and strength because of the gypsum rock plaster core sandwiched between two specially waterproofed, tough, fibre surfaces.

425—Wallboard—"The Material of a Thousand and One Uses." A brief description of Beaver Board and several illustrations showing a few of its many uses, are included in this folder.

THE INSULITE CO., Builders Exchange Bldg., Minneapolis, Minn.

427—Board—"The Board of a Thousand Uses." How to make things at home with Insulite Hardboard.

CURTIS COMPANIES, INC., Clinton, Iowa

430—Frame, Window—Series of folders giving complete information on Curtis Silentite "Pre-Fit" frame window, screen and storm sash, on sizes, installation information, details and complete description.

ACCURATE METAL WEATHERSTRIP CO., Box 106, 216 E. 26th St., New York City

432—Weatherstrips, Metal—Information regarding improvements in metal weatherstrips; weatherstripping for air conditioning installations.

ALLMETAL WEATHERSTRIP CO., 231 W. Illinois St., Chicago, Ill.

433—Calking Compound—"Famous American Buildings." 12-page descriptive folder.

THE BARBER ASPHALT CO., 1600 Arch St., Philadelphia, Pa.

434—Siding—"Genasco Doubl-Tip Bru-Brick Siding." A 12-page folder illustrated in four colors describing the above shingles and also the use of Genasco Hextab strip shingles, Genasco Latite shingles and Genasco 4-point siding strips as used for siding.

THE FLINTKOTE CO., 100 E. 42nd St., New York City

435—Siding—Information regarding Flintkote brick siding strips.

THE RUBEROID CO., 95 Madison Ave., New York City

436—Siding—"Eternit Asbestos Cement Brick-Type Siding." Folder illustrating application of this material in modernizing work.

437—Siding—"Eternit Econotop Asbestos-Cement Siding." Folder showing advantages of using this material, thus eliminating paint and repair bills.

ANGIER CORP., Framingham, Mass.

438—Building Paper, Brownskin—Sample portfolio of Angier building papers containing resilient Brownskin and other Angier building papers.

THE SISALKRAFT CO., 205 W. Wacker Drive, Chicago, Ill.

439—Paper, Copper Armored—"Copper-Armored Bulletin." Featuring sample and information relative to spandrel waterproofing, membrane waterproofing, flashing door and window openings, etc.

440—Paper, Building—"Sisalkraft Catalog Sheet." A self-demonstrating sheet describing and illustrating many practical and economical applications for Sisalkraft.

## 20. FURRING AND LATHING.

E. L. BENEDICT AND ASSOCIATES, Union Trust Bldg., Pittsburgh, Pa.

444—Lath, Metal—"Modern Building Methods." Catalog with 35 detail drawings describing modern plaster construction, stucco construction, brick & stone veneer construction, fireproof floor construction, sidewalk and driveway reinforcement and concrete reinforcement.

THE EDWARDS MANUFACTURING CO., 401-417 Eggleston Ave., Cincinnati, Ohio

448—Lath, Metal—"Edwards Building Catalog." Shows application pictures illustrating erection of partitions with studs.

THE INSULITE CO., Builders Exchange Bldg., Minneapolis, Minn.

449—Lath—"When You Build . . . ." A descriptive folder, interestingly illustrated, identifying the benefits of the use of a plaster base that combines insulation, sound-deadening and extreme strength.

MILCOR STEEL CO., 4111 W. Burnham St., Milwaukee, Wis.

450—Lath, Metal—"Modern Modes in Better Plastering." A beautifully printed, profusely illustrated 32-page book showing why metal lath is the best and most economical plaster base, and the advantages of modern metal trim.

Handy Coupon for  
Catalog Requests  
is on Page 93

REYNOLDS METALS CO., Inc., 19 Rector St., Room 3501, New York City

451—**Lath**—“Directions for Lathing and Plastering Reynolds Ecod Lath.” A 4-page illustrated folder giving general description and uses of this material.

TRUSCON STEEL CO., Youngstown, Ohio

452—**Lath, Metal**—“Truscon Metal Lath Products and Accessories.” A 12-page folder giving complete description and detailed information on the proper type of lath to use in order to obtain fire-safe and crackless walls and ceilings.

## 21. PLASTERING.

CERTAIN-TEED PRODUCTS CORP., 100 E. 42nd St., New York City

453—**Plaster**—Gypsum Handbook describing “Plastised” plaster, a basic improvement in plaster which keeps it easy-working for months longer.

NATIONAL MORTAR & SUPPLY CO., 212 Ninth St., Pittsburgh, Pa.

456—**Lime**—“Back to Lime Plaster Base Coats.” 8-page folder briefly describing qualities of “old fashioned” lime plaster, its insulation value, etc. Includes brief specifications.

## 22. MARBLE, SLATE, SOAP STONE, BLUE STONE, TERRAZZO, STRUCTURAL GLASS.

FORMICA INSULATION CO., 4618 Spring Grove Ave., Cincinnati, Ohio

458—**Store Fronts**—“Modern and Striking Store Fronts with Formica and Bright Metal.” A folder containing color plates showing modern designs for store fronts using Formica with metal trim.

459—**Wainscot Sheets**—“Wainscot of Formica.” A folder with colored illustrations giving detailed drawings and instructions for installing Formica when used for wall coverings and wainscots.

WESTINGHOUSE ELECTRIC & MANUFACTURING CO., East Pittsburgh, Pa.

461—**Micarta**—“Micarta—A decorative material for Buildings.” 24-page brochure in colors illustrating Micarta for various uses in modernizing commercial buildings, kitchens, bathrooms, table tops, etc.

PITTSBURGH PLATE GLASS CO., Pittsburgh, Pa.

462—**Glass, Structural**—“Bathrooms and Kitchens of Distinction.” A 16-page booklet, beautifully illustrated in 4 colors, showing how Carrara structural glass lends itself to carrying out all sorts of decorative schemes in bathrooms and kitchens. Anyone having bathroom modernization jobs on hand will be sure to receive many valuable tips from this booklet.

## 23. FLOOR AND WALL TILE, LINOLEUM AND ACCESSORIES.

ARMSTRONG CORK & INSULATION CO., Lancaster, Pa.

464—**Flooring, Linoleum, etc.**—“Armstrong's Floors.” 32 pages with 2 pages of detailed drawings containing complete specifications and general information regarding Armstrong's Linotile, cork tile and linoleum floors.

CONGOLEUM-NAIRN, INC., Kearny, N. J.

465—**Linoleum, Linoleum Tile**—“Floor and Wall Covering Materials.” 16 pages containing general information on Sealex linoleum and Sealex Treadlite linoleum tile, gauge tables, color charts, specifications and illustrations of typical installations.

SLOANE-BLABON CORP., 577 Fifth Ave., New York City

466—**Linoleum**—“Linoleum Handbook.” Complete information on linoleum, manufacture, uses, care, laying, specifications, etc. Useful for architects and builders.

ALLMETAL WEATHERSTRIP CO., 231 W. Illinois St., Chicago, Ill.

467—**Binding, Edging, Metal**—4" x 9" display card with 6 samples riveted thereto.

GOODYEAR TIRE & RUBBER CO., Inc., Akron, Ohio

468—**Flooring, Rubber**—“New Floors of Rubber.” 6-page booklet presenting the major advantages of rubber flooring for the home.

WRIGHT RUBBER PRODUCTS CO., Racine, Wis.

469—**Flooring, Rubber Tile**—“Installation Instructions.” A booklet showing by pictures and copy the proper method of installing rubber tile.

COLUMBIAN ENAMELING & STAMPING CO., INC., Terre Haute, Ind.

471—**Tile, Wall**—Folder giving installation principles and general specifications of Porcelite tile as used in bathrooms.

473—**Tile, Wall**—“Porcelite.” Catalog describing Porcelain enamel fused on body of steel. 36 colors, with a complete line of trim available. Patented installation on principles.

THE MOSAIC TILE CO., Zanesville, Ohio

475—**Tile**—“Mosaic Faience Tiles.” Catalog of 80 pages showing in black and colors all faience colors, designs, fountains, mantels floors, etc., and unlimited possibilities of this permanently durable material.

MARSH WALL TILE CO., Dover, Ohio

478—**Tile, Wall**—“Marsttile.” 4-page folder giving general and technical information on Marsttile for decorating walls of homes, apartments, offices and stores, and containing 7 cuts and drawings.

*American Builder, April 1934.*

THE RUBEROID CO., 95 Madison Ave., New York City

480—**Tiling, Asbestos**—“Ruberoïd Newtile.” A folder, illustrated in color, showing advantages of this asbestos tiling in sheet form when used in bathrooms, kitchens, etc.

## 25. PAINT, PAINTING AND FINISHING.

ALUMINUM CO. OF AMERICA, 1820 Gulf Bldg., Pittsburgh, Pa.

481—**Paint, Aluminum**—“Aluminum Paints—Its Uses, Utility and Application.” 52-page illustrated book giving the properties and uses of Alcoa Albron powder for aluminum paint.

THE AMERICAN FLOOR SURFACING MACHINE CO., Toledo, Ohio

483—**Materials, Floor Treating**—“American Pentra Seal; American Wax.” Circular showing advantages of sealing floor surfaces to effect maintenance savings.

NATIONAL LEAD CO., 111 Broadway, New York City

492—**White Lead**—Information regarding Dutch Boy all-purpose soft paste white lead for long life painting.

PITTSBURGH PLATE GLASS CO., Pittsburgh, Pa.

493—**Paint Products**—“Glass and Paint Products of the Pittsburgh Plate Glass Company.” 24-page booklet, 8½ x 11", giving specification data, detailed drawings, color plates; condensed specifications of interest to architects, contractors, builders, engineers, etc.

THE REARDON CO., 2200 N. Second St., St. Louis, Mo.

494—**Paint**—“Modex, the Modern Paint.” Leaflet describing what Modex is, what it will do, and why.

496—**Primer, Cement Floor**—Descriptive leaflet telling why Venostone cement floor primer is “floor paint insurance.”

THE SHERWIN-WILLIAMS CO., 101 Prospect Ave., N. W., Cleveland, Ohio

497—**Paint**—Information regarding the S-W line of paints and colors with suggestions for painting and decorating schemes.

## 26. GLASS AND GLAZING.

AMERICAN WINDOW GLASS CO., Farmers Bank Bldg., Pittsburgh, Pa.

498—**Window Glass**—Suggestions for remodeling and modernizing by adding sun rooms and special windows; information regarding glass and glazing.

LIBBEY-OWENS-FORD GLASS CO., Toledo, Ohio

499—**Glass, Window**—“Glass in Modern Construction.” A 60-page handbook of the Century of Progress homes featuring new ideas in window glass.

PITTSBURGH PLATE GLASS CO., Pittsburgh, Pa.

500—Glass, Window—"Pennvernon Window Glass with the New Flatter Surface." 20-page folder giving illustrated description of the manufacture of window glass by new process which gives acme in flatness, whiteness, luster and reflected beauty.

501—Glass, Window—"Tapestry Glass When You Want the Light But Not the View." 28-pages, 8½ x 11", elaborately illustrated, of especial value to builders of larger buildings, such as churches, museums, office buildings, banks, etc.

SCOHY SHEET GLASS CO., Sistersville, W. Va.

502—Glass, Window—"Thru the Window Glass." An 8-page folder describing product and process of manufacture. Pictures of interior and exterior of factory.

## 27. HARDWARE.

BOMMER SPRING HINGE CO., 253 Classon Ave., Brooklyn, N. Y.

503—Hardware—Information on spring butt hinges, spring pivot hinges, checking floor hinges, door pivots, lavatory stall hardware.

COBURN TROLLEY TRACK CO., Holyoke, Mass.

504—Hardware, Garage Door—"Coburn Sliding Door Hardware." 96-page catalog includes description of all kinds of door hangers and carrying track necessary to build all types of garage doors.

CALDWELL MFG. CO., Rochester, N. Y.

505—Hardware, Door—"Caldwell Lever Type Door Holders." An attractive yet inexpensive positive door holder of the lever type.

P. & F. CORBIN, New Britain, Conn.

506—Hardware, Builders—"Early English and Colonial Hardware." A full line of finishing hardware in Colonial designs for homes.

FRANTZ MANUFACTURING CO., Sterling, Ill.

509—Hardware, Builders—Booklet providing explanations of various classifications, including house, garage and miscellaneous hardware items.

HALL MANUFACTURING CO., Cedar Rapids, Iowa

510—Equipment, Garage Door—"Why the Hall Over-All Door Set is Better for Less Money." 5 pages telling in picture and story how it is made and how it works, including a detailed drawing of parts as they are installed.

LANEBRO MANUFACTURING CO. Inc., Poughkeepsie, N. Y.

511—Hardware—Information on door hangers for garages, barns, etc.

MCKINNEY MANUFACTURING CO., Pittsburgh, Pa.

512—Hardware, Builders—Information regarding McKinney hardware, including forged iron hardware.

NATIONAL MFG. CO., Sterling, Ill.

513—Hardware, Builders—"Catalog No. 22." 176-page general catalog illustrating and describing complete line of builders hardware.

SAMSON CORDAGE WORKS, 89 Broad St., Boston, Mass.

519—Cord, Sash—"Samson Spot Sash Cord." 4-page folder, suitable size for filing, showing construction of cord, table of sizes and tests.

SILVER LAKE CO., Newtonville, Mass.

520—Cord, Sash—"Silver Lake Cordage." Catalog describing and illustrating styles, sizes, qualities, brands, put-ups, shipping containers, and including specification chart.

NORTHWESTERN BARB WIRE CO., Sterling, Ill.

522—Nails—Descriptive Broadside, circulars, general catalog. All give vivid presentation of Non-splitz nails.

READING IRON CO., Philadelphia, Pa.

523—Nails, Cut—"Reading Cut Nails." Illustrated booklet showing various kinds and types of Reading cut nails.

TREMONT NAIL CO., 23 Elm St., Wareham, Mass.

524—Nails, Steel—"Hardened Steel Nails." Folder describing advantages of Tremont hardened steel cut nails for flooring, and masonry nails.

## 28. FURNISHINGS.

ARMSTRONG CORK & INSULATION Co., Lancaster, Pa.

526—Wall Coverings—"Colorful Walls That Never Grow Old." Describes nature and advantages of Linowall, a linoleum-type wall covering, illustrates its uses, and contains colorplates of all patterns offered. Also gives directions for installation and maintenance.

CONGOLEUM-NAIRN, INC., Kearney, N. J.

527—Wall Covering—"Presenting Seal-ex Wall Covering." 20 pages containing general information, color charts, specifications suggestions for use and color illustrations of typical installations.

THE STANDARD TEXTILE PRODUCTS Co., 320 Broadway, New York City

528—Wall Covering—"Sanitas—Clean it Like Woodwork." Booklet describing Sanitas and method of hanging.

529—Wall Covering—"Information for Decorators." Folder describing Sanitas with colored illustrations of patterns available.

## 29. PLUMBING.

CRANE CO., 836 S. Michigan Ave., Chicago, Ill.

530—Fixtures, Plumbing—"Make Your Home Worth More." Illustrated 4-color folder, offering suggestions for an immediate profitable investment in your property.

KOHLER CO., Kohler, Wis.

531—Fixtures, Plumbing—Information regarding the extensive Kohler line of Vitreous enamel and porcelain plumbing fixtures.

STANDARD SANITARY MFG. CO., Pittsburgh, Pa.

532—Fixtures, Plumbing—"Standard Plumbing Fixtures for the Home." 48-page consumer catalog. 8-page color section of bathroom interiors. Over 100 fixtures illustrated, described and dimensions given.

C. F. CHURCH MFG. CO., Holyoke, Mass.

533—Toilet Seats—"Modern Bathrooms for Old." 28-page full color booklet shows how to do over old bathrooms and plan new ones.

THE F. H. LAWSON CO., Evans & Whateley Sts., Cincinnati, Ohio

534—Cabinets, Bathroom—"Lawco Mirror-Lite Cabinets." Single-page sheet with three illustrations and complete specifications.

BRIGGS MANUFACTURING CO., Detroit, Mich.

536—Sinks—"Brigsteel Formed Plumbing Ware." Catalog on light weight, acid-resisting, stainless, porcelain plumbing ware made possible through close co-operation by the steel, ceramic and pressed metal industries and experts in porcelain enameling.

THE EDWARDS MANUFACTURING Co., 401-417 Eggleston Ave., Cincinnati, Ohio

537—Sinks—"Residence Sinks of Stainless Metal." 6-page folder describing custom made sinks of stainless metal with rounded corners.

THE INTERNATIONAL NICKEL CO., Inc., 67 Wall St., New York City

538—Sinks, Tables—"Inco Standardized Monel Metal Sinks, Tops and Tables." 24-page catalog illustrating Monel Metal sinks and tops with lists of sizes and cross sectional views of models.

Use Handy

Coupon on Page 93

in Requesting Catalogs

THE INTERNATIONAL NICKEL CO., INC., 67 Wall St., New York City

**547—Tanks, Hot Water**—"Hot Water Tanks of Monel Metal." Booklet outlining properties and uses of monel Metal hot water tanks, automatic hot water heaters with Monel Metal tanks, and hot water storage units.

MINNEAPOLIS-HONEYWELL REGULATOR CO., 402 E. 28th St., Minneapolis, Minn.

**548—Water Cutoff**—"Complete Boiler Protection." Folder describing controls to provide complete protection against the hazards of insufficient water in boilers.

THE AMERICAN BRASS CO., Waterbury, Conn.

**550—Tubes, Water**—"Anaconda Copper Tubes and Fittings." 24 pages, profusely illustrated, describing products, uses and methods of installation.

JONES & LAUGHLIN STEEL CORP., Pittsburgh, Pa.

**551—Pipe, Steel**—"J & L Pipe." 88 pages, with illustrated section depicting the manufacture of J & L steel pipe, both seamless and welded.

MUELLER BRASS CO., 1924 Lapeer Ave., Port Huron, Mich.

**552—Pipe, Copper**—"Catalog F." 60-page booklet illustrating and describing Streamline copper pipe and fittings—a product that gives the investor a non-rusting copper plumbing or heating installation at prices equal or very little higher than ferrous material.

READING IRON CO., Philadelphia, Pa.

**553—Pipe**—"Genuine Puddled Wrought Iron Pipe." Discussion of the characteristics, manufacture and adaptabilities of Reading genuine puddled wrought iron pipe.

REPUBLIC STEEL CORP., Republic Bldg., Youngstown, Ohio

**554—Pipe, Iron**—"Toncan Iron Pipe for Permanence." 64-page illustrated catalog, technical data, service records and installation views of corrosion-resisting Toncan iron pipe.

### 30. HEATING AND AIR CONDITIONING.

AMERICAN RADIATOR CO., 40 W. 40th St., New York City

**555—Boilers, Radiators, Etc.**—"Ideal Heating." 56-page catalog with an explanation of each article manufactured by this company for supplying warmth and domestic hot water to the home.

CRANE CO., 836 S. Michigan Ave., Chicago, Ill.

**557—Boilers, Radiators**—"More Heat Per Dollar." An illustrated circular giving more than ten good reasons why it will pay to modernize a heating system.

KEWANEE BOILER CORP., Kewanee, Ill.

**558—Boilers, Steel**—Information regarding Kewanee boilers for homes and smaller buildings.

NATIONAL RADIATOR CORP., 222 Central Ave., Johnstown, Pa.

**600—Boilers, Steel**—Series of 4-page folders giving information and ratings with illustrations of features of residential type National steel boilers for oil-burning type; stoker-fired type, and hand-fired type of boilers.

THE THATCHER CO., 39 St. Francis St., Newark, N. J.

**602—Equipment, Air Conditioning**—"Air Conditioner Circular." 4 pages, 8½ x 11, describing unit for installation in small homes.

UNITED STATES RADIATOR CORP., 1056 National Bank of Detroit Bldg., Detroit, Mich.

**603—Boilers, Oil Burning**—"Capital Oil Burning Boilers." 4-page colored booklet.

WARREN WEBSTER & CO., 1725 Federal St., Camden, N. J.

**607—Heating Systems**—"Improved Webster Systems." Bulletins describing the type of Webster system of steam heating particularly suited for residential construction.

TUTTLE & BAILEY, INC., 1100 Corbin Ave., New Britain, Conn.

**609—Grilles, Registers**—"Catalog No. 34." 40-page catalog profusely illustrated and containing complete information on comprehensive line of ornamental grilles and air conditioning registers.

OWENS-ILLINOIS GLASS CO., 965 Wall St., Toledo, Ohio

**611—Filters, Air**—"Dustop Air Filters." Catalog describes principles and results of air filtering and methods of application to warm air furnaces.

HOFFMAN SPECIALTY CO., INC., Waterbury, Conn.

**616—Valves, Radiator**—"More Steam Heat Comfort from Less Fuel." 16 pages, profusely illustrated, telling how a few simple changes in a one-pipe steam system result in fuel economy and greater heating comfort.

TRUSCON STEEL CO., Youngstown, Ohio

**617—Ventilator**—"A Noise Excluding Ventilator." A 6-page folder illustrating and describing the benefits derived from controlled ventilation, exclusion of noise from the home, apartment and office and filtered air.

THE BURROWES CORP., Portland, Me.

**618—Windows**—"The Health Window." Two-fold, 2-page pamphlet describing Burrowes air conditioning equipment.

THE AMERICAN ROLLING MILL CO., Middletown, Ohio

**619—Sheets, Galvanized**—"Armco Architectural Bulletins." A series of six to eight-page bulletins describing outstanding heating and ventilating installations.

FAIRBANKS, MORSE & CO., Chicago, Ill.

**620—Coal Burner, Automatic**—"Silent As The Sphinx." Circular describing the operation of an automatic coal burner. The advantages of automatic heating and the economies of obtaining automatic heat through the burning of low cost coal.

IRON FIREMAN MFG. CO., 3170 West 106th St., Cleveland, Ohio

**621—Stokers, Automatic**—"Iron Fireman Automatic Coal Burners, for Industrial and Domestic Installations." Information on coal burners for all types residential heating plants, warm air, hot water, steam, vapor-vacuum. Models for bituminous and anthracite coal.

MILCOR STEEL CO., 4111 W. Burnham St., Milwaukee, Wis.

**622—Pipe and Fittings**—"Milcor Pipe and Fittings, Catalog No. 30." A valuable hand-book for furnace installers. Contains the complete line of furnace stack and fittings, galvanized and tin smoke pipe and elbows, return air fittings and shoes, stove pipe and elbows, etc.

AMERICAN RADIATOR & STANDARD SANITARY CORP., 40 West 40th St., New York, N. Y.

**623—Equipment, Air Conditioning**—"Romance of Air." Non-technical discussion of air conditioning and brief description of air conditioning equipment for both residential and commercial application, manufactured by subsidiary companies.

THE EDWARDS MANUFACTURING CO., 401-417 Eggleston, Cincinnati, Ohio

**624—Equipment, Air Conditioning**—"Edwards Hot-Kold Winter Air Conditioning." 22 pp. loose leaf showing how winter climate requirements of the home are satisfied. 23 installation pictures.

FAIRBANKS, MORSE & CO., Chicago, Ill.

**625—Equipment, Air Conditioning**—"F-M Ortho-Climate Makes the Weather to Suit You." Circular calling attention to the health value of properly humidified air in the home and the savings possible in heating when air is properly conditioned.

THE FOX FURNACE CO., Elyria, Ohio

**626—Equipment, Air Conditioning**—"Modern Heating . . . . . Air Conditioning." A 20-page book explaining residential air conditioning and illustrating the three types of Sunbeam units.



HOLLAND FURNACE CO., HOLLAND, Mich.

629—**Equipment, Air Conditioning**—"Comfort and Cleanliness." Illustrates importance of clean, healthful air made possible by Holland Vaporaire circulating system; 28 pages, 19 Holland heated homes, 7 furnace photos.

THE MAJESTIC CO., Huntington, Ind.

631—**Equipment, Heating and Air Conditioning**—Circulars offering information on the Majestic standard furnace, heater, down draft furnace and Silver Anniversary furnace.

NORGE CORP., 670 E. Woodbridge St., Detroit, Mich.

632—**Equipment, Air Conditioning**—"Breathe Pure Air." Folder describing Norge Aerolator, winter air conditioner for homes.

THE TRANE CO., La Crosse, Wis.

633—**Equipment, Air Conditioning**—"The Trane Climate Changer." Folder offering information for architects and contractors on the Trane Climate Changer for residences and small buildings.

CENTURY ELECTRIC CO., 1806 Pine St., St. Louis, Mo.

636—**Fans, Ventilating**—"Century Fans." 12-page catalog covers complete line of fans, standard portable fans; ceiling fans and ventilating fans; Bonair fans for tastefully decorated homes; Reversair ceiling fans, for reversing the air upwards or downwards, etc.

CLAY EQUIPMENT CORP., Cedar Falls, Ia.

637—**Ventilation, Farm**—"Catalog No. 20." 70-page catalog on gravity and electric systems of ventilation for dairy barns, hog houses and poultry houses and other live stock buildings.

THE LOUDEN MACHINERY CO., 5500 Court St., Fairfield, Iowa.

638—**Ventilating, Farm**—"Louden Ventilating Systems." 28-page book of authoritative information on both gravity and electric ventilating systems.

F. W. SHEPLER STOVE CO., 1310 Sheffield St., Pittsburgh, Pa.

639—**Ventilator, Kitchen**—"Kitchen Exhaust Ventilator—Built-in Type." 4-page folder illustrating and describing with detail drawing and installation diagram.

VICTOR ELECTRIC PRODUCTS, INC., 740 Reading Rd., Cincinnati, Ohio

640—**Ventilator**—"Victor In-Bilt Ventilator." 4-page folder showing features pictorially and giving installation instructions with blueprints.

WESTINGHOUSE ELECTRIC & MFG. Co., Mansfield, Ohio

641—**Fans**—"Catalog No. MF-2429." A 2-color consumer folder that illustrates and describes 8 different models of home fans.

### 31. ELECTRICAL.

ANACONDA WIRE & CABLE CO., New York City

642—**Wires, Cables**—"Rubber Insulated Wires and Cables." 48 pages illustrating and describing all types used in building construction. Data on sizes, weights, etc., fully presented.

THE ARROW-HART & HEGEMAN ELECT. CO., Hartford, Conn.

643—**Switches, Wiring Devices**—"General Catalog." A complete listing of new and up-to-date switches and electrical wiring devices for all requirements of electric lighting and modern wiring convenience.

GENERAL CABLE CORP., 420 Lexington Ave., New York City

646—**Wires, Cables, Rubber Covered**—"General Cable Building Wires and Cables." 24-page booklet incorporating specifications, very useful tables, cuts of tables and method of put-up.

647—**Cable, Non-Metallic Sheathed Cable**—"Romex Folder." 4-page folder describing non-metallic sheathed cable and including step cut back illustration. Also depicting coil ready for shipment.

GENERAL ELECTRIC Co., Bridgeport, Conn.

649—**Materials, Wiring**—"Story of Comfort." 34 pages contrasting the comforts made possible by adequate wiring with ancient discomforts, illustrated.

650—**Devices, Wiring**—"Wiring Device Catalog." 60 pages, gives complete listing, catalog number and description of G. E. wiring devices. Also lists distributors. Illustrated.

FRANK ADAM ELECTRIC Co., Main P. O. Drawer No. 22, St. Louis, Mo.

655—**Cutouts, Enclosed**—"FBX Enclosed Cutout Units." Folder illustrates and describes enclosed cutouts for residences and gives prices on various sizes.

F. W. SHEPLER STOVE Co., 1310 Sheffield St., Pittsburgh, Pa.

656—**Heater, Electric**—"Radia Electric Heaters." 8-page catalog illustrates and describes complete line of wall insert type electric heaters for every requirement with detail drawings and installation diagrams of each type.

WESTINGHOUSE ELECTRIC & MFG. Co., Mansfield, Ohio

657—**Ranges**—"Complete Specifications of Westinghouse Dual Automatic Electric Ranges." These sheets give complete specifications and descriptions of all electric ranges in Westinghouse line with large, clear illustrations of each.

658—**Dishwashers**—"Specifications of Westinghouse Cabinet Model Dishwashers." Catalog gives all specifications and includes detail drawing.

CENTURY ELECTRIC CO., 1806 Pine St., St. Louis, Mo.

661—**Motors, Electric**—Information on Century RS motors, capacitor motors, flange-mounted motors, etc.

AMERICAN TELEPHONE & TELEGRAPH Co., 195 Broadway, New York City

663—**Telephones**—Information regarding telephone installation and service in buildings.

RCA VICTOR Co., Camden, N. J.

664—**Sound Distribution**—"RCA Victor Centralized Sound." General catalog of high quality sound devices, reproducers and control units.

665—**Radio and Phonograph Units**—"Music in the Modern Manner." Catalog generally descriptive of custom-built units for finer homes.

### 32. REFRIGERATION.

GENERAL ELECTRIC Co., Nela Park, Cleveland, Ohio

666—**Refrigerators**—Information regarding the 1934 models of G-E refrigerators for home use and for commercial installations.

FRIGIDAIRE CORP., Dayton, Ohio

667—**Refrigerators**—Information regarding the four new lines of refrigerators for 1934 for homes and commercial purposes.

NORGE CORP., 670 E. Woodbridge St., Detroit, Mich.

668—**Refrigerators, Electric**—"The Economy of a Luxury." Deluxe catalog showing all 1934 Norge models and detailed features.

WESTINGHOUSE ELECTRIC & MFG. Co., Mansfield, Ohio

669—**Refrigerators**—"Catalog No. MGA-2164-C." This booklet pictorially presents the outstanding Westinghouse refrigerator features. It also carries illustrations of the complete line of models together with all specifications.

### 33. ELEVATORS, DUMBWAITERS AND ACCESSORIES.

CHELSEA ELEVATOR Co., New York

670—**Dumbwaiters, Elevators**—"Chelsea Service Sheets." 48 pages illustrating various types, specifications, hatchway details, space requirements, adaptations, power factors, horsepower, capacities, speeds, etc.

SEDGWICK MACHINE WORKS, 154 W. 15th St., New York City

671—**Dumb Waiters, Fuel Lifts**—"Sedgwick Mechanical Servants." A story dedicated to the modern home introducing Sedgwick outfits specially designed for residential service. 8 pages, 13 illustrations.

A Coupon for your convenience  
in requesting catalogs is on  
page 93.

**35. EQUIPMENT.**

COLONIAL STOVE CO., Philadelphia, Pa.

**674—Equipment, Kitchen**—"Give Your Home a New Modern Ensemble Kitchen." Booklet prepared to enlighten architects, builders, apartment house owners, prospective distributors and dealers on the possibilities of merchandising modern kitchen ensemble. There are 20 detailed drawings combined with a description of the product.

CURTIS COMPANIES, INC., Clinton, Iowa.

**675—Equipment, Kitchen**—"Your Dream Kitchen." 16-page catalog, illustrating in color various types of kitchen units, with suggestions for efficient planning.

GENERAL ELECTRIC CO., Cleveland, Ohio

**676—Equipment, Kitchen**—"Planning the Electric Kitchen." 28-page booklet on household kitchen planning with dimension tables, photographs, diagrams and other valuable information.

THE INTERNATIONAL NICKEL CO., Inc., 67 Wall St., New York City

**678—Equipment, Kitchen**—"Modern Domestic Service Equipment." A 32-page illustrated booklet giving complete description and specification data on custom built Monel Metal household equipment.

THE H. M. C. SALES CORP., New Castle, Ind.

**679—Furniture, Kitchen**—"Hoosier Sectional Kitchen Furniture." An 8-page folder with type sheet covering the complete line, numerous drawings before-and-after illustrations and general description of this line of sectional kitchen furniture.

KERNER INCINERATOR CO., Milwaukee, Wis.

**680—Incinerators**—"Announcing Model T Kernerator." Description and details of the flue-fed Kernerator for small homes. In the price range of the portable.

KOLSTAD MAIL BOX CO., Duluth, Minn.

**683—Mail Boxes**—"Kolstad Mail Boxes." 4-page catalog with 52 illustrations and detail drawings showing built-in residence and apartment house mail boxes and their installation.

THE F. H. LAWSON CO., Evans & Whateley Sts., Cincinnati, Ohio

**684—Doors, Clothes Chutes**—"Lawco Access Units, Clothes Chute Doors." One-page sheet with five illustrations and complete specifications.

MIDWEST CONCEALED BED CORP., Evansville, Ind.

**685—Beds, Concealed**—"Modern Concealed Comfort." 24-page catalog and supplement on concealed and Rollaway beds.

FRAZIER STAIR COMPANY, 1817-19 Banksville Ave., Pittsburgh, Pa.

**686—Stairs, Disappearing**—"Save Space." Folder illustrating and describing installation and use of Frazier disappearing stairs.

THE MARSCHKE CO., 551 University Ave., St. Paul, Minn.

**687—Stairs, Folding**—"Use Your Attic." This 8-page folder with five illustrations gives full data on how to install them.

ALLMETAL WEATHERSTRIP CO., 231 W. Illinois St., Chicago, Ill.

**688—Weatherstripping**—A complete sales kit including charts showing standard material and installation of Allmetal Weatherstrip; also giving details and data showing advantages of weatherstripping windows and doors.

THE BURROWES CORP., Portland, Me.

**689—Screens, Window and Door**—"Burrowes Rustless Screens." 12-page booklet describing product and proper installation of same.

THE INTERNATIONAL NICKEL CO., Inc., 67 Wall St., New York City

**691—Screen Cloth**—"Inconel 'Ageless' Screen Cloth." Bulletin outlining properties and qualities of screen cloth made of Inconel, a nickel-base chromium alloy.

NEW YORK WIRE CLOTH CO., 500 Fifth Ave., New York City

**693—Screen Cloth**—"Wire Screen Cloth." 32-page catalog with descriptions of Opal galvanized screen cloth and Liberty bronze screen cloth, and including surface tables.

CLAY EQUIPMENT CORP., Cedar Falls, Ia.

**694—Equipment, Farm**—General Catalog. 172-page book of complete equipment for farms and farm buildings as well as information on farm building construction.

HALL MANUFACTURING CO., Cedar Rapids, Iowa

**696—Equipment, Dairy Barn**—"Catalog No. B19." A 48-page catalog illustrating and describing modern sanitary barn equipment and its installation.

THE LOUDEN MACHINERY CO., 5500 Court St., Fairfield, Iowa

**697—Equipment, Barn**—"Louden Barn Equipment Catalog." 192 pages describing stalls, stanchions, water bowls, litter carriers, hay tools, door hangers, etc.

STARLINE INC., Harvard, Ill.  
(Formerly: Hunt, Helm, Ferris & Co.)

**699—Equipment, Barn**—"Proved Plans for Improving Barns." A handbook of 64 pages, illustrated, showing details of barn roof construction, dairy stable floors, barn equipment and barn ventilation.

**36. CONSTRUCTION PLANT.**

THE AMERICAN FLOOR SURFACING MACHINE CO., Toledo, Ohio

**700—Machines, Floor Sanding**—"American Sanding Machine." A circular showing cuts, and advantages of latest type equipment.

DREADNAUGHT SANDERS CO., Muskegon, Mich.

**702—Sanders**—"Dreadnaught Floor Sanding Profits." A 4-page folder on the complete Dreadnaught line of four sanding machines.

LINCOLN-SCHLUETER FLOOR MACHINERY CO., 222 W. Grand Ave., Chicago, Ill.

**703—Machines, Floor Sanding**—"Speed-O-Lite Floor Surfacing Machine." Special folder giving complete detailed description and construction data of light-weight, high speed sander.

**704—Surfacers, Floor**—"The Improved Schlueter." Folder, illustrated, gives sizes, models and all specifications of the heavy-duty line of sanding and resurfacing machines.

RAILWAY EXPRESS AGENCY, INC., New York City

**705—Transportation Service**—"A Phone Call Starts It All." A 4-page illustrated leaflet outlining the nation-wide transportation service offered by railway express.

PORTER-CABLE MACHINE CO., Syracuse, N. Y.

**706—Sanders, Floor**—"New High Speed Sander and Edger." 4-page, 2-color bulletin describing new machine and method of sanding floor edges, stairs, etc.

THE REID-WAY CORP., 3001—1st Ave., Cedar Rapids, Iowa

**708—Sanders, Electric**—Illustrated circular matter on Reid-Way bench and floor sanders, Whirlwind sander, Reid-Way Floor Ace and the new Reid-Way 8" sander.

C. H. & E. MANUFACTURING CO., Inc., Milwaukee, Wis.

**709—Equipment, Contractors**—Information on complete line of contractors' equipment including portable saw rigs, woodworking machinery, saws, pumps, mortar mixers, material elevators, etc.

**News Bulletin**

Washington, D. C., March 29—A Gigantic Federal program of housing, home modernization and slum clearance was announced today by Frank C. Walker, Executive Director of the National Emergency Council, as the government's next move in the recovery program.

The credit facilities of the government, it was stated, will be placed behind the movement to the extent of one billion dollars or more. The plan has been under study for six weeks, Mr. Walker said, by the Council which is a Federal body correlating activities of the various Federal bureaus seeking economic recovery.

DE WALT PRODUCTS CORP., Lancaster, Pa.

710—Machinery, Woodworking—"The DeWalt Wonder Worker." A folder, 25" x 6½", illustrating a number of DeWalt machines, and the various operations which can be performed with them.

HESTON & ANDERSON, 200 Grant Ave., Fairfield, Iowa

712—Machinery, Woodworking—"Catalog." A carefully arranged description of the various ball bearing motor driven units manufactured by our firm.

THE PARKS WOODWORKING MACHINE CO., 1524 Knowlton St., Cincinnati, Ohio

713—Machinery, Woodworking—"Catalog A." This catalog describes and illustrates the complete line of wood-working machinery made by this company.

PORTER-CABLE MACHINE CO., Syracuse, N. Y.

714—Saws, Electric Hand—"Manual on Use of Hand Saws." 16-page booklet on how and when to use certain types of electric hand saws to save time and material.

WALKER-TURNER CO., INC., 6144 South Ave., Plainfield, N. J.

716—Tools, Power—"Woodworking Power Tool Catalog." 48-page catalog, in color, covering three lines of electric power tools, including band saws, jointers, lathes, bench saws, bench drills, etc.

ELECTRIC CARPENTER, INC., Philadelphia, Pa. (formerly Woodworking Machinery Co., Inc.)

717—Machinery, Woodworking—"Electric Carpenter." Catalog describing this equipment which is seven machines in one, for the builder who wants to go in the jobbing business on a profitable basis and make a living, and for the cabinetmaker.

THE AMERICAN CEMENT MACHINE CO., INC., Keokuk, Iowa

719—Mixers, Concrete—"Boss Concrete Mixers—Hoists—Carts and Dump Bodies." 24-page catalog containing complete information with illustrations and with direct-from-factory prices which save considerable money for the contractor.

CHAIN BELT CO., 1621 W. Bruce St., Milwaukee, Wis.

720—Mixers, Concrete—"Cutting the Cost of Concrete." 32-page catalog, covering all sizes of mixers from 3½S tilter to 28S, drawings of 7S, 10S, 14S.

CONSTRUCTION MACHINERY CO., 420 Vinton St., Waterloo, Iowa

724—Machinery, Construction—"New Wonder 3½S Trailer." 8-page bulletin in two colors, profusely illustrated on new model trailer.

COLORCRETE INDUSTRIES, INC., Holland, Mich.

722—Machines, Stucco Spraying—"Money in Renovizing Homes and Masonry Structures." 4-page folder describing Colorcrete renovizing process with examples and cost data on actual work.

W. E. DUNN MFG. CO., Holland, Mich.

727—Machine, Building Tile—"Basic Facts." Facts and figures, with illustrations in color, on the manufacture of building tile, and on how to build better buildings at less cost.

THE JAEGER MACHINE CO., 520 Dublin Ave., Columbus, Ohio

732—Mast Plant—"Jiffy Mast Plant." Describing a compact 60 ft. steel mast plant which may be equipped both with 10 ft. concrete bucket and material platform.

LANSING CO., 603 N. Cedar St., Lansing, Mich.

733—Equipment Contractors—"Lansing Equipment for Contractors." A 24-page booklet containing photographs and specifications of concrete mixers, hoists and other items of interest to contractors.

RANSOME CONCRETE MACHINERY CO., DUNELLEN, N. J.

735—Mixer Concrete—"Ransome 3½-S Tilting Mixer." A 4-page bulletin describing high quality Timken equipped spring mounted cushioned tired 3½-S tilting mixer.

DODGE BROTHERS CORP., Detroit, Mich.

738—Trucks—"The Show-Down Way to Judge Truck Values." A comprehensive summary giving simple, basic method for determining truck values. 24 pages, profusely illustrated with models of Dodge Brothers commercial cars and trucks.

FORD MOTOR CO., Dearborn, Mich.

739—Trucks—Information regarding the new 1934 model Ford trucks for contractors and builders.

INTERNATIONAL HARVESTER CO. OF AMERICA, 606 S. Michigan Ave., Chicago, Ill.

740—Trucks, Motor—"International Truck Catalog." Catalog describing International trucks which are built in capacities ranging from ½-ton to 7½-ton capacity.

741—Tractors and Power Units—"Push, Pull, Haul, Hoist with McCormick-Deering Industrial Power." Catalog describing McCormick-Deering industrial tractors, TracTractors, and power units which are built in a variety of types and sizes to meet every requirement.

FIRESTONE TIRE & RUBBER CO., Akron, Ohio

742—Tires—Truck, Bus and Auto—"Firestone Data Booklet." Information on a complete line of truck and bus tires to meet every trucking and transportation need.

743—Batteries—"How Firestone Batteries Are Made." Information on batteries for trucks and buses.

THE DEMING CO., Salem, Ohio

744—Turbines—"Deep Well Turbines." 16 pages, containing full information of deep well turbine pumps, also showing many actual installations.

O. K. CLUTCH & MACHINERY CO., Box 305, Columbia, Pa.

745—Elevators, Hoists—"Hoists & Elevators." 32-page catalog giving full description on elevators and hoists.

BEHR-MANNING CORP., Troy, N. Y.

747—Abrasives—"How to Sharpen." An authoritative treatise for the carpenter, painter and floor surfer on sharpening of all kinds of edged tools.

(Apr. 1934)

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

Please have the following Catalogs listed in this issue sent me—

Numbers.....

I also desire further information about the following products advertised  
in this issue.....

Name.....

Street.....

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

Occupation.....

HENRY DISSTON & SONS, INC., Philadelphia, Pa.

748—Saws, Hand—No. 92 Hardware Catalog shows complete line of products sold through hardware jobbing channels.

FOLEY MFG. CO., 11-15 Main St., N. E., Minneapolis, Minn.

749—Filers—"The Foley Automatic Saw Filer." Illustrated folder describing new saw filer, with diagram showing how easily saws can be adjusted to filer.

KIMBALL MFG. CO., INC., Royal Oak, Mich.

750—Tool, Contractors—"Bevil-Devil." Illustrated folder describing Bevil-Devil fibre-board cutting tool showing how it works and what it does.

NORTH BROS. MFG. CO., Philadelphia, Pa.

751—Tools, Mechanics—"Yankee Tool Book." 48 pages, 100 illustrations; all types screw drivers, breast, hand, push drills, bit braces, etc.

AJAX BUILDING BRACKET CO., 1551 Rydal Mount Rd., Cleveland Heights, Ohio

752—Brackets, Roofing—Folder describing the four sizes and six types of Ajax building brackets suitable for heaviest down to lightest roof practice.

GEIER & BLUHM, INC., 670 River St., Troy, N. Y.

753—Level, Convertible—"Circular G." Illustrated folder on Builders' and Contractors' convertible level, G & B Model 45.

W. & L. E. GURLEY, Troy, N. Y.

755—Levels—"The Gurley Tilting Level." 8-page illustrated bulletin describing contractors and builders instrument.

756—Levels—"Gurley Levels." Bulletin No. 200 illustrating and describing levels for engineers and contractors.

STANLEY TOOLS, New Britain, Conn.

757—Tools, Woodworking—"No. 34 Catalog," a tool encyclopedia illustrating and describing more than one thousand different tools.

MASTER RULE MFG. CO., INC., New York City

758—Rule, Steel Tape—"8 New Uses of Master Flexible Steel Tape Rule." Descriptive folder.

PACKARD SERVICE BUREAU, 130 Scott St., Davenport, Ia.

759—Indicator, Roof Pitch—"Instruction and Description of Roof Pitch Indicator." 1-page folder describing the various uses of roof pitch indicator, illustrated with 4 cuts.

WARREN-KNIGHT CO., 136 N. 12th St., Philadelphia, Pa.

760—Equipment, Drafting Room—Infor-

mation on transits, levels, drawing room supplies, folding rules, protractors, drawing blocks, tracing cloth, Wrico lettering guides, etc.

### 37. INSULATION.

ARMSTRONG CORK & INSULATION Co., Lancaster, Pa.

761—Insulation—"Armstrong's Temlok Building Insulation, Specifications and Data." 16 pages, with 5 detailed drawings, providing general data, including physical characteristics of Temlok, together with specifications for erection.

SAMUEL CABOT, INC., Milk St., Boston, Mass.

762—Insulation—Information regarding Cabot's quilt, a pioneer insulating material.

CELOTEX CO., 919 N. Michigan Ave., Chicago, Ill.

763—Insulation—"Interiors That Speak of Charm and Comfort." A 24-page booklet covering the latest developments of Celotex as interior finish. Illustrates beautiful and unusual decorative effects possible for walls and ceilings in homes, offices, stores, schools, churches, etc.

764—Insulation—"Adventures in Remodeling." 12 pages of illustrated subjects—attic and basement rooms, porches enclosed, garages, farm buildings.

CERTAIN-TEED PRODUCTS CORP., 100 E. 42nd St., New York City

766—Insulating Board—"Beaver Insulating Board." This illustrated folder gives the many ways that Beaver insulating board may be used to afford real economy and comfort in the home.

EAGLE-PICHER-LEAD CO., Main & Court Sts., Cincinnati, Ohio

767—Insulation—Information regarding Eagle Picher mineral wool insulating material.

THE HINDE & DAUCH PAPER CO., Sandusky, Ohio

768—Insulation—Information regarding insulating material of corrugated paper.

THE INSULITE CO., Builders Exchange Bldg., Minneapolis, Minn.

769—Board, Building—"Increasing Home Enjoyment." A general discussion of the uses and benefits of efficient insulation in modern construction; 30 pages, 40 illustrations.

JOHNS-MANVILLE CO., 22 E. 40th St., New York City

770—Insulation—Information regarding J-M rock wool insulation for blowing into walls and roofs; also regarding J-M rock wool batt.

REYNOLDS METALS CO., INC., 19 Rector St., Room 3501, New York City

771—Insulation—"Metallate Your Home." A pamphlet describing Reynolds Metallation and how it functions.

772—Insulation—"Reynolds Metal-

lation." A catalog, 8½ x 11", describing this permanent, genuine metal insulation for home and industry.

THE STANDARD LIME & STONE CO., 1st National Bank Bldg., Baltimore, Md.

773—Insulation, Batt—"America's Greatest Advance in Home Comfort." Folder containing complete information on Capitol Rock Wool insulation for both new and existing homes.

774—Insulation, Loose Fill—"Shuts Winter Heat In; Shuts Summer Heat Out." A folder showing the modern method of insulating existing homes with Capitol Granulated Rock Wool.

WOOD CONVERSION CO., Cloquet, Minn.

776—Board, Insulating—"The Nu-Wood Book." A 32-page booklet describing a new wall and ceiling finishing material which insulates, decorates and hushes noise. Illustrated in color.

777—Insulation—"Insulating Blanket." Information about Balsam-Wool flexible insulating blanket made of "wood wools" matted between creped kraft paper liners.

### 38. LANDSCAPE.

LONG-BELL LUMBER SALES CORP., R. A. Long Bldg., Kansas City, Mo.

778—Furniture, Lawn—"Kum-fit Products." 8 pages illustrated. Kum-fit lawn and porch chairs, tables, settees, juvenile chairs. Come knocked down in packages, easily assembled, no cutting, sawing or planing.

### 39. ACOUSTICS.

CERTAIN-TEED PRODUCTS CORP., 100 E. 42nd St., New York City

779—Plaster, Acoustical—"Kalite Sound-Absorbing Plaster." This booklet illustrates the action of sound; describes in detail the method of application and the sound-absorbing values of Kalite acoustical products.

JOHNS-MANVILLE CO., 22 E. 40th St., New York City

780—Acoustical Materials—Information regarding acoustical department, engineering and advisory services and of acoustical materials.

### 40. FINANCING.

CERTAIN-TEED PRODUCTS CORP., 100 E. 42nd St., New York City

781—Financing Service—Information regarding deferred payment plan for repairs and remodeling.

JOHNS-MANVILLE, INC., 22 E. 40th St., New York City

782—Financing Service—Information regarding deferred payment plan for repairs and remodeling.

THE RUBEROID CO., 95 Madison Ave., New York City

783—Financing Service—Information regarding deferred payment plan for repairs and remodeling.



