



**AMERICAN BUILDER
and
BUILDING AGE**

IS THE BUSINESS
JOURNAL OF THE
ACTIVE MEN OF THE
BUILDING INDUSTRY

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and
BUILDING AGE

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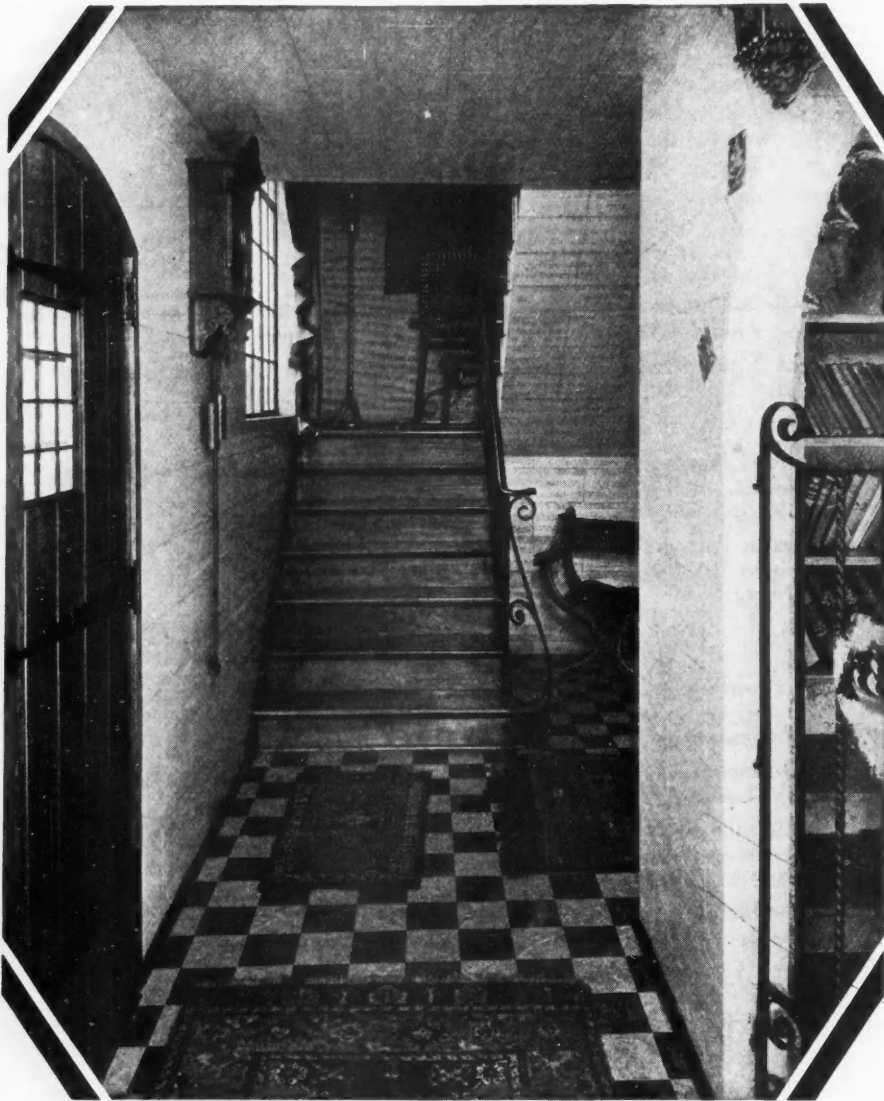
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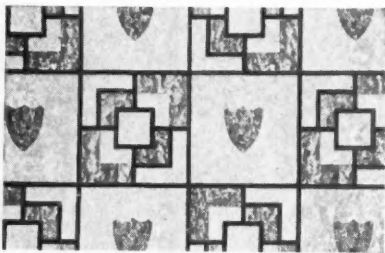


Modern interiors in old houses make prospects say, "This house is just like new."

WHERE AN
OLD HOUSE
WON'T SELL

A *DISTINCTIVE*
ONE WILL

A **DISTINCTIVELY** individual house? Yes, it may be an old house, too, but you'd never guess it. The outside smiles at you—so does the inside. There's a pervading atmosphere of charm about it. Always new looking. Why? Because the owners keep it *modern*. New paint when it is needed—new



This *De Luxe Marble Inlaid* pattern brings a modern atmosphere to any house.
No. 14080.

conveniences. Several years ago the floors looked worn and shabby. So Armstrong's Linoleum Floors were installed. Now *everything* about the house is modern.

Armstrong's Linoleum Floors can be laid right over the old wood surface. They are moderately priced, too. And you can eliminate that costly refinishing which used to be necessary every two or three years. With care these modern floors will last a lifetime. They're quiet and easily cleaned. The Accolac-Processed surface makes them spot-proof and stain-proof. An occasional relacquering or waxing twice a year

Armstrong's
Product

keeps the surface gleaming.

Not only are Armstrong Floors practical but they are beautiful as well. There is a variety of patterns and colors to choose from, each suggesting new and different ways of decorating every room in the house. To both old and new houses, Armstrong Floors bring permanent youth and cheerful interiors.

If you plan to decorate we suggest that you write for a copy of the book, "New Ideas in Home Decoration." You will find it helpful in planning modern interiors. Armstrong Cork Company, Floor Div., Lancaster, Pa.

Armstrong's Linoleum Floors
for every room in the house

PLAIN - INLAID - EMBOSSED - JASPE - PRINTED - ARMSTRONG'S QUAKER RUGS

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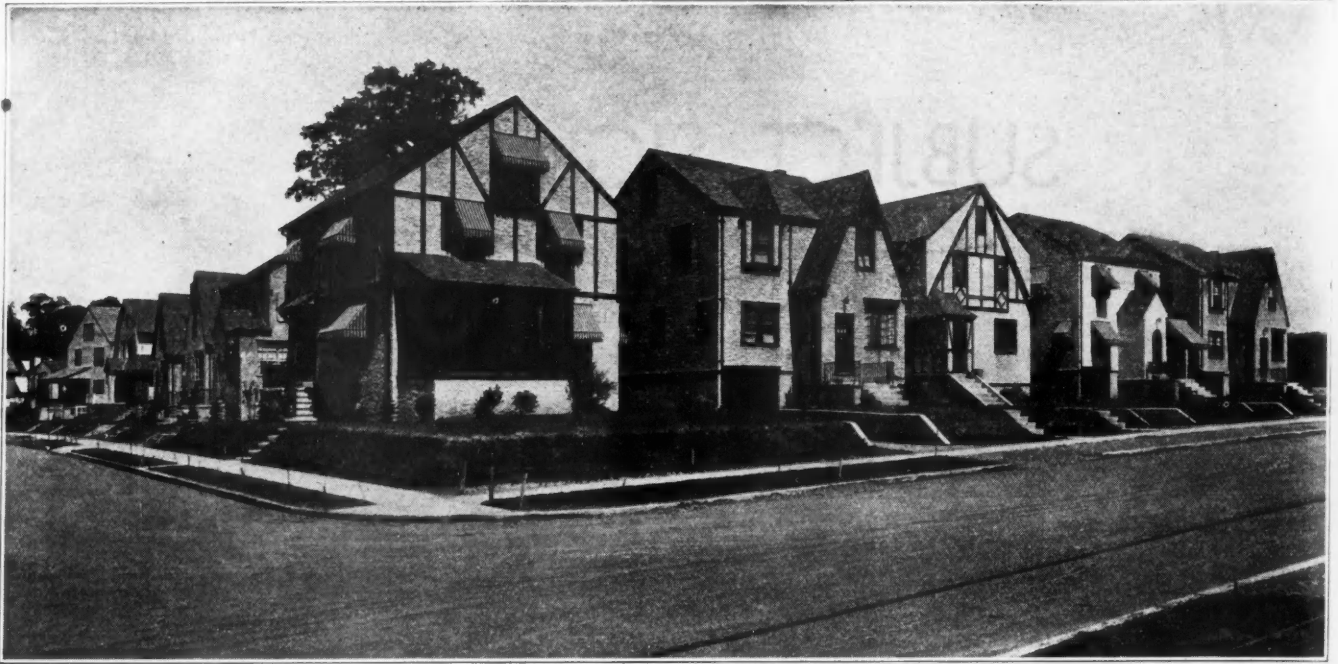
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This Classified Index is Presented for the Convenience of Readers Who Are Seeking Features and Designs of a Particular Sort. An Index by Pages in Regular Order Appears on Page 5.



Part of a group of 50 new homes at Mt. Vernon, N. Y. finished in both white and tinted stucco made with Atlas White portland cement. Vought & Halpern, Inc., builders, New York City. Tuckstone Stucco furnished by Tuckahoe Stucco Corporation, Tuckahoe, N. Y.

Stucco of any color or shade . . . with Atlas White portland cement

Buff, cream, lemon yellow, light blue, light green, pure white—these are some of the stucco tints and colors that are popular on new and remodeled homes. These and other light colored stuccos are helping to sell new homes for many well-known development and subdivision companies all over the country.

Atlas White portland cement is the ideal cement for either white or tinted stucco. Being of a neutral color itself, it makes possible in the finished stucco the true shade or color desired whether the medium of coloring is pigment or naturally colored sand. In addition, Atlas White helps the builder sell his work for it is a product internationally advertised and used.



CHICAGO
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ALBANY
PITTSBURGH
CLEVELAND
COLUMBUS

Universal Atlas Cement Co.

Subsidiary of United ^{US} States Steel Corporation

Concrete for Permanence

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DULUTH
ST. LOUIS
KANSAS CITY
DES MOINES
OMAHA
OKLAHOMA CITY
BIRMINGHAM
WACO



WHEN WINTER COMES

WHEN winter comes, and especially during the Christmas holiday season, is the time when the commodious, comfortable, and attractive home is most appreciated. The automobile is the principal competitor of the home in this country. The automobile cannot be freely used and enjoyed in the northern part of the country during the winter, while the home can be enjoyed throughout the year, and especially during the winter months.

Do the homes of the American people measure up to their general standard of living? Leave the better residential parts of any city and look at the houses and apartment buildings in the much larger districts that are inhabited by the great majority of people with small incomes. Consider the houses in most of our towns and villages. Go out into the rural districts in any part of the country and look at the farm houses. Every street will be seen lined with automobiles. Factories have large parking places for their workmen's cars. One or more automobiles will be seen on every farm. Of course, there are many comfortable and beautiful homes; but a visitor from another country who compared the homes in general with the automobiles in general might decide that the American people will soon be living outdoors, like the aborigines who inhabited the country when Columbus discovered it.

Why do not a great majority of the American people have larger, better, and more beautiful homes? Why, even during the recent period of prosperity, was residential building undergoing a slump?

The Cost of Home-Owning

The cost of owning or renting a good home has been made relatively high. The prices of building materials have greatly declined; but building labor has been and is expensive because of both high wages and restrictions upon output. High wages are desirable if those who

AMERICAN BUILDER AND BUILDING AGE

receive them will work with the greatest practicable efficiency; but when high wages are paid to labor that is made inefficient by restrictions upon output, costs of production or construction become excessive. One of the problems of the building industry is that of getting labor to render service in proportion to the wages it receives.

Another serious and growing handicap upon the building or renting of satisfactory homes at a reasonable cost is the great increase in taxes that has occurred within recent years. This increase has been largely due to reckless and wasteful expenditures by our local, state and national governments. Real estate is so exposed to the assessor that the taxes imposed upon it are relatively much higher than those upon other kinds of property. The building industry should be a leader in opposing the constant increase in taxes because it probably interferes with the prosperity of the building industry more than that of any other industry.

Making the People "Home-Minded"

One of the principal reasons why the homes in which most of the American people now live do not measure up to their other standards of living is the past lack of propaganda for better homes. The word "propaganda" has a sinister sound to many persons. In fact, propaganda may be perfectly honest in its method and salutary in its purposes. Propaganda carried on through advertising and otherwise has made the American people "automobile-minded," and caused their enormous expenditures for automobiles and for highways to run them on. One of the nation's great needs is for propaganda that will make the people "home-minded." Much advertising and publicity are carried on to get people to buy specific kinds of equipment and furnishings for their homes, but little is carried on to influence them to want better homes in which to put these things. The market for equipment and furnishings for homes and apartments can be enlarged only as the market for larger and better houses and apartments is correspondingly expanded.

Who should educate the American people to be will-

ing to pay for larger and better homes? Principally, the building industry, including both builders and manufacturers of materials and equipment, because, in a business way, they have the most to gain by educating the people. What means shall they use for accomplishing this purpose? Obviously, the same means that have been used so effectively to sell the people automobiles and fur coats—that is, salesmanship, advertising, publicity. How can the home building industry in any city or town or rural district hope to compete successfully with other industries for the people's money unless it uses intelligently and persistently the only means available for making the people "home-minded"?

The problems of the building industry are similar to those of other industries. They are the problems involved in the enlargement of markets by reducing costs and adopting effective methods of salesmanship. The building industry must compete with every other industry in the country for the public's money, and it can compete successfully with them only by using the methods used successfully by other industries, and, if possible, improving upon them.

SAVING MONEY BY BUILDING NOW

THE present is the best time that there has been in years to build. There are two principal reasons. First, building materials are cheap, and, secondly, labor is efficient—as it always is when there is unemployment and intense competition for jobs.

Specific experience is always more convincing than general statements. About a year ago the board of directors of a large manufacturing company took bids upon some additions to its plant. The collapse of the stock market, and pessimism due to the decline of general business, caused postponement of the work. About three months ago it was decided to ask for bids again. Fifteen were received, and it was found that the work could be done for \$1.48 per cubic foot, whereas a year before it would have cost \$2.05. Contracts were let and the work immediately begun with a resulting saving of \$200,000 and the giving of employment to 200 men. Of course, the employment of these men increased their purchasing power and thus produced a good effect upon general business.

It is all very well to raise funds to prevent suffering by the unemployed, but the best way to help the unemployed, and the only way to help general business, is to give men jobs. All over the country there are individuals and companies that have planned to build, but have "pigeon holed" their plans to wait for better days. The better days, from the standpoint of efficiency and economy in construction, are here now. As a result of the experience of the one company above referred to, eight other companies in its immediate vicinity are either taking bids or actually doing work on their plants which had been deferred for similar reasons.

The principal reason why only a comparatively few business men and business concerns are conspicuously

successful is that a majority are dominated by mob psychology and do merely what others are doing at the same time, while a few carefully study their problems and go ahead doing what they regard as good business regardless of what others do. If you are going to be a leader you must get and keep ahead of the crowd all the time.

Nobody can say just when business will be good, but it is certain that the time is not far off. Those who take advantage of present conditions in the labor and material fields to build now will thereby effect savings immediately and make profits in future that will be the envy of those who wait now and later rush with the crowd into a market in which costs of all kinds have advanced.

THROW THE RACKETEERS OUT

ADDITIONAL evidence that gangsters and racketeers have obtained a foothold in some of the building and construction unions was uncovered recently in Chicago when a number of union headquarters were raided by policemen.

The building industry is too large and too honest to tolerate gangster activities, or anything approaching them, anywhere within it. It is a black eye to everyone when one division, even though it isn't of dominating importance, is found to be in any way connected with such discreditable activities.

We repeat, the building industry cannot afford to have its reputation smirched by stories of "rackets" that prevail within it. The time has come to throw out the racketeers.

WHY NOT?

AT a recent meeting of the Associated General Contractors a speaker declared that the time is at hand for the building industry to be represented in our government's official family. A Department Building with its official head a member of the President's Cabinet is as much in order as a Department of Agriculture.

EXTRAS

THERE is no item that causes more dissatisfaction than charges for "extras." The one safe rule for builders to follow is to have a blank order book for extras and when they are proposed write them down in the book stating the price and give a carbon copy to the owner or architect.

The following of this simple method will prevent all controversy with an owner when payments are to be made as the owner knows the prices in advance. Another very important point is that it serves as a record to the contractor of the extras that have gone in on that job. Quite often one or two items may be overlooked if the record is not kept in one book—simple memorandums have a habit of getting lost.

There is no place where the Golden Rule can be applied to better advantage than in settling the cost of "extras."

A HOUSE CLEANING IS DUE!

Thorough Overhauling of Home Building Practices Needed to Restore Public Confidence and Regain Normal Volume of Home Building and Home Buying

**CAN BUILDERS PUT THEIR OWN HOUSE IN ORDER?
OR WILL THEY WAIT FOR
OUTSIDERS TO DO IT?**

Inspection Committee of representative builders on the job.



THE construction industry is the weakest part of our whole business structure. It is without effective organization, devoid of co-operative spirit, leadership or long-range vision, burdened and harrassed with outrageous labor conditions, crippled by ineffective management and wasteful methods of public and private finance, backward in technical development and in consumer-consciousness.

"The greater part of the American people live in what amounts to mere mining camps or frontier outposts, waiting to move into civilized communities. Our farm houses are hovels; our cities are sprawling, chaotic caravansaries composed of a haphazard hodge-podge of bleak, dingy barracks; our public buildings are eyesores; our roads are still in larger part merely glorified cowpaths. It is a great and prosperous country, but where its people live it looks like the devil. We have barely begun as yet to build America."

THE above editorial, from a recent issue of "The Business Week" indicates how a great many folks today regard the building industry. While unjust to the tens of thousands of conscientious, responsible

and skillful builders, it nevertheless represents a growing body of public opinion, and, unquestionably, is one of the major causes of the depressed home building market of the past two years. In general, folks are not going to buy very much of a product which they believe to be overpriced, inefficiently produced and of doubtful quality.

In this present situation, the innocent are suffering with the guilty; the standing and integrity of the majority—the real business men of the industry—are being dragged down in the esteem of the American buying public by the incompetents, the cheaters, the racketeers and the amateur bunglers that have been permitted in many localities to get footholds in this great building industry.

The remedy, as this publication sees it, is for the builders themselves to get together in every community, face the facts and organize themselves to take any steps that are needed. The building material dealers and others may assist; but the primary duty rests

Satisfied Customers and Quickened Demand Result from the Self-Regulation of Builders to Assure Quality Home Building.



squarely on the shoulders of the contractors and builders, especially those engaged in home building.

The purpose and aim of every such meeting of builders should be three:

First, to secure more efficiency in planning and executing each job so that *more house* can be delivered at less cost—in line with the reduced costs now enjoyed by the consuming public on every other commodity it purchases.

Second, either to chase out of town or to reform the "jerry builders," by appointing an *inspection* committee of builders of recognized standing to inspect during construction every building built in the community and to certify as to its quality.

And third, to make announcement of these actions through local newspapers or by other means so that the local buying public may know what is being done to assure the delivery of bigger and better homes at less cost, and so become interested once again in what the home building and home improvement industry has to offer.

This publication has repeatedly urged, as a solution of many of the building industry's problems, teamwork and co-operation in every local community between the dealers, the builders, the home financing and real estate interests, and all the other forces concerned with home building and home improvements. Such teamwork is important and necessary. But here is a work for the builders themselves to do. They must be organized to be *self-regulating*, or there will surely be more regulation from without; organize for self-

policing, so that quality will always be built into the job and be accepted by the buying public as the expected thing which builders *always* deliver.

We say that this work is work for the builders themselves to undertake, because they are the only ones close enough to all jobs to have any real effect in a large way. Many—other than builders—have nibbled at this problem with outside authority, and have produced good results in their limited spheres of influence.

For instance, architects have attempted to make their specifications more rigid—"iron clad"—thinking to *compel* quality; but this, of course, has only been effective on the comparatively small amount of home building that is directly architect-planned and architect-supervised.

Then, again, recently some of the building and loan associations have undertaken to supervise construction and assure a given standard of quality on the homes for which they are supplying the mortgage funds—a worthy effort that is welcomed by builders, but, of course, very limited in its coverage as compared to all home building.

Likewise, some of the building material dealers in some communities are exercising a certain supervision over the jobs using their materials, so that a certificate of quality can be issued by the dealer to the buyer.

All these forms of outside supervision are good and are welcomed by builders; but they are not enough. They do not touch the great mass of home building. It is up to the builders themselves to organize so that real quality will be built into *every* job, and so that the

American buying public will expect and receive honest treatment, efficient service, and a suitably planned, well constructed dwelling every time it intrusts a project to a builder!

Get Together—Organize—Clean House—Advertise

Something must be done, and that quickly, to increase the confidence of the general public in the integrity and skill of the men of the building industry, and to create new interest in home building and home improvements. The building industry is being blamed for a lot of cheap and shoddy home building—shacks, really—that are amateur bungled, not builder built. Some real estate operators are in this class, too, because of the very poor, cheap work they are permitting to go up on their tracts.

A firm stand should be taken by the real building industry against such shoddy home building. Too often such shacks are said to be the work of "jerry builders" and the entire industry is brought under reproach when, in reality, no real builder had anything to do with them.

Every local community has its own problems and special conditions. This publication is not attempting to recommend any hard and fast plan that should be adopted by all. We are suggesting that the responsible builders of every community get together, discuss all these problems freely and frankly; and then each group work out the details of its own plan for putting its house in order.

The Inspection Committee, to certify quality of the new homes as built, has been tried in several communities and has been found thoroughly practical. Some such committee might well be appointed in every community and be encouraged to function for the good of all.

Local co-operative advertising by a group of builders has proved most successful in many cities in establish-

ing public confidence and arousing interest in new homes and in old home modernizing. Such group advertising is not a heavy burden to anyone. It creates a center of common interest for the local builders, and brings in business. We recommend to builders everywhere that they get together and advertise. Talk to your local newspaper; invite the editor to help.

As to home building costs, it is generally understood that a saving of from 10 to 30 per cent under recent peak figures can be made by building now. These facts should be stressed, but more important still, make sure that the utmost in labor efficiency is actually to go into the home building projects to be undertaken this winter and next spring in your community. If there are any rules or customs that hamper efficiency or limit production, try to get rid of them! Lower wage rates to building craftsmen are not desired; but greater production per man hour is greatly needed and can undoubtedly be achieved by better planning of the job, greater use of modern tools and power equipment, and a direct appeal to the workmen themselves to accomplish more, so as to wipe out the old charge of wasteful building labor, and create new markets for employment on a year around basis.

There is an under-supply of good, modern homes. There will always be a steady demand for local home building skill, efficiently organized and fairly priced. The problem of financing of new homes and of home modernizing will largely solve itself, as building costs come down, and the assurance of quality construction increases. An increase of confidence in the efficiency of the home building industry and a positive assurance of quality in its finished product will do more than anything else to bring down the present outrageous financing charges. Local funds through local loaning institutions will prove ample; and when more homes are built, it will be the qualified men of the local building business who will build them.



Amateur-Bungled, Not Builder-Built!
The Men of the Home-Building Business Should Make It Plain that They Are Not to Blame for the Mistakes of the Non-Professionals.

The Latest X'mas Fashion— CO-OPERATE WITH SANTA

WITH the approach of the Christmas season, department store managers, automobile and radio manufacturers and hundreds of luxury vendors are girding themselves for the big annual holiday selling campaign. They are capitalizing on Christmas spirit, and are increasing sales.

While all this opposition is making a bid for the people's money, the building industry cannot afford to be idle. Builders can and must go out with a Christmas selling campaign that will equal any other in town.

Now is the time to co-operate with Santa Claus to the end that families in your community will get that best of all Christmas presents—a new or a better home.

Christmas season is a time when the home and all it means to American family life is most in the minds of everyone. Builders who do not take advantage of this favorable state of mind to create new business are passing up one of the best opportunities of the year.

This is the best time of the year to urge your prospective customers to provide a new enclosed sun-porch for the whole family to enjoy, or a new kitchen floor that will be a Christmas present the housewife will appreciate every day during the year to come.

The fact that more money is available in savings banks right now in spite of the so-called hard times, is leading many enterprising contractors to stage especially active Christmas selling campaigns, featuring the idea that a comfortable home is the best possible Christmas present. A direct-by-mail selling campaign covering the period between December first and fifteenth is made particularly effective through use of envelope stuffers

and business announcements attractively decorated in holiday manner.

To stimulate immediate business, special offers with reductions in cost during the period just before Christmas are being featured. The favorite campaign is a "hurry-up" one, designed to rush alterations or repairs to completion just before Christmas day. The following check list can be used in mailing pieces, suggesting alterations or improvements that might well be started at once:

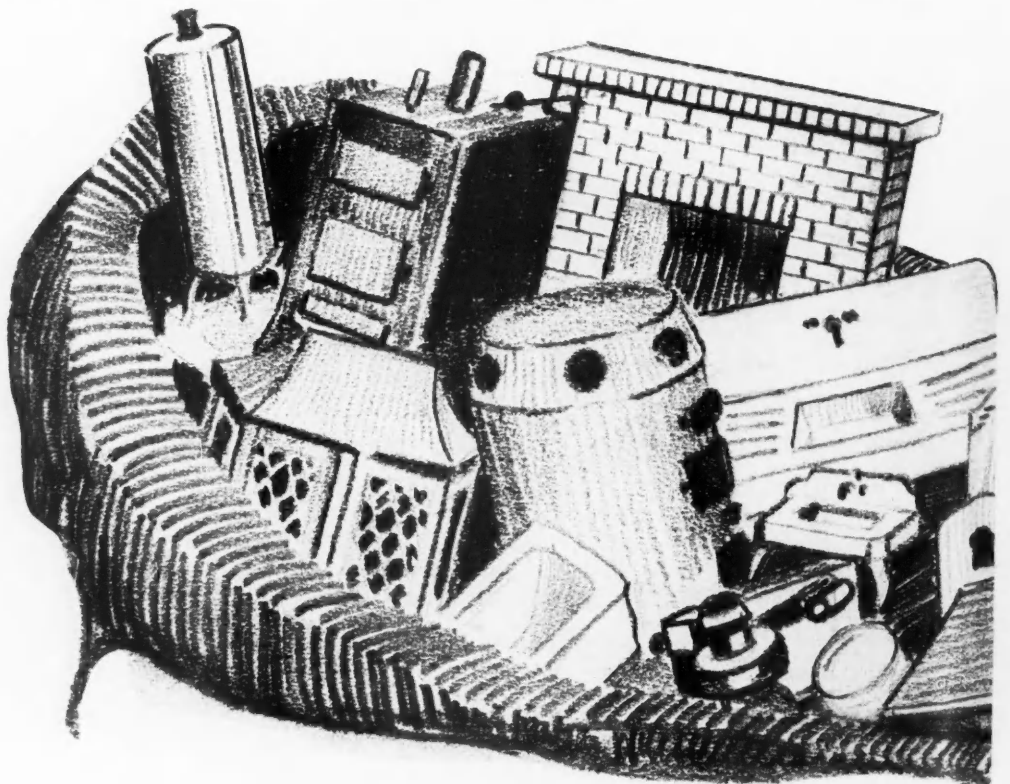
SOME CHRISTMAS GIFT SUGGESTIONS

- | | | | |
|---|--------------------------|--|--------------------------|
| Sun-Porch | <input type="checkbox"/> | Reconstruct Attic for
Every-Day Use | <input type="checkbox"/> |
| Children's Playroom..... | <input type="checkbox"/> | Extra Wall Sockets and
Electric Outlets..... | <input type="checkbox"/> |
| Automatic Gas Water
Heater | <input type="checkbox"/> | New Lighting Fixtures..... | <input type="checkbox"/> |
| Cheery Fireplace..... | <input type="checkbox"/> | Provide More Light by
New Windows | <input type="checkbox"/> |
| New Kitchen Floor..... | <input type="checkbox"/> | Add Built-in Cupboard,
Table, Ironing Board,
Etc. | <input type="checkbox"/> |
| Kitchen Cabinets..... | <input type="checkbox"/> | French Doors and Win-
dows | <input type="checkbox"/> |
| Resurface Floors
Throughout House..... | <input type="checkbox"/> | New Kitchen Sink with
Dish-Washer | <input type="checkbox"/> |
| Bay Window with Win-
dow Seat | <input type="checkbox"/> | Automatic Refrigera-
tion | <input type="checkbox"/> |
| Redecorate Rooms..... | <input type="checkbox"/> | Oil Burner..... | <input type="checkbox"/> |
| Extra Bedroom | <input type="checkbox"/> | | |
| Remodel Bathroom,
New Fixtures..... | <input type="checkbox"/> | | |
| Add Needed Closets..... | <input type="checkbox"/> | | |
| Cedar Line Closets..... | <input type="checkbox"/> | | |

Concentration of effort on a carefully selected list of "best prospects" is recommended, rather than inadequate covering of a large, poorly selected group. Several mail-



The Building Industry in the Role of Santa Claus Has a Sack Full of Good Gifts Which Are Really What the People Want. All Builders should be active merchants of Home Improvements at this season.



A
CLAUS!

A Concentrated Drive for Christmas Business Now Will Get Results

HERE ARE SUGGESTIONS FOR A CHRISTMAS SELLING CAMPAIGN

Home Improvements Are Gifts That the Whole Family Can Enjoy. Now is the time for Builders and Dealers to feature their services and goods as Best Gifts for Christmas.





A New Modern Home on Christmas Eve! Wouldn't that be a Gift to bulge out the old stocking! Well, some fortunate families may be in line for a complete new modern residence, but most will be satisfied with some needed piece of new equipment for the old home as a Present for the Entire Family, in the Spirit of Christmas.

ings to the same individuals drive home the selling message, and will be most effective. It has often been shown that the second mailing to a given list will produce more replies than the first.

The Christmas selling campaign can be carried out with special letters and folders mailed at intervals of four or five days during the early part of the month. The prospects should then be followed up by telephone and if possible appointments made for personal interviews. A good salesman can do wonders when given an opportunity to show right in the home what the builder could do to make it a more comfortable or more beautiful place to live in. A good example is that of a Detroit builder, who had been trying for some time to persuade a friend of his to modernize his home. In discussing the matter one day, he found that the most serious complaint with the house was being made by the young son, of high school age, who had to share a room with two of the younger children. The builder pointed out that at an expense of less than two hundred dollars, he could fix up a small but attractive study and bedroom for the lad in the attic. He got the boy's ideas and enthusiastic support, explained the plans to the parents, and sold them the job at once. It was merely a case of finding the crying need of the household and gaining the support of an important member to have this improvement made.

Advice from a direct-by-mail or advertising expert may contribute very much to the effectiveness of the Christmas selling literature. However, the vigorous, straight-forward statement phrased in words of the builder himself is of great value, and should be retained. Adopt some striking slogan to lead the folder, and follow it up with a plain statement of the value of home improvement as a Christmas gift.

Slogans such as these are suggested:

A Better Home for Christmas.

Give Your Family a New Sun-porch for Christmas. Home Improvements—Christmas Presents That Last All Year.

A Christmas Gift That Is a Christmas Investment—a New House.

What Does Your House Need Most for Christmas?

Whether the selling campaign is carried out through direct-by-mail, newspaper advertising, personal solicitation, radio, or any of the many other ways of getting a message before the people of a community, what is needed most is enterprise, good showmanship, and vigorous and confident presentation of the service you have to offer. The competition for Christmas money is keen, but the product you have to sell is by far the most essential to enduring happiness. It gives every builder a head start over competitors who are dealing in products that may be classified as luxuries or non-essentials.

Reduced View of a Christmas Broad-side Which One Firm Is Mailing Out Now to Build Sales for Special Lighting Equipment for Tree Lighting and Exterior Flood Lighting, So Appropriate at Christmas.

BEAUTIFUL TREES
 Something new and distinctive for the lighting of Christmas trees... PERMAFLECTORS.
 For outdoor trees, erected by churches, schools, civic organizations, and others, Permaflex Floodlights and Color-Lites offer an opportunity of securing some very beautiful effects.
 For indoor trees, in homes, churches, schools, Permaflex Windo-Spots and Color-Lites produce the same spectacular results. A very effective way of saying MERRY CHRISTMAS.

SPECTACULAR HOMES
 The illumination of home exteriors is becoming more and more popular every year. Many beautiful homes in your community can be made more beautiful by the application of a few Permaflex Floodlights.
 Spectacular color effects... brilliant solid colors, changing colors, combinations of two or more colors... or, if preferred, plain white lighting.
 No matter how small and plain, or how large and elaborate, the lighting can be accomplished in the most effective manner through the use of PERMAFLECTORS.

CHURCHES AND SCHOOLS: Use lighting, show lights, windo-spots, color-lites, or floodlights.
BANKS AND OFFICE BUILDINGS: Use lighting, windo-spots and color-lites, show-in-floodlights.
RETAIL STORES: Show and color lighting for show-windows, display cases, etc.
THEATERS: Floodlighting, show lights, windo-spots and color-lites for stage and auditorium.
CIVIC ORGANIZATIONS: Floodlighting of Christmas trees, etc.



J. W. GILLES, Photo

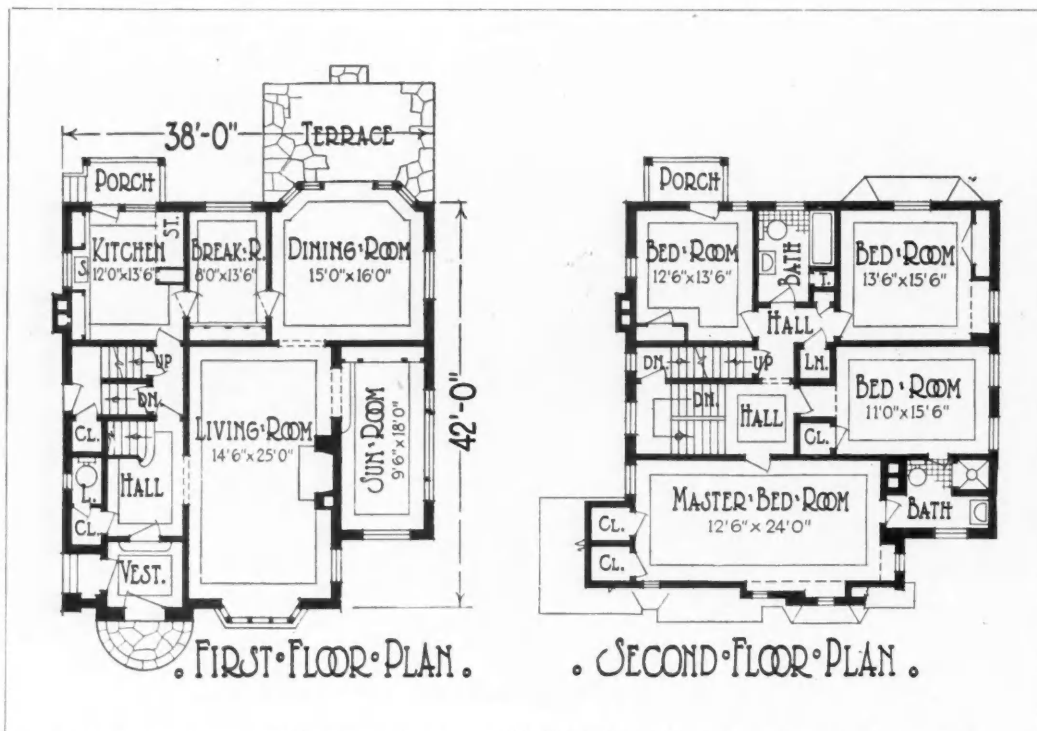
The Flagstone Path to
HOMES OF CHARM



MILLER-STORM CO., Architects and Builders

**Brick, Stucco
and Limestone**

Used in moderation, stonework in a brick house is a highly attractive and increasingly popular way in which to brighten otherwise dark surfaces.

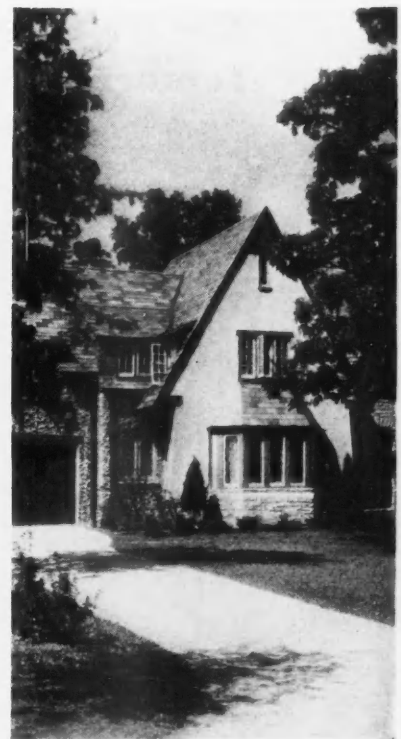
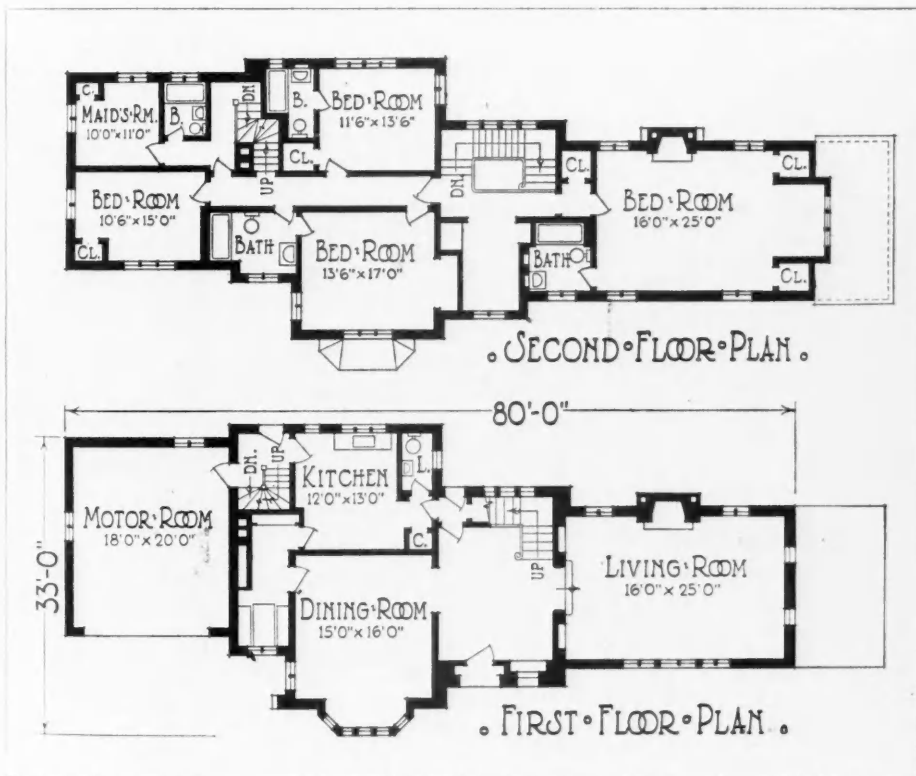




WILLIAM T. BRAUN, Architect and Builder

A home impressive because of its broad frontage, cleverly broken up gables, paneling and a very effective grouping of windows; built in one of the Chicago North Shore suburbs.

**Stone and Stucco Unite
in Graceful Informality**

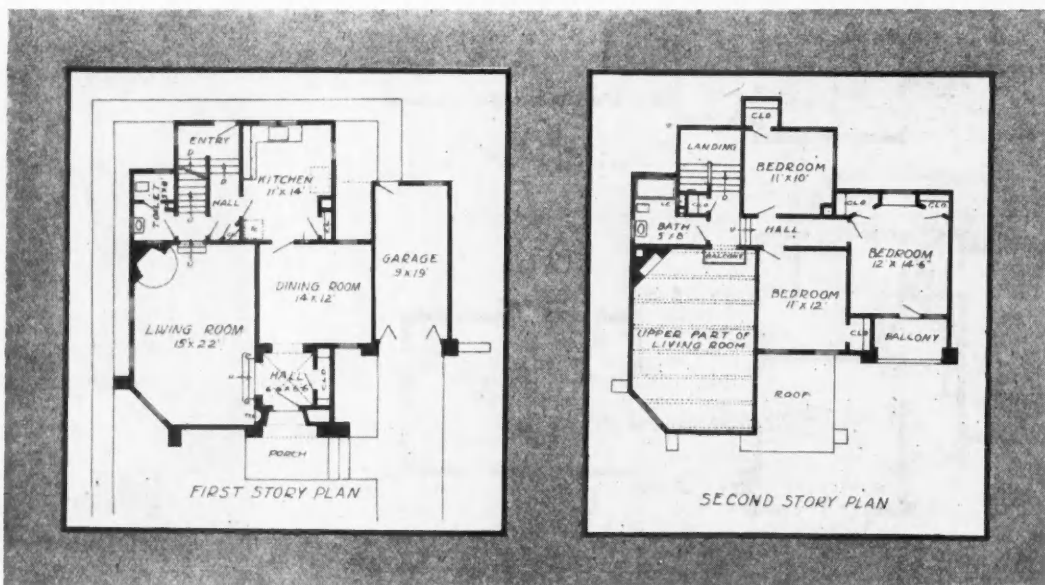




CHARLES P. RAWSON, Architect

“The House of Tomorrow”

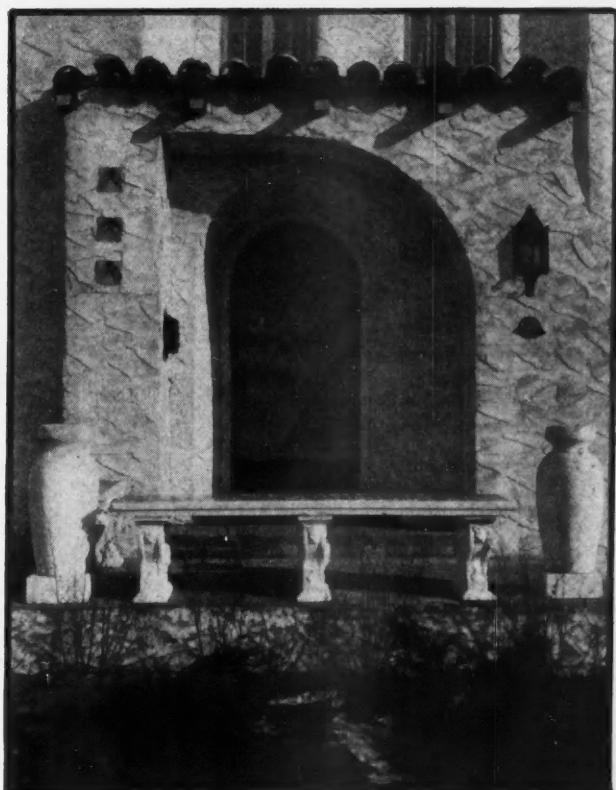
The Casa de Manana is an advanced form of the Spanish, built at Park Ridge, Ill. Photo of two-story living room and close up view of the entrance are presented on the opposite page.





The Casa de Manana pictured opposite is of frame construction, insulated at walls and roof, with composition floors in first story, texture plaster, tile baths, no interior trim, casement windows, and plenty of color throughout. Walls—white Spanish plaster. Roofs—red tile in white mortar. Outside woodwork painted blue and yellow, timbers brown. Interior view is of living room and shows fireplace, stairs and balcony. Cost—\$13,900 at Park Ridge, Ill.

**With a Foreign
Atmosphere**

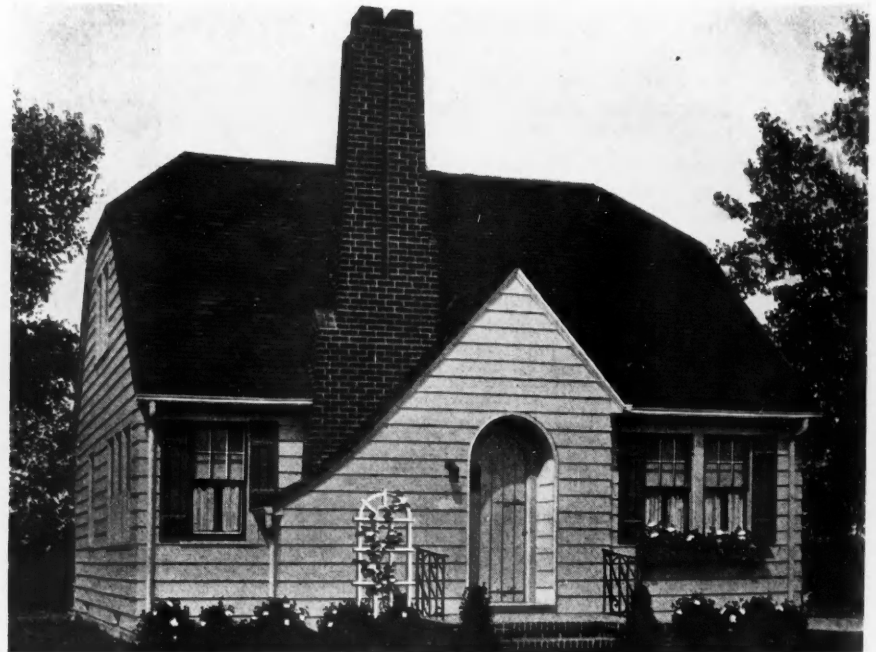
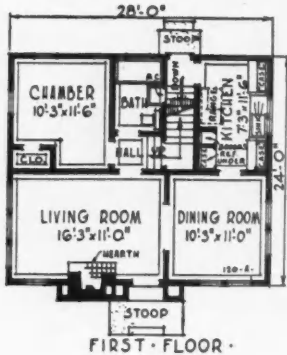
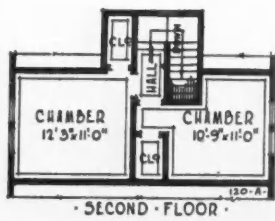
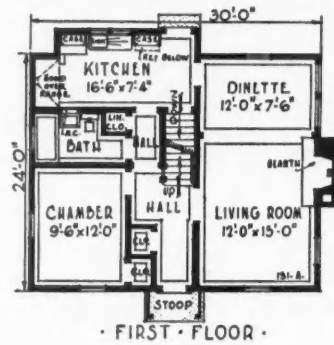
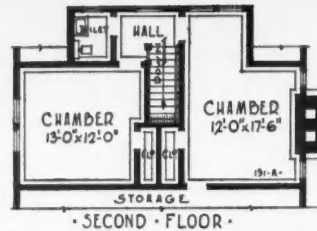




NATIONAL PLAN SERVICE Designs

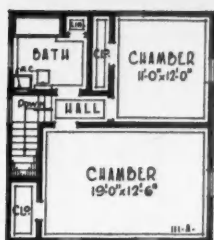
Small But Smart Economical Too

Two plans, 24 by 28 and 24 by 30 feet, arranged in interesting ways; each quite different from the other both on the inside and from without, yet both equally inexpensive to build.

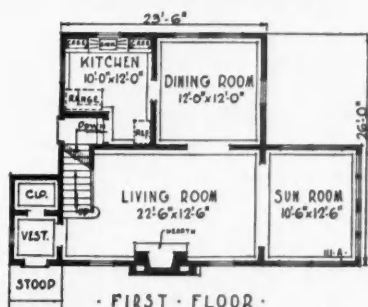




NATIONAL PLAN SERVICE Designs



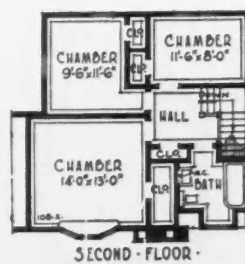
• SECOND FLOOR •



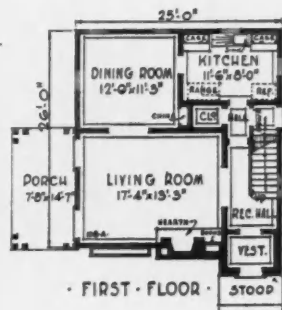
• FIRST FLOOR •

Popular Appeal in these Homes

Each of these designs produces a house that looks larger than it really is. The projecting porch under the sweep of the main roof causes this. In one this porch is open, in the other fully enclosed.



SECOND FLOOR •



• FIRST FLOOR •



THREE ELEVATIONS

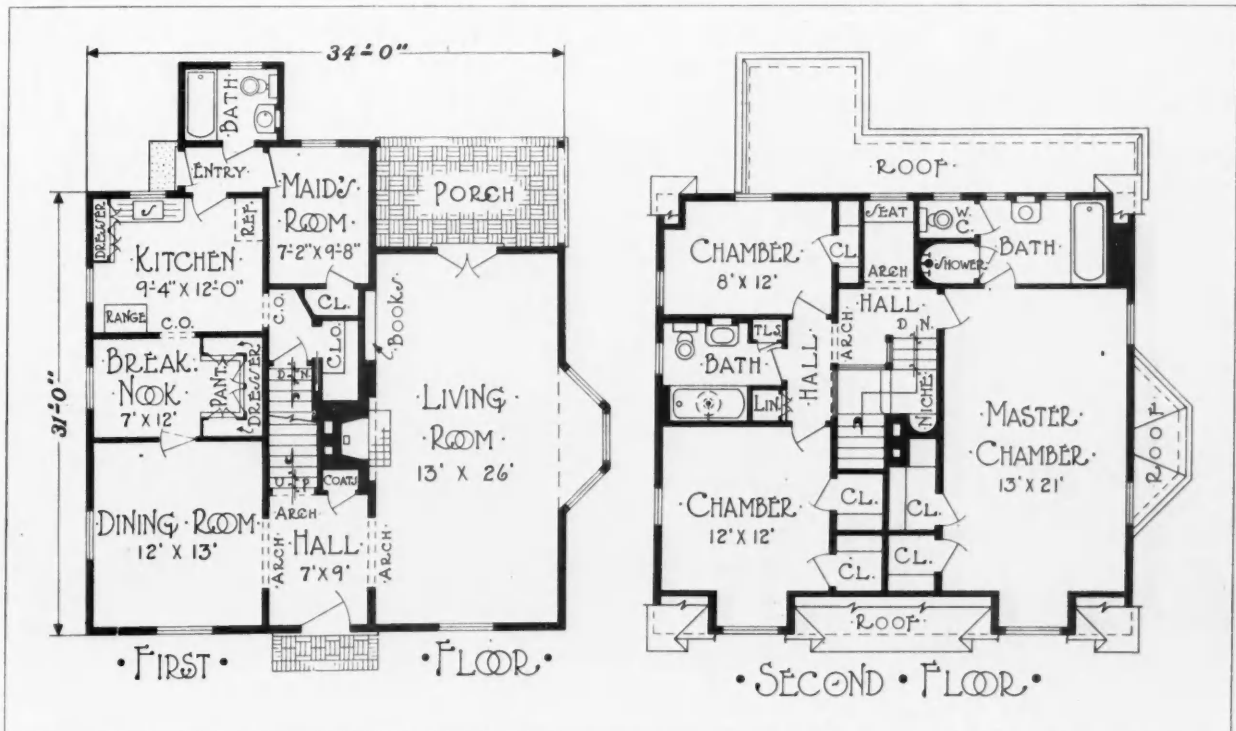
There is a lot of economy in building a number of houses of the same size and plan; but the outside appearance must be changed in order to avoid monotony. Here is an interesting example.





ONE FLOOR PLAN

Three Exterior Designs by
 WILLIAM PATTERSON, Architect,
 for the Cord Meyer Development
 Co., Forest Hills, Long Island.



\$5,000 House A Reality

Builders Have Been Experimenting Long in an Effort to Produce an Acceptable Brick House Within This Popular Price Limit

By RICHARD G. COLLIER

NEXT to the good five-cent cigar, which the late Tom Marshall of Indiana, one-time vice-president, declared to be the country's greatest need, a very great need has long been the \$5,000 brick house. Marshall didn't live to see the coming of that price of the particular type of cigar he fancied; but the \$5,000 brick house has finally arrived. And it is attracting no end of attention.

On the day this \$5,000 brick house was opened to public inspection in the Bonnie-Leslie sub-division, Bellevue, Kentucky, a ten-minute ride from Fountain Square, Cincinnati, more than 700 people passed through it. During the rest of the week, it was kept open, more than as many more visited it. As a result the builder, C. Roy Megerle, of Ft. Thomas, Kentucky, has nearly a dozen live prospects for this type of home.

The house is well and substantially built to sell at \$5,000, with a profit for both builder and seller. The walls are of hard-burned common brick supplied by the Mitchell Brick Company, of Cincinnati, at a cost of \$22.50 a thousand on the job. The hollow tile for the back-up was furnished by the Wyandot Clay Products Company, of Upper Sandusky, Ohio.

Workmanship throughout was first class and the masonry was certified by the Ohio District of the Common Brick Manufacturers' Association, Glenn W. Bittel, secretary, through whose efforts the house was designed and built. The association has for the last two years been endeavoring to find an architect and builder who could design and build an acceptable small brick house within the \$5,000 limit.

It is a five-room and bath home, essentially for a small family, with a basement garage made possible by the fact that the rear of the house rests upon the brow of a hill. Only under such conditions will it be possible to duplicate this feature in another house of the type at this price. But such a garage is most desirable.

Only the best quality materials were used throughout. Union labor was employed which gives added assurance of the quality of the workmanship. Millwork, fixtures, plumbing accessories, hardware and the hot-air heating system were all of standard grades. The floors and interior trim were of hardwoods. In every respect it is quite up to the usual standards and complies with all code requirements.

Some of the specification requirements were:

All materials shall be the best of their respective kinds.

All workmanship shall be first class.

Line all flues with terra cotta flue lining.

All brick for outside walls and chimney shall be common brick of good hard quality.

All exterior trim to be cypress, first quality air seasoned stock.

All interior trim to be of yellow pine.

All oak floors to have 7/8-inch yellow pine sub-floor.

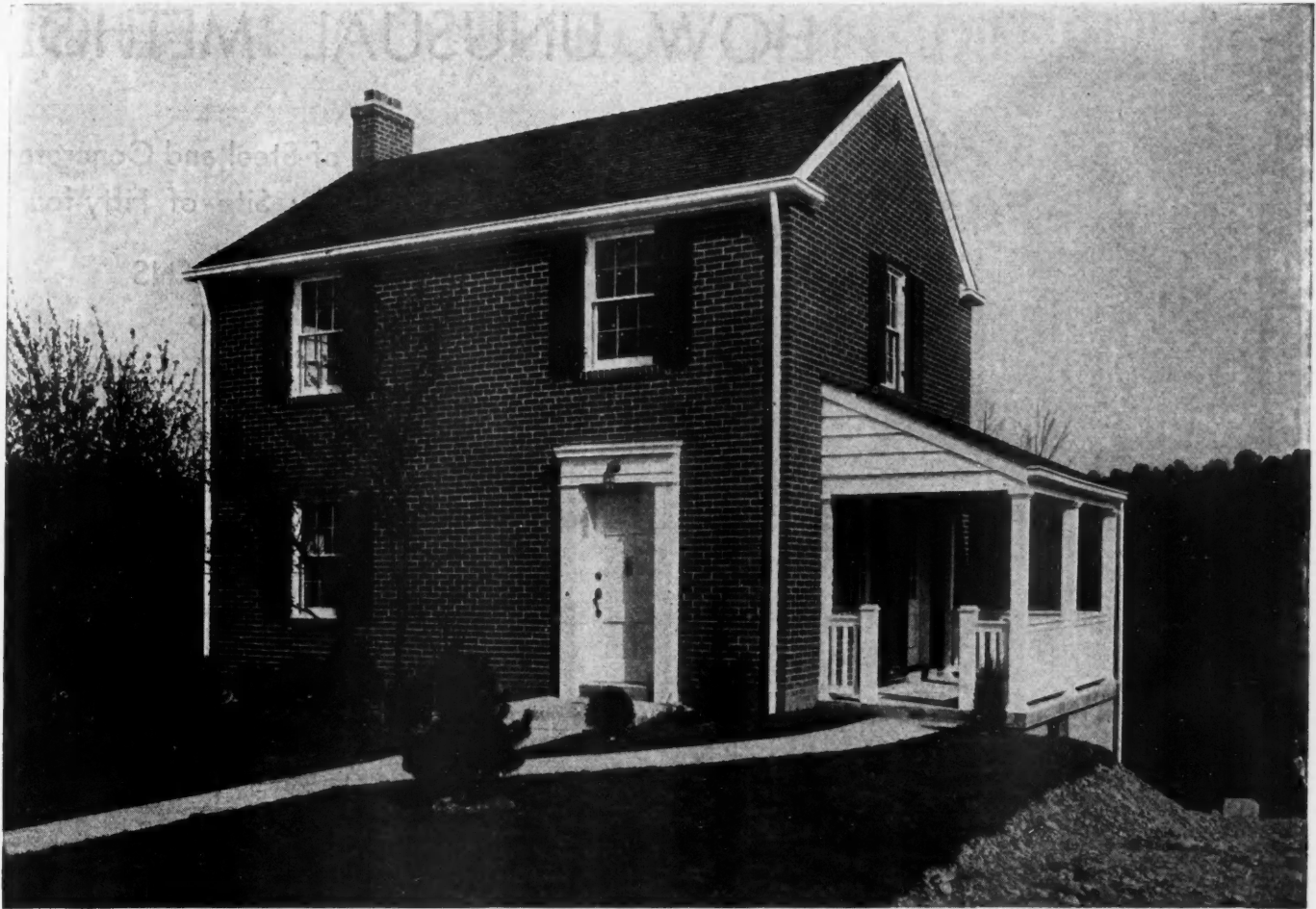
These specifications are sufficient to indicate the quality of materials and workmanship required. Equally rigid specifications cover all other construction, finish and equipment. Nothing is skimped.

The plain Colonial type aided materially in keeping construction costs at a minimum. The brick are

HERE IS A SUCCESSFUL EFFORT TO GET HOME BUILDING COSTS DOWN WITHIN REACH OF THE BIG MARKET—WILL OTHER BUILDERS EQUAL IT?



Here are shown some of the variations in design which are possible with no alteration of floor plan.



This little home of five rooms and bath, with basement garage, has been attracting surprising attention. Built at a Cincinnati suburb for \$4,570.90; Robert Isphording, Architect.

laid in running bond with flush cut joints. The roof is of stained red cedar shingles, laid five inches to the weather. All gutters, spouting, etc., are of 24-gauge galvanized iron.

An itemized summary of costs follows:

Millwork	\$ 360.00
Lumber	300.00
Carpenter labor	485.00
Hardwood floor finishing.....	57.00
Brickwork, including brick and tile.....	1,050.00
Foundations and cement work.....	519.00
Plumbing and labor.....	470.00
Electric work	80.00
Fixtures	52.60
Plastering	250.00
Glazing	30.00
Hardware	44.50
Sheet Metal	65.00
Iron beams	22.80
Painting	170.00
Heating (Hot Air).....	125.00
Excavating	75.00

\$4,155.90

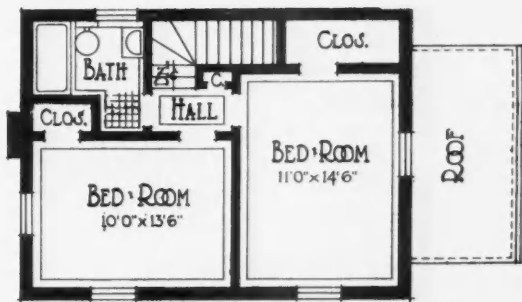
10% added for contractor..... 415.00

Total Cost

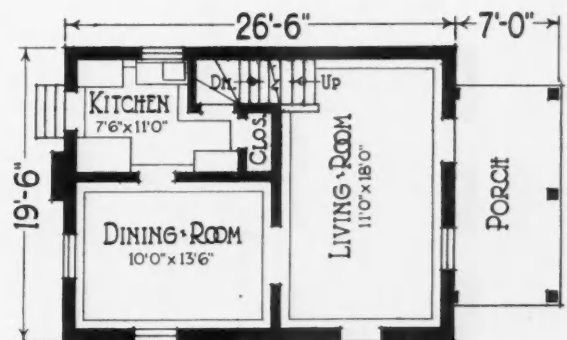
\$4,570.90

Materials costs are not uniform throughout the country and there will be variations from these figures in different territories. But the margin left here is probably sufficient to keep its cost within the desired \$5,000 limit almost anywhere.

And at That Price it is a Bargain!



SECOND FLOOR PLAN.



FIRST FLOOR PLAN.

A Compact Arrangement, Economical But Livable.

HOW UNUSUAL METHODS

Foundation Mat of Steel and Concrete
Used Over Marshy Site of Fifty-four

CRYSTAL GARDENS APARTMENTS

Astoria, New York



BUILDING an apartment house for eight families is a good sized construction job and calls for careful management on the part of the building contractor to effect rapidity and economy in its erection. The building of fifty-four such apartments at one time is a job of considerable magnitude. This was done

in the development of Crystal Gardens. These apartment buildings are situated on two blocks in the Astoria section of New York City. The location is ideal for an apartment house site, as it is but one short block to a subway station, connecting with practically all parts of New York for a single fare.

There is quite a lesson in the construction of this apartment project that should make every builder cautious and know the condition of the ground before work is started or is even figured on.

An innovation was to be made in the construction of these buildings by employing solid reinforced concrete for the walls, waterproofed, no finishing stucco for the exterior and a finish coat of plaster on interior of the exterior walls. The partition walls were of wood studs, lath and plastered.



A reinforced concrete mat was used as a foundation for many of the units. The rough plumbing was imbedded in this concrete at a proper pitch for the different house drains, all pipes being supported on the bars. The first row of reinforced bars was supported temporarily in proper position.

OVERCAME CONSTRUCTION DIFFICULTIES



The unit in the foreground to left is the building that started to tip over.

Picture taken during construction showing method of chuting concrete to the different units, central mixing plant at the base of 200 feet steel tower.

Plans were prepared according to the rules of the building department and proper sized footing provided.

Construction on a big scale was started. When the first unit had gone up several stories, the entire building began to lean over, due to a movement of the ground,—the undersurface proved to be marshy. A casual examination of the vacant property did not reveal this; as it looked just as solid as any other part of the earth.

The builders were in a serious dilemma, as a building project costing in the millions was at stake. Even this first unit of the fifty-four buildings projected represented a good sized investment. Naturally in these days no family desires to rent an apartment in a modern reproduction of the Leaning Tower of Pisa, and as it stood it was a loss. Would it be best to demolish it or could it be made plumb again?

A number of experts were called in consultation and the problem was threshed out.

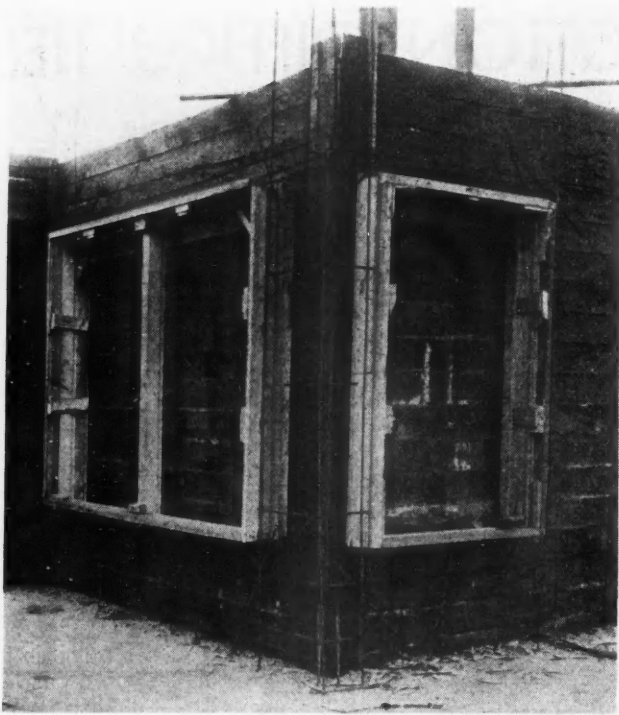
The method decided upon was to drive piles to a solid footing, raise the building so it would be plumb again and support it on a new footing bearing on the piles.

Placing a row of piles on the outside of the wall was a comparatively easy job by employing an ordinary pile driver. On the other side of the wall, that is, inside in the cellar, a hydraulic jack was employed for the purpose. The piles were cut off below the footing level. Steel I beams were then placed on opposite piles, these acted as supports for jacks which slowly and carefully raised the building, until it was again plumb.

Concrete was then poured over the piles and steel beams to make a new footing. Short piers were carried up to support the weight of the upper wall, then the



For some units a pile foundation was used with a reinforced concrete footing placed on top.



When the outside forms were erected, window frames were temporarily spiked to the form in their proper places. Additional false jambs were temporarily nailed to the window frame to make form for reveal.

jacks were removed and the remaining openings were filled with concrete.

In this manner the entire weight of the walls was transferred to the piles resting on a solid bottom.

In the jacking up of the leaning unit, an added precaution was taken to reinforce the walls by means of tie rods with large washers on the outside of the walls. This served to tighten up the walls against the joists. As will be plainly noticed in one of the illustrations

there were two tie rods for each floor, the rods were run between the joists and remained in position after straightening up the building.

Having had this serious difficulty with the first unit of the fifty-four proposed buildings, the builders were extremely cautious about going ahead with the erection of the other units. Test borings were made to find out actually what the ground consisted of; and with this knowledge on hand, two different foundation methods were followed.

The ordinary footings commonly used for solid earth locations were entirely inadequate to distribute the building load without danger of sinking, as the ground was too soft.

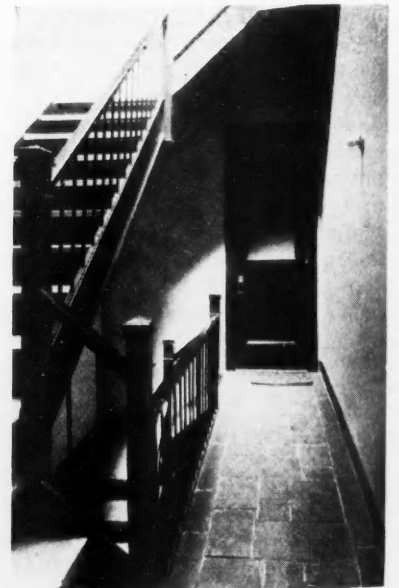
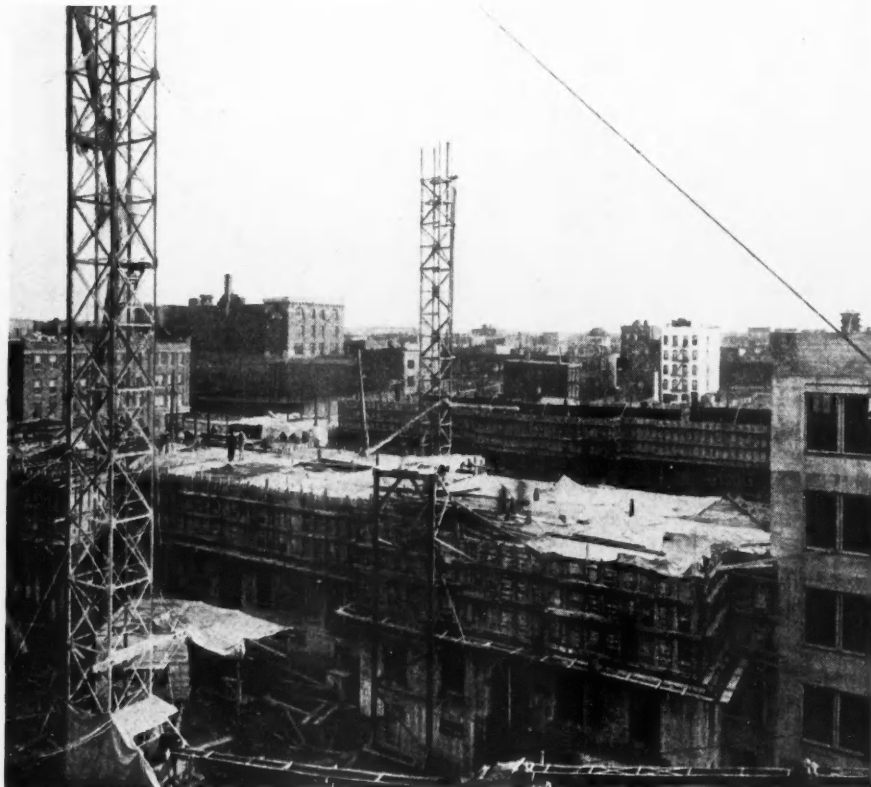
One method was to drive a row of piles to a solid bearing, these acting as a support for a reinforced concrete footing.

The other method used was to use a 4-foot thick mat of reinforced concrete. This huge block of concrete would evenly bear down over the entire ground surface, and even if an unequal weight was to take place, the load would be distributed over an area sufficient to prevent any settlement. This was an unusual foundation for an apartment building, but under the circumstances it was the easiest way out.

Into this concrete mat were embedded the different drainage pipes necessary for this type of building, as it would be a hard job to cut through for these pipes after the concrete mat was in place. Concrete, of course, protects iron from rust; and even should these buried pipes be entirely disintegrated, their place would be taken by a concrete pipe already formed in place. It would seem that a foundation like this is good for many thousands of years.

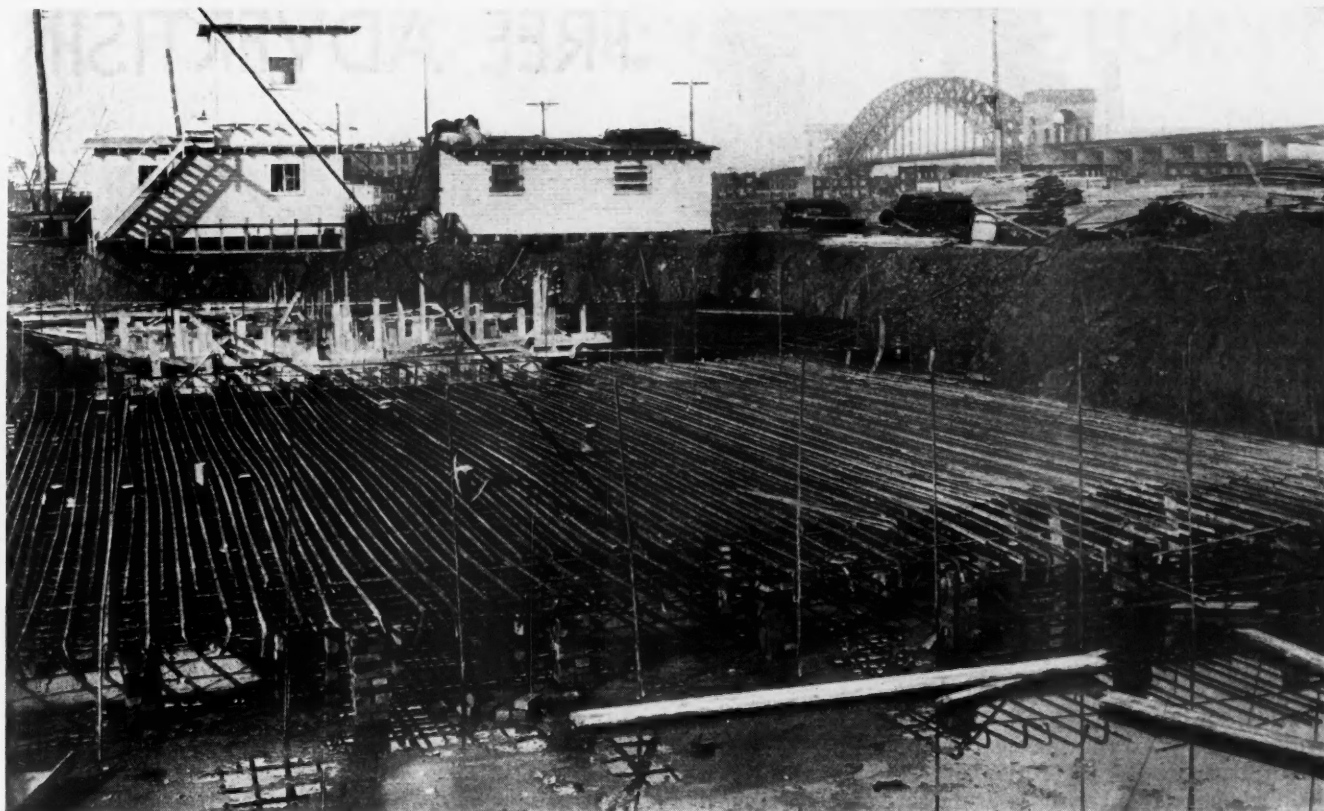
As stated before, all exterior walls are of solid reinforced concrete left in its natural state. The form marks are all visible and the horizontal lines, showing where two form boards adjoined, make a pleasing detail of the front and rear facades. The grain of the wood plainly shows in most places.

Brick has been used for many of the entrance hoods



Above: Slate floor an innovation for apartment house halls.

Scene during pouring of concrete; note how form work has been carried up and supported.



The second row of reinforcing rods was laid in opposite direction and approximately 6 inches above first layer; thus covering the horizontal drain pipes.

and steps so as to add a little color to the gray concrete surface.

The window sills are of brick laid on edge, these were slipped in after the forms were removed; a stud inserted under the frames allowed the necessary opening.

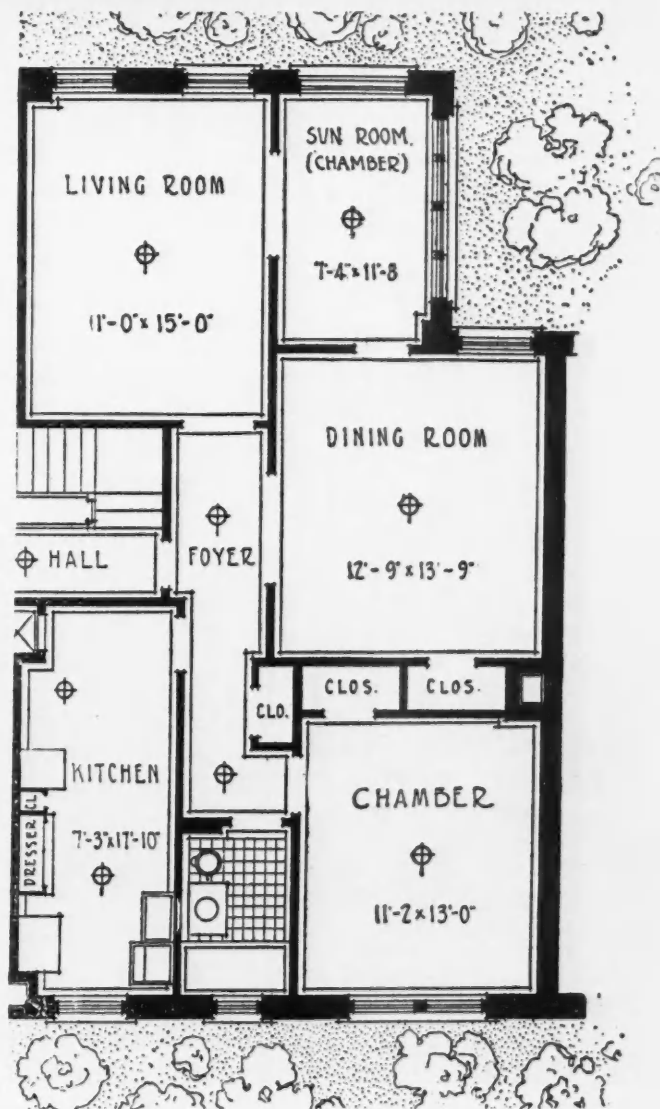
For some entrances concrete moulded door frames were employed with a hood of Spanish tile. Spanish tile was used as an ornamental coping in many of the units; in others just the wall was carried up as a parapet.

Each alternate apartment unit in the group faces the other way. In one group the living rooms will be to the street front and in others the kitchen will face the street, with the living room windows opening to the rear or garden side.

Each unit consists of eight individual apartments, two on each floor. The houses are well set back from the street line so as to allow for a front lawn, which, since our pictures were taken, has been planted with shrubs and trees. A garden has been laid out in the center of each of the two blocks of apartment houses. At the end of the block, a number of stores occupy the first floor and this forms the business center of Crystal Gardens. Perhaps the most unusual part of the construction was the actual pouring of the concrete. As the different units to be built were placed on two adjacent blocks 200 by 800 feet in size, a central mixing plant was placed in the center of the middle street.

Separate hopper bins were provided for the cement, sand, and crushed stone, the chutes leading to measuring platforms and then to a large mixer, electrically driven and equipped with water control device.

To right: Two apartments comprise a floor in each unit. The plans are reversed in alternate units so that the sun room always projects beyond the wall surface of adjoining unit.





FREE ADVERTISING

How a Prominent Building Material Dealer Features the Skill and Achievements of His Builder and Contractor Customers.

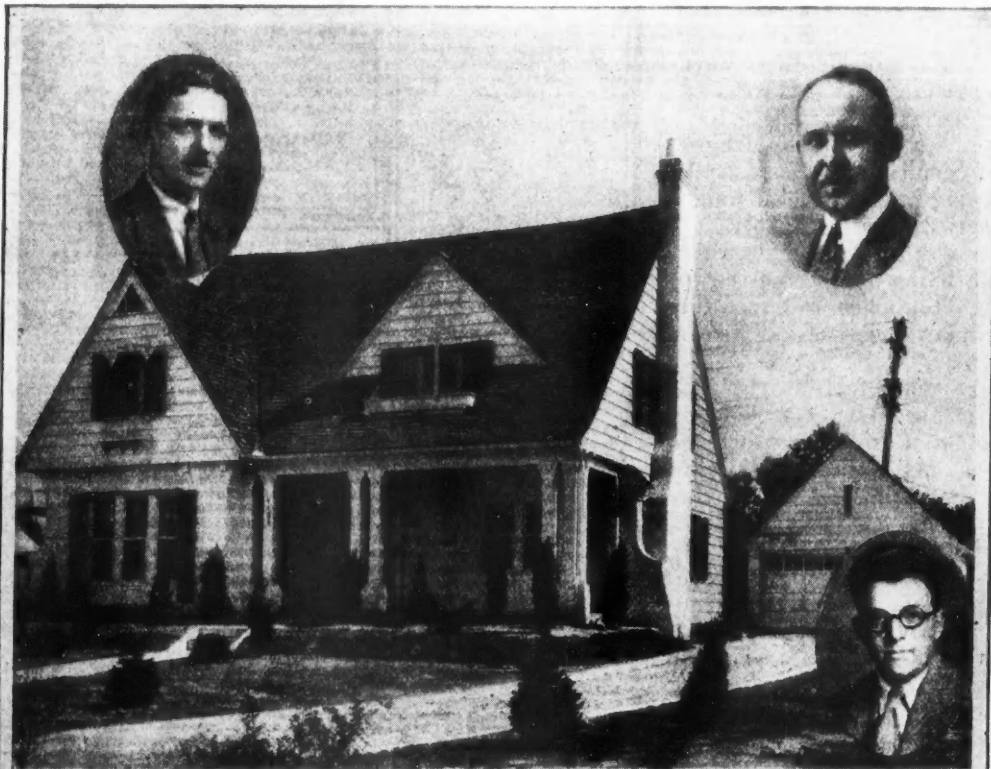
THE butcher, the baker, the candle-stick maker are being advertised today by the manufacturer. Pages in the *Saturday Evening Post* and closing sentences of radio programs are being purchased by manufacturers telling the public to patronize all professions and trades.

Parke, Davis and Company recently ran a long campaign describing the heroic services of the men who made history in the medical profession. Pepsodent Tooth Paste ends each Amos and Andy program with the injunction: "Brush your teeth twice a day; see your dentist at least twice a year." And someone else, I forget the name, asked us not to require our druggist to cut his prices.

Why leave the contractor and builder out of this free advertising picture?

Many building material companies, realizing that their business primarily depends on the contractor, have not neglected him. Such companies realize that, despite their advertising of modernizing, home building and specific materials, in building up direct and indirect business, the primary source of most of their business is the contractor. It follows, therefore, that advertising the contractor so that more business is created for him will also bring more business to the building material company.

A campaign by which the J. A. Mahlstedt Lumber and Coal Company, of Westchester and New Rochelle, New York, advertises the contractor, was described in the September issue of *The Building Age*. This campaign was general in its nature, being intended to make people plan home building and to give people greater



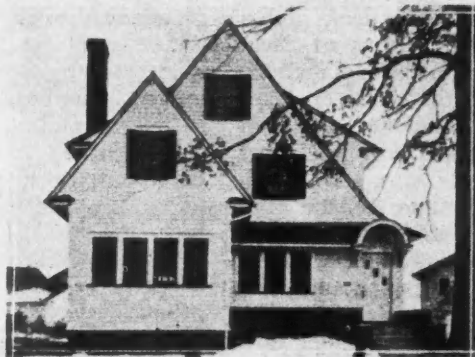
ATTRACTIVE INDEED is the home of Mr. and Mrs. Carl D. Boyd, at 1125 Illsley Drive, as shown here. The home is an English cottage type, designed by the architectural firm of Larimore & Parkinson (L. W. Larimore, upper right; Simpson Parkinson, upper left) with every feature in neat harmony. An especial feature is the combination of wood for the main part of the house with common brick painted white for the front of the lower story. Everett Ellerman (lower right) built the house. All building materials, including the Edham Green Kolorred Shingles for the roof, brick, Mailo box, lumber and architectural woodwork were supplied by the Fort Wayne Builders' Supply Company.

Reproduction of a Roto-gravure advertisement which ran in the local Sunday newspaper. Builders, Architects, Manufacturers, Dealer all benefit, though the latter bears all the cost.

FOR FORT WAYNE CONTRACTORS

Fort Wayne Is No Different from Your Town! Perhaps some of these ideas would work for you, too!

Just One of the Many Fine Homes Built by Wm. H. Myers



Home of Mr. and Mrs. Otto O. Snyder, 4417 Pembroke Lane, built by William H. Myers.

The home of Mr. and Mrs. Otto Snyder at 4417 Pembroke Lane is one of the Honest-Built Homes, built by William H. Myers.

The home is of attractive design, has the rooms planned for utmost convenience and is durably constructed with Bill Ding Materials of Proven Quality.

These Bill Ding materials include lumber, Architectural Woodwork, moss blend foundation brick, and Bird's American twin asphalt shingles.

Only with better materials can you build better homes. Insist that your contractor use Bill Ding Materials of Proven Quality.



William H. Myers, Honest-Built Homes

Myers-Built Homes are "Honest-Built Homes"

Homes built by William H. Myers are known as "Honest-Built Homes."

This is the result of a reputation for expert workmanship and durable construction earned by Mr. Myers in his many years of building.

You can depend on Myers-built homes.

Mr. Myers has always been in the building business, since as a youth of 19, he began as a carpenter in Mansfield, Ohio. Five years ago, Mr. Myers came to Fort Wayne as a general contractor, and has built 52 homes in this city.

Most noteworthy of these are the homes of Mr. and Mrs. Otto O. Snyder, shown on this page; Mr. and Mrs. R. M. Kaough, 1128 West Berry Street, and Nora Kramer, Washington Center Road.

Many of the Kroger Stores in Fort Wayne, and numerous commercial buildings, were built by Mr. Myers.

Before you build, you should see some of the homes built by Mr. Myers. He will be glad to show them to you and to discuss plans for your new home.

You can locate Mr. Myers at 3515 Gay Street, or telephone him at Harrison 34323.

This is another advertisement in the series on leading contractors and architects presented for the consideration of prospective home builders by the Fort Wayne Builders' Supply Company.

Fort Wayne BUILDERS SUPPLY Company
Dial A 2233 840 Haylen St.

The Book Cover Page of the Dealer's own little magazine tells an interesting story of what one of the firm's good contractor customers is doing along high grade building lines.

confidence in their local architects and contractors.

Another campaign, of a different nature, has been carried out for several years by the Fort Wayne Builders' Supply Company. This differs from the Mahlstedt campaign because of the greater number of mediums used, and the difference in the type of copy. The Mahlstedt campaign was placed in newspapers only; the Fort Wayne campaign was carried out in newspapers, direct mail, and job signs. The Mahlstedt campaign was general in character, no individual contractors being singled out for presentation; the Fort Wayne endeavor was particular, each contractor and architect being one by one brought into the public gaze.

Most of the newspaper advertising of contractors and architects as placed by the Fort Wayne Builders'

Supply Company was in rotogravure. These rotogravure advertisements pictured the more prominent and attractive Fort Wayne homes, including both exteriors and interiors, and carried as inserts, the pictures of the architect and contractor. The architect and contractor were featured; the Fort Wayne Builders' Supply Company was given incidental mention. Copy, for instance, was of this character:

"Attractive indeed is the home of Mr. and Mrs. Carl D. Boyd, at 1125 Illsley Drive, as shown here. The home is an English cottage type, designed by the architectural firm of Larimore & Parkinson (L. W. Larimore, upper right; Simpson Parkinson, upper left), with every feature in neat harmony. An especial feature is the combination of wood for the main part of the

house with common brick painted white for the front of the lower story. Everett Ellerman (lower right) built the house. All building material, including the Edham green Kolored shingles for the roof, brick, Mailo box, lumber and Architectural Woodwork were supplied by the Fort Wayne Builders' Supply Company."

More direct advertisements of contractors and architects were placed by the Fort Wayne Builders' Supply Company in its monthly magazine, for prospective home builders, called *The Bill Ding News*, published for it by the National Plan Service.

These advertisements took three forms. The first was in devoting the back page of successive issues of the magazine to customers of the company. The layout included the picture of a recently built home, pictures of the contractors on this home, the architect, and a story about the experience and qualifications of each. The advertisements each carried this little explanation:

"This is another advertisement in the series on leading contractors and architects presented for the consideration of prospective home builders by the Fort Wayne Builders' Supply Company."

Each advertisement featured the name of the contractor and architect in the headline, and then went on to say something of their qualifications for producing good work. Then followed a list of names and addresses of persons for whom these contractors had built. The advertisement always ended by telling the reader how they might get in touch with the contractor and architect.

Another form of contractor and architect advertising done in *The Bill Ding News* was in narrating the news of new construction in a column entitled: "Who's Building?" This included notes about new homes being built, and in each case the contractor and architect, as well as owner, was mentioned.

A third and more recent form of advertising these company customers in *The Bill Ding News* involves cartoons. These cartoons have been most popular. They are made up by affixing an actual photograph of the contractor's head to a cartoon body. These cartoons were also accompanied by a line, such as:

"This is the third of a series of cartoons presented to readers of *The Bill Ding News*. Each will be of a Fort Wayne contractor or architect whom we heartily recommend to persons who plan to build or modernize."

The copy for these cartoons was more informal in tone than the more sober copy used in other advertisements. One began as follows:

"Here's Bill.

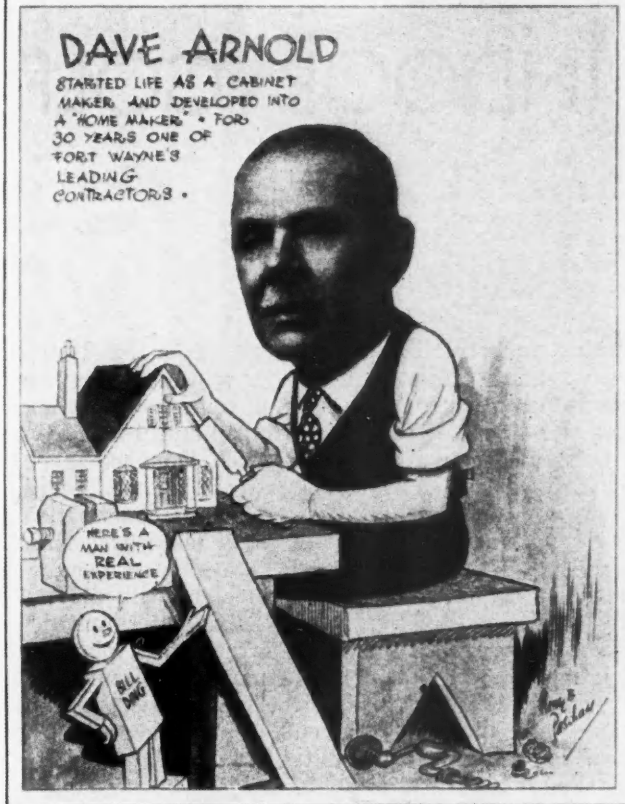
"Hundreds of Fort Wayne people know William D. Swank, or Bill Swank, and half a hundred families know him and praise him because he built them their home.

"Bill is able to build you a real home, whether you want a modest little cottage or a mansion, and to prove it he can show houses both neat and small, and elaborate and pretentious, in all parts of Fort Wayne. All these houses have been built by a general contractor whose



Advertising to Create Garage Building and Other Jobs for Builders Was Run in the Local Papers and Then Proofs Were Mailed to Contractors Along with This Letter. Such teamwork naturally produced results.

PEOPLE WE KNOW



This Series of Cartoon Photos of Local Builders and Architects Produced Much Good Feeling When Run in Dealer's Own Magazine.

first job as a boy was a carpenter's helper, and who has been in the building business ever since. Consequently, they are skillfully built houses—and what makes them better yet, Bill uses Bill Ding Materials of Proven Quality.

"Here's a list of some of the houses built by William D. Swank, general contractor, at your service:" A list follows, after which the reader is told how he can get in touch with Bill by telephone or by mail.

After these cartoons have been run, the originals are neatly framed and presented to the contractor and architect customers. Most are highly appreciative, and one firm of architects likes the drawing so well, the design will be used for a Christmas card this year.

In addition to these advertisements, the Fort Wayne Builders' Supply Company, runs a line like this in all advertisements on garage building, modernizing, home building, etc.:

"You can select your own contractor, or ask us to recommend a man whose long experience assures durable, craftsmanlike work."

These advertisements get many jobs for customers of the company, and then as an additional service, the Fort Wayne Builders' Supply Company also erects job signs featuring the contractor. These job signs have proven so effective that three other Fort Wayne build-

ing material companies are now furnishing their contractors with the same kind of sign.

The job signs have an orange background, with black and red letters, trimmed and brightened with yellow and green. The design includes a Bill Ding carrying a sign, upon which the copy generally is in a form as follows: "Built by Ernest C. Heckman for Dr. and Mrs. S. D. Wiles; Noble W. Miller, Architect." This part can be painted out as often as necessary. Beneath this panel is the simple information: "Materials furnished by Fort Wayne Builders' Supply Company."

When the job sign service was instituted, the Fort Wayne Builders' Supply Company sent out the following letter:

"Bill Ding Erects Job Signs for You.

"Your jobs are your best advertisements.

"They are mammoth billboards . . . life-size samples of your skill.

* * * *

"But did you ever see a billboard advertisement that did not brand the product advertised? Did you ever see an anonymous sample?

"Of course not.

"Large letters on the billboards proclaim: Chevrolet . . . Camels . . . Frigidaire. Colorful designs on sample announce: Post Toasties . . . Ivory.

* * * *

"Your name should be prominently displayed in front of every one of your jobs. And now Bill Ding is arranging that for his contractor customers, so that everyone who stops to admire will know the name of the builder.

"A Bill Ding job sign is shown attached. It is durably built of galvanealed metal, coated with duco, just like your automobile. Attractively painted in bright colors. Each features the name of the builder.

"We have the sign erected on your job for you—remove it when the job is completed or sold—and repaint necessary parts before moving the sign to your next job.

* * * *

"Your comments regarding this new service offered to help our customers get more business will be appreciated.

"Very truly yours,

"Fort Wayne Builders' Supply Co.,

"By: Harry W. Flannery."

Does this cooperation pay?

That's the question most building material dealers are likely to ask, and it's a difficult question to answer. The Builders' Supply cannot point to much business directly traceable to their promotion of contractors and architects, but they do know these customers appreciate the work done, and it is also a fact that the Builders' Supply Company is recognized as one of the leading building material companies of the Middle West.

Perhaps this business leadership is a result of the promotion. At any rate, the two are logically related.

American Builder and Building Age is interested in every example everywhere of teamwork between Builders and Building Material Dealers for the creation of more and better building business and building conditions. This Fort Wayne instance is notable. Do YOU know of others similar or just as good or perhaps better? Write the Editor.



Building Indoor Golf Courses Is a New and Profitable Field.

EARLY in July of this year, when miniature golf was in its infancy, there were 5,846 midget links in this country. On August 11, Department of Commerce figures showed that the number had increased to more than 25,000 courses in operation, representing an investment of \$125,000,000.

It can no longer be claimed that this pastime is a mere passing enthusiasm. The investment represented, together with the fact that many sites have been secured on leases running three years or more, means that the owners will take pains to establish permanence. With the winter season here, a large proportion of these courses are "taking to cover" to maintain year around business. In this lies an opportunity for the builder. The indoor golf course must be properly housed.

The Hollywood Links, in Seattle, Washington, offers an excellent example of the type of building best suited

Housing INDOOR GOLF

A Building Opportunity

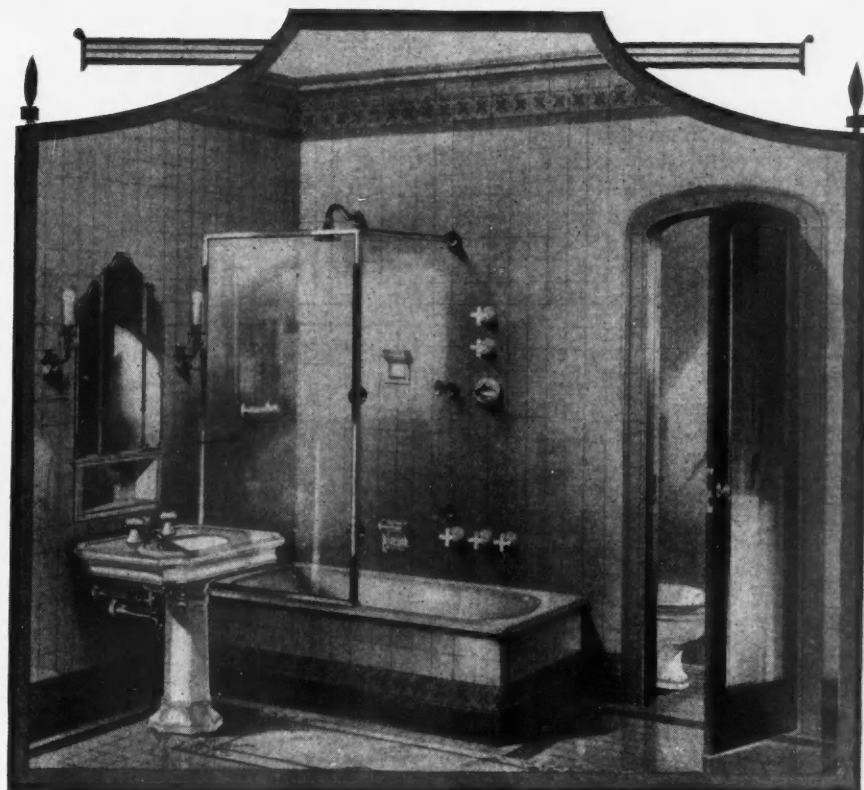
to this purpose. Here is a building 80 by 100 feet, heated and ventilated by an overhead system, with thermostatic controls, so that a comfortable temperature and plenty of fresh air are maintained at all times.

Construction was of 6 by 6 inch Douglas fir posts, 2 by 6 studs and 2 by 10 rafters, shiplap sheathing and drop siding. The roof is supported by a combination of posts and trusses. The use of posts has proved entirely practical as the miniature fairways have been built around them and they do not interfere with playing in any way. Good lighting, with all shadows eliminated, is provided by a special lighting arrangement planned by lighting engineers to fit the particular requirements.

An interesting feature of the building is the waiting room, built into the front end. This is a reproduction of a log cabin. It is built of red cedar log siding, installed in a vertical position.



Hollywood Links, Out in Seattle, Washington, Afford Comfortable Playing Conditions, in Any Season or Weather, for the Miniature Golf Fan.



'Tis the EXTRA Bath Room Sells the Home!

Beauty, as well as Convenience, Makes the Bath Room a Show Room
and a Sales Factor for Those Building for Sale

THE trend now, as it has been during several years past, is constantly increasing the number of bath rooms installed per house. If this tendency continues, it will not be long before there will be a private bath for every bed room, as now arranged in most of the first class hotels. This stage has already been reached with some of the newer and better apartment buildings.

The price range will, of course, always be a limiting factor. No builder can afford to install two or more bath rooms in a house built for resale unless the price is increased enough to cover the extra bath room cost. But here, as elsewhere in our modern life, public ideas of price must adjust themselves to the changed standards of living. What we are pointing out now is that new housing standards have been created and the public has become thoroughly sold on the multiple bath room idea and that the most successful designers will be those who heed the handwriting on the wall and provide what the public wants.

There has been an equally remarkable advance towards new standards of beauty and convenience in bath rooms. The trend towards the use of harmonizing or pleasing contrast of colors in porcelain fixtures, floor and wall tile has swept the country with astonishing

rapidity. In scores of the newer dwellings built for resale in our leading cities, I have found bath rooms which might be termed show places and which were outstanding in the use of this decorative treatment. Intending purchasers give these bath rooms more than passing attention. In many cases, the color effects have seemed to constitute the deciding factor in sales. This is not only because they are pleasing to the owners but also due, apparently, to a certain vanity of ownership and the impression made upon the guests.

I have in mind one beautiful new home recently built and offered for sale on Meridan Street, Indianapolis. There was a toilet and lavatory in the basement adjacent to the recreation room. There was a "powder puff room" off the main entrance hall which was tiled and equipped in orchid and black. Upstairs, there were two private bath rooms, one in rose and white and one in green and white.

Rubber tile also lends itself admirably to handsome bath room effects, as will be seen in one of our most beautiful illustrations. The dignity and charm of black and white diamond patterns is classic. In addition to this, there are many beautiful blending and contrasting color schemes obtainable in both rubber tile and also high class linoleum tile. Both are cemented to the sub-floor

and are thoroughly water tight and very long wearing.

In designing bath rooms, there is a noticeable preference among the better designers to provide a special tiled alcove for the tub. The old curtain arrangement for combination showers has been replaced by glass door enclosures over the tub with a decorative grille in the arched opening above, to admit air. Wherever the bath room is large enough, separate shower cabinet enclosures with glass doors are preferable. Handsome effects are obtainable in either type. Some luxurious bath rooms have been designed with a plate glass shower cabinet as the central feature.

Soap trays recessed in the tile work just over the tub and above the lavatory bowl are convenient features found in most of the modern tiled bath rooms and a recess in the tile work is also provided for the toilet paper holder.

For use in sections where tile setters are not commonly available, floor and wall tile, as well as floor and wall tile substitutes are obtainable which do not require the service of expert tile setters for installation.

There are quite a few wall tile substitutes which resemble genuine tile in their effect—both in white and colors. Some are enameled on asbestos board, some on wood fibre sheets or wall board and some on metal base. These come in sheets as small as 1 by 4 feet and intervening sizes up to 8 feet by 4 feet. These sheets of wall tile substitutes are usually nailed to the studs and cemented at the joints. The style which is enameled on metal has special fasteners for attachment to the studs.

All exposed piping, shower and mixing valves and escutcheons, as well as faucets, glass holders and similar accessories should have the very best nickel or chromium plating, in order to retain the charm of gleaming metal, rather than the worn, brassy appearance which soon develops with cheap, poor plating. Chromium plating is a comparatively recent development. This plating process requires greater skill in its application and the cost is consequently higher but it produces

a brilliant, mirror-like surface which does not tarnish. If preferred, a silver satin finish is obtainable with chromium plating. Chromium plating is harder than case-hardened steel; therefore, it shows no scratches or wear. It is guaranteed to retain its scratch-proof lustre for at least twenty years. Most of the leading manufacturers of shower bath valves, handles, escutcheons and similar accessories are now producing chromium plated fixtures.

In order to carry out the decorative scheme of its tiling and colored porcelain fixtures, bath rooms of the modern type are often furnished with pyralin covered wood towel bars, finished to any desired tint or shade. Holding posts on the ends are of china in color to match.



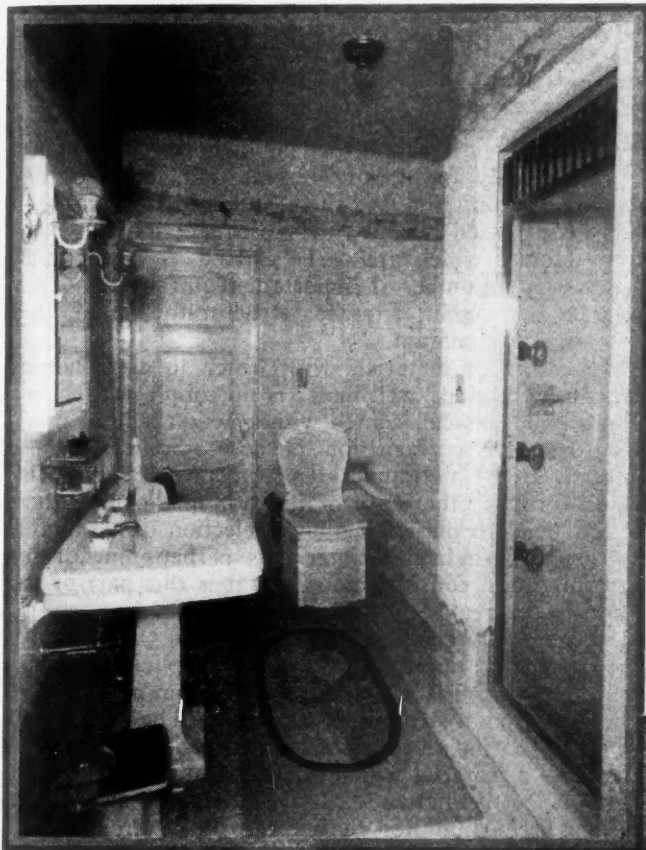
Above—
Completely Tiled
Bath Room in a Cin-
cinnati Residence.



To Left—
Generous Size in This
Interesting Beverly
Hills, California,
Home. A. J. Cor-
nelius, Architect.

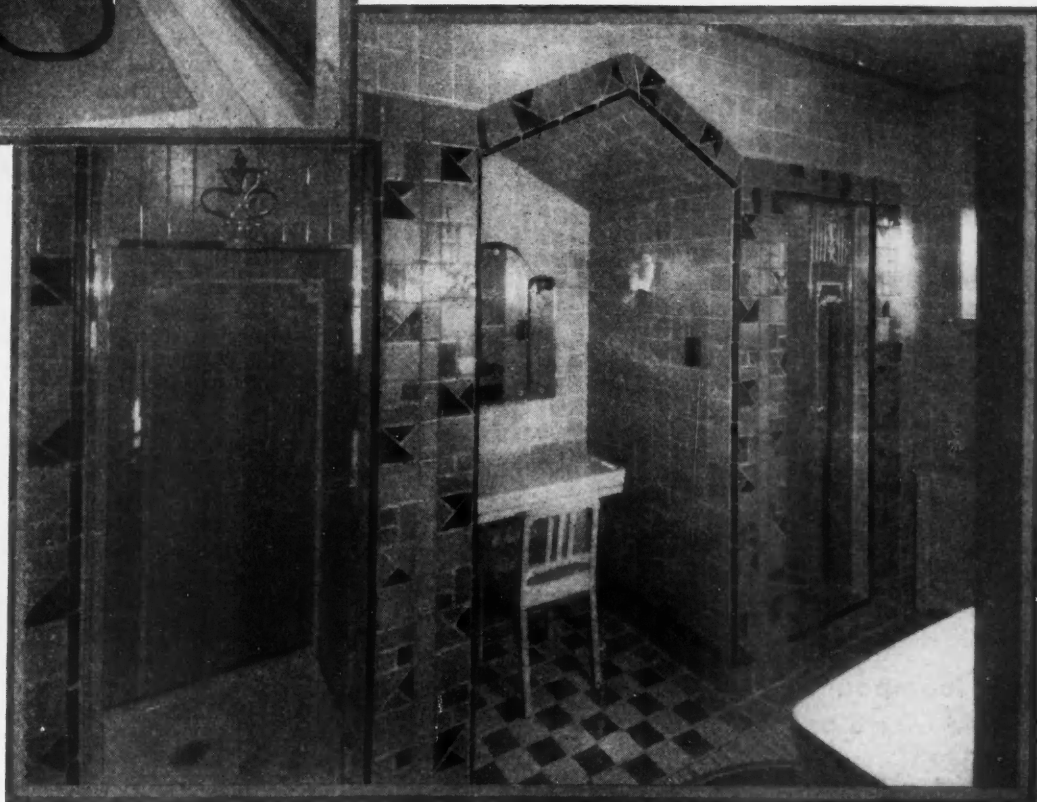
Among the other accessories and miscellaneous fittings procurable in black, white or colors, are robe hooks, sponge holders, paper holders, grab rail and soap combinations, soap holders, tumbler holders, tooth brush combinations and door stops—all furnished to match or harmonize with the white or colored tile of the bath room.

Water closet seats are also furnished in black, white or colors, to fit the color scheme of the bath room. There has been a wonderful improvement in the lamination and composition of these seats so that the better ones will not warp, crack or break and the finish cannot be injured by the ordinary acids or alkalis. Such seats never present a worn out or dilapidated appearance.



Above—
Plate Glass Doors Are
Liked for Bath Room
Shower Stalls.

To Right—
Recessed Dressing
Table and Ornament-
al Tiling Are Talking
Features Here.



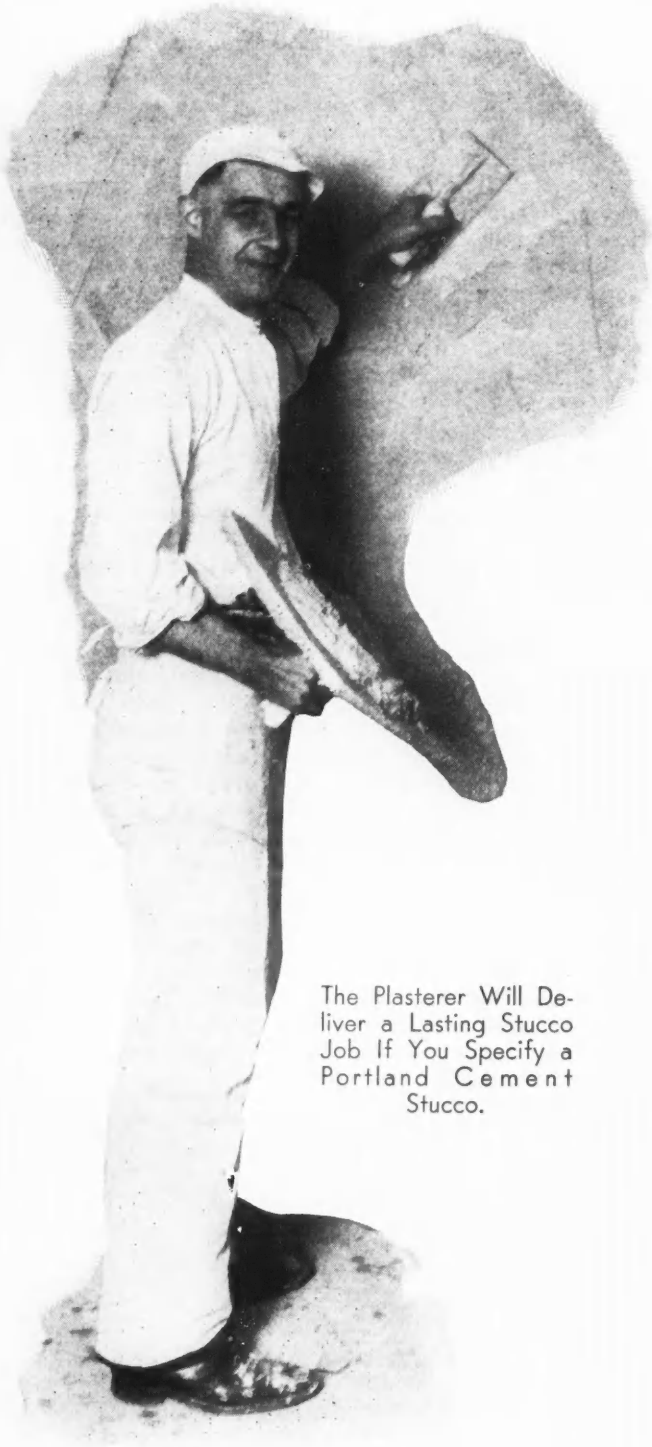
Since bath room size has been mentioned, it may be well to point out that there has been a distinct reaction from the very small bath rooms, which, unfortunately, are still likely to survive in apartment buildings and hotels where space is at a premium. There is, however, little excuse for tiny bath rooms in single dwellings. There should be room for unhampered movement, after allowance for all fixtures, chairs, etc., as real comfort is seldom obtainable under crowded conditions.

Heat radiators should be of the recessed or circulating wall type and all equipment which can be should be recessed or built in. A comfort feature now being installed in many bath rooms is the electric bath room heater, furnished in square form, to be built in or recessed in the wall. The radiant heat from its glowing heat element is both stimulating and healthful, and, by means of this extra heating element, the bath room can quickly be brought to the temperature desirable for children or adults who require extra warmth.

A bath room accessory which is becoming increasingly popular is the health scale. The most suitable location in the house for health scales is here where the daily weight can be checked as one steps from the bath.

An important part of any bath room equipment is the medicine cabinet and accompanying mirrors. Where these latter used to be set into the doors, modern mirrors are much more complete and ornamental. They usually consist, now, of a set of three mirrors in ornamental shapes—one main and two wing mirrors—the latter adjustable to any desired angles. One clever design makes use of concealed electric fixtures, the illumination from which is reflected by the wing mirrors on the face and figure in front of the glass. Mirrors of this type are usually separate from the cabinet.

Many cabinets have doors which are mirrors with beveled edges and cut at the top into ornamental shapes. In addition, decorative border designs are sometimes etched into the glass. Free use of mirrors has long been recognized as one of the most effective of decorations. In the bath room, they may be employed extensively.



The Plasterer Will Deliver a Lasting Stucco Job If You Specify a Portland Cement Stucco.

STUCCO FACTS and STUCCO FAILURES

By W. D. M. ALLAN*

HOMES that are well designed and well built give lasting satisfaction to their owners. Such homes not only find ready buyers, but likewise they establish a reputation for their builder that invariably leads to increased business in subsequent building ventures. Homes which are to be classed as "well built" must satisfy a number of important requirements. They must be permanent, firesafe, structurally sound, and economical to maintain.

The choice of materials with which to erect houses that can be termed "well built" is no simple matter, for today's builder is confronted with a wide range of products for every construction purpose. Some of these materials are of high quality and will produce beautiful, lasting results; others are of inferior quality and their use will lead to dissatisfaction. Selection of a suitable exterior wall surfacing material is perhaps one of the most important considerations, for it is this part of the house which creates the first impression.

It is generally conceded among builders that stucco—if it is of high quality and properly applied—provides an ideal surfacing for exterior walls, from a decorative as well as from a structural standpoint. The widespread use of stucco for all types of residences is proof of this fact. It is a material which offers unlimited possibilities in producing distinctive textural and colored effects. Its merit as a medium for the expression of architectural beauty, whether in the modest bungalow or the pretentious mansion, is recognized.

Unfortunately, stucco materials in modern building are subjected to almost as much unfavorable criticism as they are to praise. In practically every section of the country, particularly where the climates are severe and throw unusual burdens on building materials, stucco receives highest commendation. In these same sections and in other sections where climatic conditions are moderate, stucco is often thoroughly discredited. The workmanship in the application is frequently held responsible for the widely different attitudes for and against the use of stucco. In many cases, this is correct, but in the majority of cases the quality of the stuccoing material itself and its adaptability to the conditions are the determining factors in the success or failure of a job.

The term "stucco," as applied in modern building, is much too vague and therein lies one important reason for the undue criticism of high quality stucco products. The average person does not know that there are several kinds of stucco materials, each of which gives satisfactory service under conditions to which it is suited. The tendency is to criticize all stucco because of the failure

STUCCO IS LIKED BECAUSE

1. IT GIVES THE DESIGNER COMPLETE FREEDOM;
2. IT WEATHERS TO AN INTERESTING COLOR;
3. IT MAKES A WARM, DRY, PERMANENT WALL—

when compounded of portland cement and applied over a permanent plastering base.

*Manager, Cement Products Bureau, Portland Cement Association, Chicago, Illinois.

of a certain type that may have been unfitted for use on the job that failed.

Practically all modern stucco materials are identical in some respect. They are usually applied in three coats. Each coat is composed of an aggregate, usually fine sand or crushed stone and a cementing agent, water being added when the material is mixed. The cementing agents most commonly used—lime, magnesium oxychloride and portland cement—are by no means identical. The cementing agent is the most important material in stucco, for it is responsible for the strength and permanence of the finished job.

These three types of cementing agents have entirely different physical and chemical properties. Consequently, they differ considerably in their resistance to dilute acids in the air, to alternate wetting and drying, and to freezing and thawing. As an example, moisture which probably has the greatest effect on a stuccoing material, dissolves away one type of stucco, renders another chemically unstable, while it strengthens portland cement. One type of stucco gains strength very slowly and is therefore, subject to injury from severe weather conditions during early ages. Another type, while it has high early strength, undergoes no increase

in strength afterwards, and, in fact, deteriorates over a period of a few years. Still another type has relatively high early strength and, in addition, its strength increases indefinitely.

The widely different characteristics of these cementing agents make it vitally important that a prefix be used to designate the one upon which the stucco depends for its cementing properties—*portland cement stucco*, *lime stucco* or *magnesite stucco*. When this practice is followed it tends to eliminate the use of products unsuited to the conditions and will result in an appreciable decrease in the number of stucco failures. Where stucco jobs fail, they are then rightfully charged to the particular type but not to stuccoing materials in general.

Unfortunately, many stucco manufacturers use trade names which in no way indicate the type of stucco. Likewise, many manufacturers use the same trade name for more than one type of stucco. Unless the composition of a trade-named product is investigated, a stuccoing material unsuited to the job is likely to be purchased.

True portland cement stuccos are generally considered to produce the most satisfactory results, particularly
(Continued to page 130)



When a stucco job is good there is nothing better; and with the body of experience and the detailed information available now to builders, dealers, and architects there is no excuse for any but good jobs.



An Up-To-Date Greasing Palace

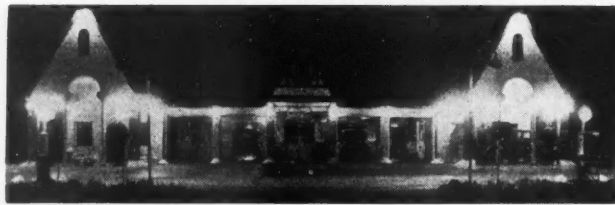
Essential Points in Design and Construction of the Fast
Multiplying Type of Building

By JOHN HOCKE, Architect

THESE structures are designed for maximum efficiency in servicing automobiles without waste of space; and consequently, the design developed is sometimes a combination of styles adopted to make the exterior as attractive as possible.

The dimensions of this building are 82 feet 4 inches by 36 feet 8 inches. This building is set in rear of property and in this particular case the property was 125 ft. deep from street to lot line. This building can be planned on property of any width by merely adding or deducting greasing racks as the case may require, and it can be erected on property of any depth ranging from 75 ft. up, as long as sufficient driving space is provided in front of building. There are five greasing pits, four for passenger automobiles and the center one for trucks, the latter being 10 ft. wide with overhead door 10 ft. high, while the others measure 8 ft. wide with 8 foot high overhead doors. At the left a room is provided for sales of accessories, and at the right, rest room and toilets, also office. Boiler room is located under this space. It will be noted that there are two canopies or overhanging roofs, one on each side, supported by brick piers and ornamental cut stone columns, which permits part of the gasoline service to be under roof. The space under the roof is used for storage or sleeping purposes. The entire space under first floor is open and forms a working space for the attendants servicing cars.

These greasing pits are of very simple reinforced concrete and steel construction. There are in each pit adjustable funnels with strainers provided to receive the old oil drained from automobiles, which is piped to underground tanks near the boiler room, so that this oil can be used to heat the building and domestic hot water. On the brick piers are located water outlets with hose,



Day and Night Scene at 64th St. and Kedzie Ave.,
Chicago.

to be used for filling radiators; and in cold climates provision is made inside of building so that these pipes may be drained in winter time. Large light reflectors are located one at each end of each pit to illuminate the chassis while mechanic is working.

This building is of ordinary construction, all exterior walls of brick with cut stone trim. Basement floor is cement, entire first floor is of reinforced concrete and ceiling is of wood joists with metal lath, and plastered. These are floored with 1 inch pine boards in attic space. Rafters are of wood with wood sheathing and asphalt shingles. There is an ornamental gable in center which is of frame construction, half timber with wire lath and plaster.

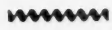
The success of any automobile service station depends, to a very great extent, on design and arrangement. This fact is recognized by the big oil companies which are spending thousands of dollars in providing their stations with beautiful buildings and grounds.

The landscaping is important. The judicious use of grass, shrubbery and plants relieves the large expanse of concrete necessarily devoted to drives. Lighting should have special attention. The flood lights, seen in the foreground in the illustration, assure plenty of light on the grounds while the whole front of the building is lighted with a series of globe lights.

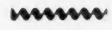
All of these points are factors in attracting the attention of the passing motorist at such a distance that he will have ample time to decide to drive in, and of making him return because of his pleasing first impression.

It should be noted that the canopies cover only one drive. This is in accordance with good design as the ordinary low canopy is too low for large trucks to drive under it. Therefore, one drive must always be left clear to admit such trucks.

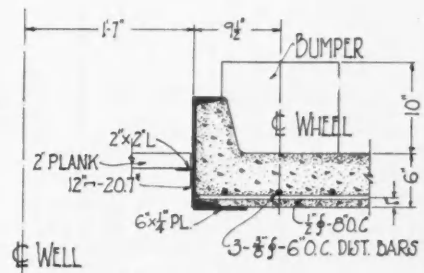
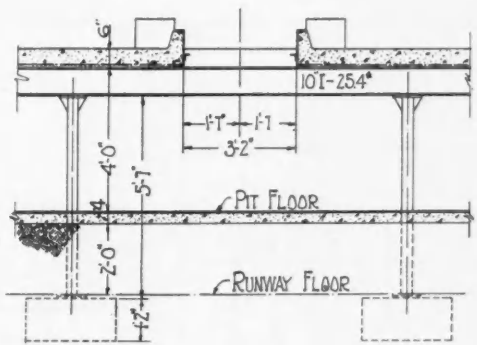
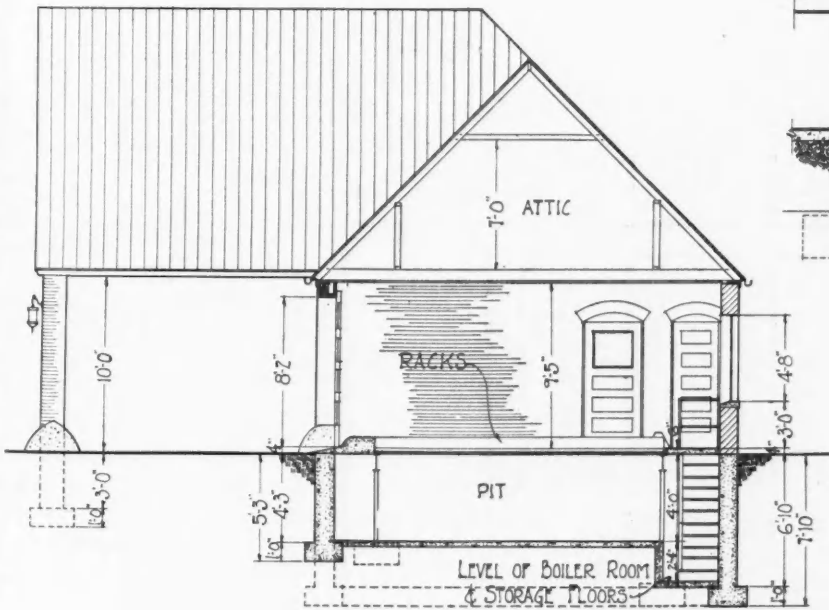
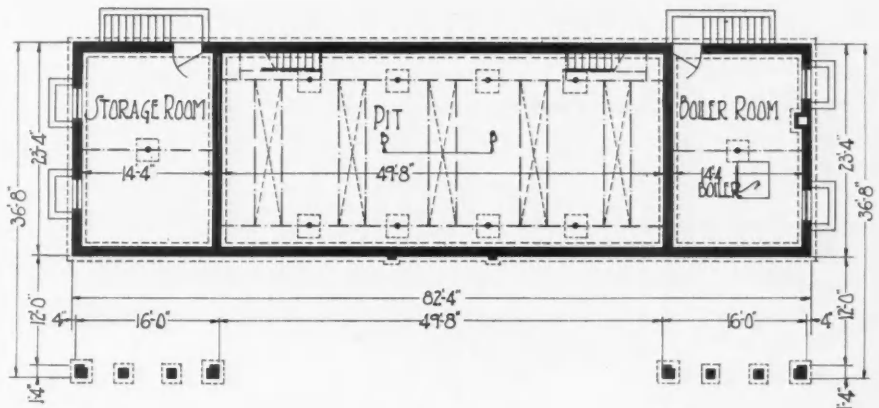
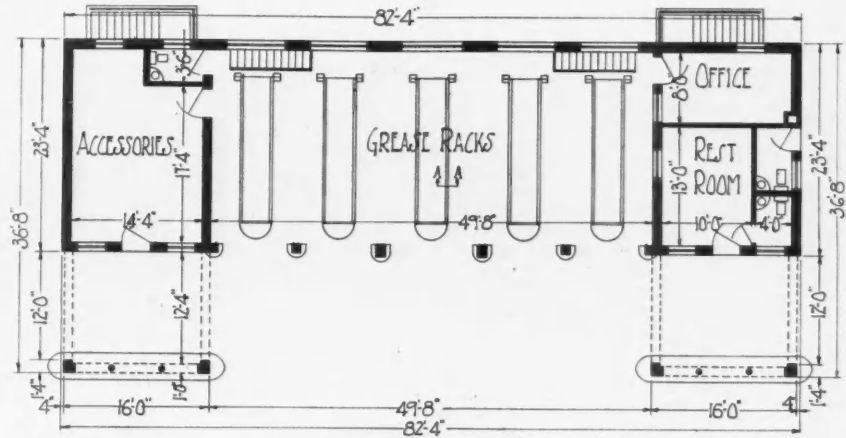
GREASING PALACE



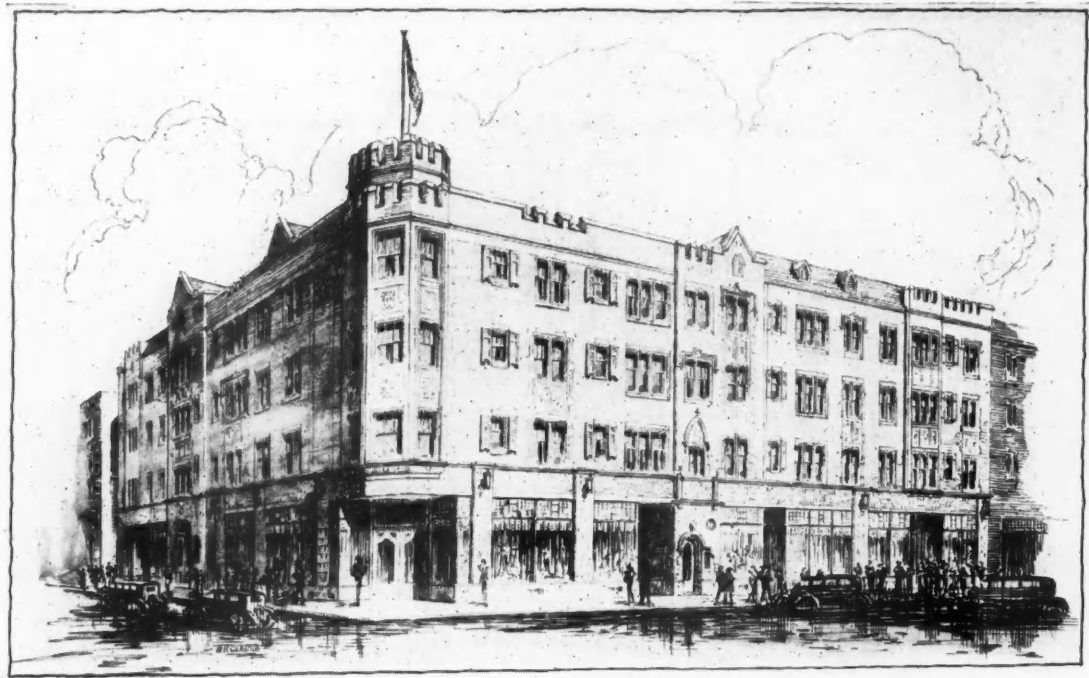
Approved Model



JOHN HOCKE
Architect



Oil Service Station and Greasing Palace Illustrated on Opposite Page

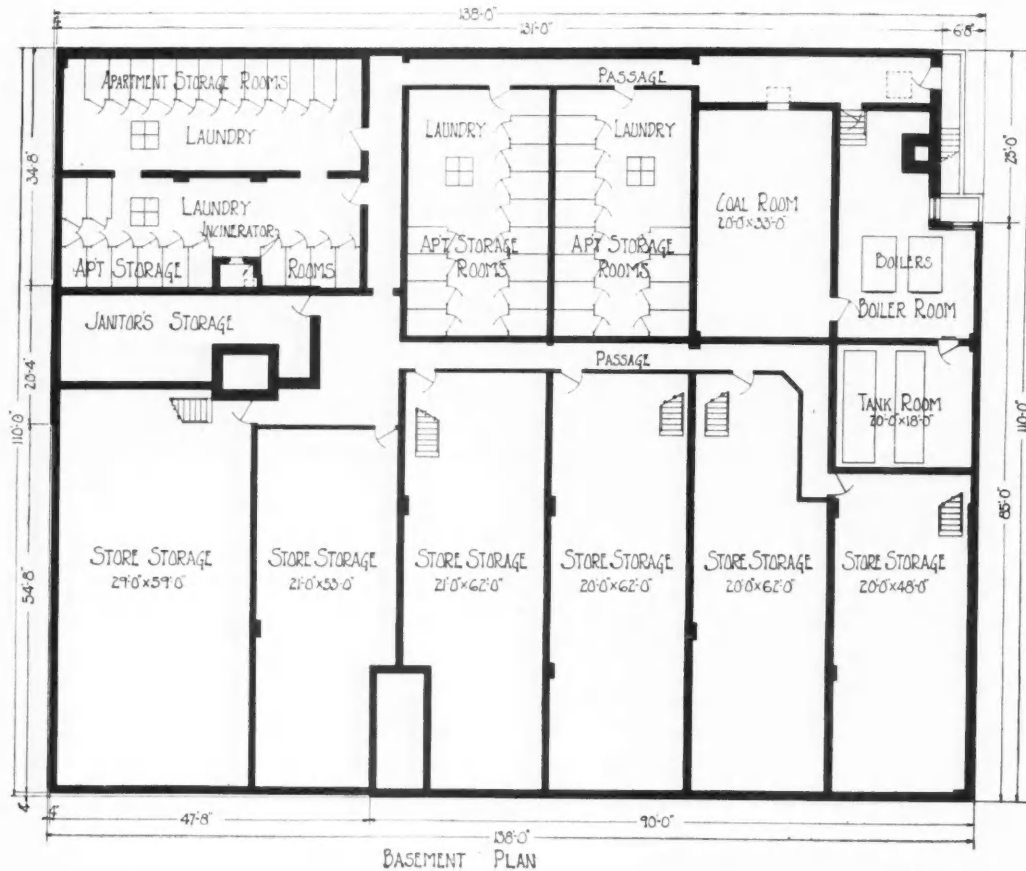


JOHN HOCKE, Architect

A. C. LARSEN & SON, Builders

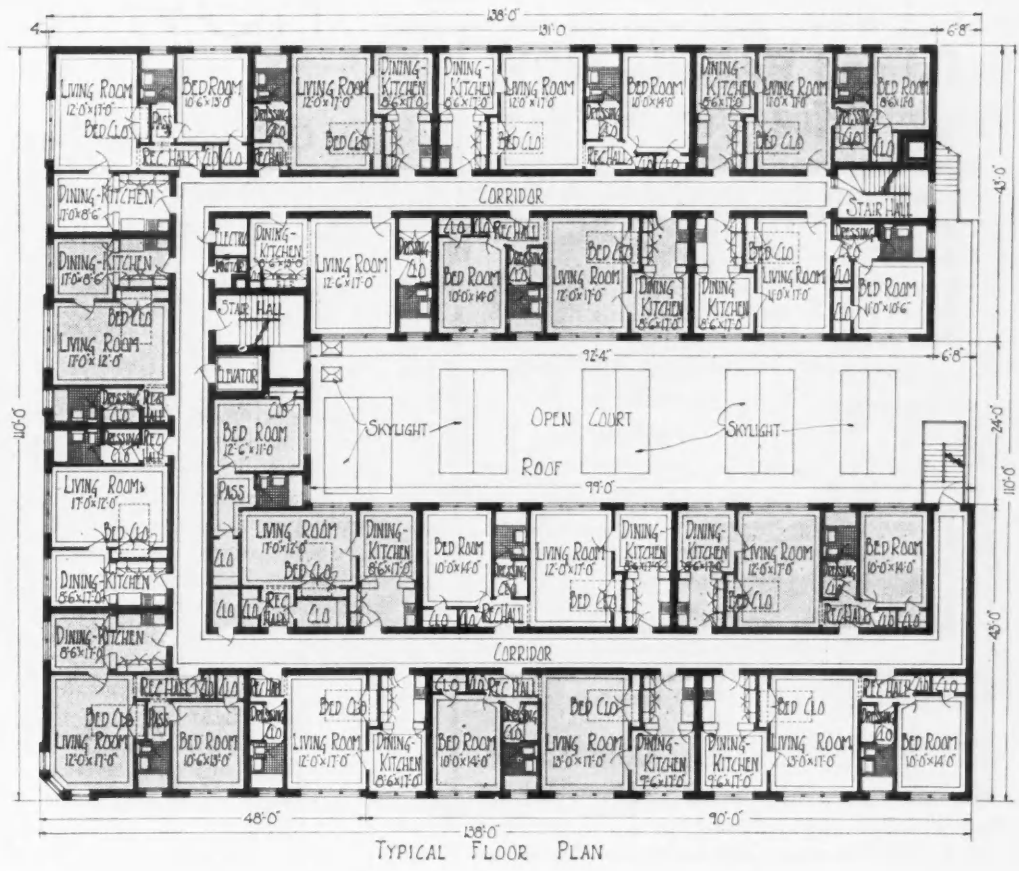
Successfully planned building erected recently at 71st Street and Jeffery Avenue, Chicago Contains eight stores on first floor and forty-eight one-, two-, and three-room apartments on the three upper floors.

Stores and Apartments English-Gothic Design



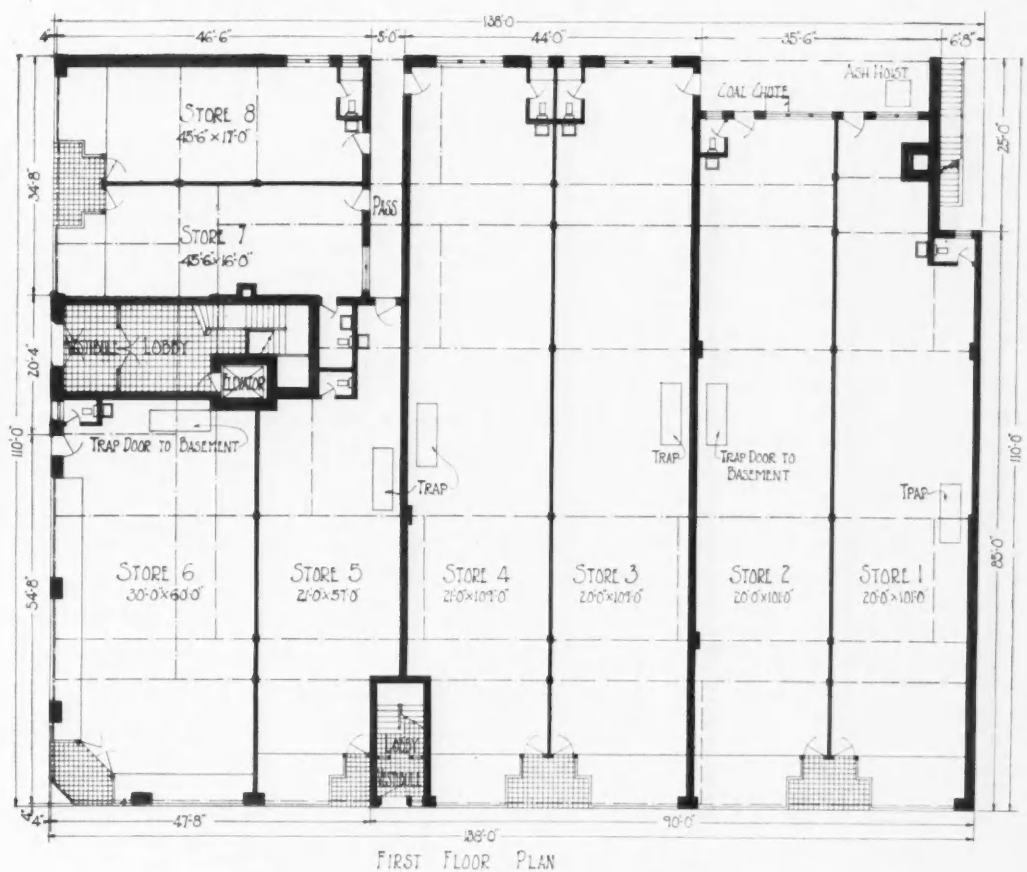
The Basement Plan Provides Storage for Stores and Apartments, and Also Heating Plant.

Bed Closets Give These Small Apartments Extra Efficiency.



TYPICAL FLOOR PLAN

The Retail Shops on the Street Level Are Good Income Producers.



FIRST FLOOR PLAN

MODERNIZING WORK

An Interview with
JOSEPH PONDELIK, Jr.

should be taught to be on the look-out for such prospects. This should be reckoned with very seriously; for it is the cheapest form of advertising, and the most profitable.

Another method of advertising that is often overlooked is to have the men speak well of the firm and its work both during construction and after. Prospects are always willing to listen to anyone who is satisfied with the company he works for. It makes him feel that the company is doing the right thing by its men, and consequently doing the right kind of work.

Prospects are always coming from a job after it is completed, either by recommendation of the owner, or by merit of the job itself. This firm finds that 60 per cent of its work is coming from recommendation of the owner to his friends, or from repeated work from the same owner. It is a well known fact that in remodeling, the house is never through being fixed. Our firm has

The First of This Series of Two Articles by Mr. Pondelik Appeared in the November Issue.

found in its experience that we have worked over a period of ten years on homes, many of them from year to year. One year they will remodel the bathroom; next year, replaster, changing partitions; the next year putting rooms in the attic, putting in a new heat system; and

so on. One can never finish working on the average home, and if the contractor knows this, he will do his utmost to keep a satisfied and well paying customer. The reason for this year to year remodeling is due to the fact that home owners govern their work by their pocketbooks. They will have a certain amount of work done and pay for it, and then have some more done.

When a prospect comes in with his request for further information or estimate, the girl in the office makes an appointment with him for an estimator to call at a time when both the man and his wife are at home. He goes there, sits down very patiently at a table and

NAME _____

ADDRESS _____ St. County _____ Ill.

GARAGE FRAME PORCH
 BRICK SUMMER HOME

SPECIFICATIONS: Size _____ Wide x _____ Long x _____ High

Windows _____	Floor _____	Roof _____	Roll _____
Sash _____	Cement _____		Shingles _____
Service Door _____	Wood _____	Garage Doors _____	
Siding _____	Approach _____		Built Solid _____
Eaves _____	Small Walk _____		Built Glazed _____
Shingle Sides _____	Extra Cement _____		Milled Glazed _____
Posts _____	Excavating _____	Hardware _____	Track Doors _____
Brick: _____	Filling _____		Hinged Doors _____
Common N. E. S. W.	Front Drive _____		Foot Chain Bolts _____
Face N. E. S. W. Per M \$ _____	Dirt Hauled _____		Quicklocks _____
Foundation _____ x _____	Drain _____	Roof _____	
Chimney _____	Sewer _____	Lining _____	
	Cement Steps _____	Ceiling Joists _____	
	Wood Steps _____	Flower Box _____	
	Pit _____ x _____	Partition _____	
	G. B. Platform _____	Post for Clothes Line _____	
	Garbage Box _____	Fix Fence _____ Gate _____	
	Water _____	Move Pole _____ Shed _____ Tree _____	
	Electric _____	Finish _____ Start _____	
	Paint _____	Sales Office _____	

Distance from _____ Lot Line _____

_____ Dollars (\$) _____ as Follows _____

_____ Dollars (\$) _____ Date of Contract (In) (Not In) _____

_____ Dollars (\$) _____ On Completion _____

_____ Dollars (\$) _____ When Work Part Done _____

Balance in _____ months at \$ _____ per month

Salesman _____

Office _____

Items Ordered _____

Total \$ _____

Cash Selling Price \$ _____

Less Down Payment _____

Cash Balance Due _____

Finance Charge Mos. _____

Total Amount of Note _____

Finance Charge . . . _____

Balance Due Dealer _____

Amount Deducted for Lbr. _____

Balance Received _____

Finance Charge Profit \$ _____

Job Folder for Vertical File—All details of the work and for its payment are on the outside of the Folder. Inside is printed a Sub-Contract list.

listens to what the man and his wife have to say about what work they want done, jotting down, if necessary, the information. It so happens that eight out of ten people have a very hazy idea of what they want done. It is up to the estimator to offer suggestions and win them over to the method by which it would be simplest to do the job, always bearing in mind to keep the costs as low as possible. Most prospects have extravagant ideas as to the work done. The estimator will take out his pencil and make temporary sketches of the work; then, from the firm's "Basic Cost List" on remodeling, he can figure any job up to \$10,000 in less than half an hour.

This Basic Cost List which we have prepared is a compilation of cost units on labor and material compiled over a period of twelve years, which is the duration of the firm's existence. These costs are revised constantly to meet the varying costs in labor and material and cost of operation.

The salesman impresses prospects with a business-like attitude if he can know instantly what this and that costs, and if he can tell on the moment cost of changes in work. The Basic Cost List permits this. Home owners have a tendency to change their minds so often that one must be prepared to meet all such variations. The old method of finding out what the owner wants, and then coming back two or three days later with the price is both inefficient and uncertain. It gives the owner an opportunity to change his mind too often, and it gives competition too much lee-way for getting in.

Too many times an estimator makes the mistake of trying to sell too elaborate a remodeling job, so that it is out of the prospect's reach financially; consequently the prospect either puts it off to a later day or gives up the idea permanently.

FOREMAN'S CARD	
Name	_____
Address	_____
Size	_____
Frame	_____
Brick	_____
Glazed Sash	_____
Glazed Windows	_____
Service Door	_____
Roofing	_____
Shingles	_____
Roof	_____
Eaves	_____
Siding	_____
Cement Floor	_____
Posts	_____
Approach	_____
Drain Floor	_____
Slope Floor	_____
Garage Doors	_____
Rail Doors	_____
Hinged Doors	_____
Cremone Bolts	_____
Chain and Foot Bolts	_____
Quicklocks	_____
Door Dogs	_____
_____	_____
_____	_____
_____	_____

Name _____
 Address _____
 Phone _____

FLOOR

Size _____ Filling _____
 Approach _____ Excavating _____
 Drain _____ Frame _____
 Sewer Connection _____ Brick _____

EXTRA CEMENT WORK

Sidewalk _____ Platform _____
 Front Drive _____ Steps _____
 Curbing _____ Pit _____

FOUNDATION

Size _____ Piers _____
 Width _____ Offset _____
 Elevation _____ Grade _____

AGREEMENT

The undersigned (property owner) agrees to pay for the extra work as listed below, not shown in original contract:-

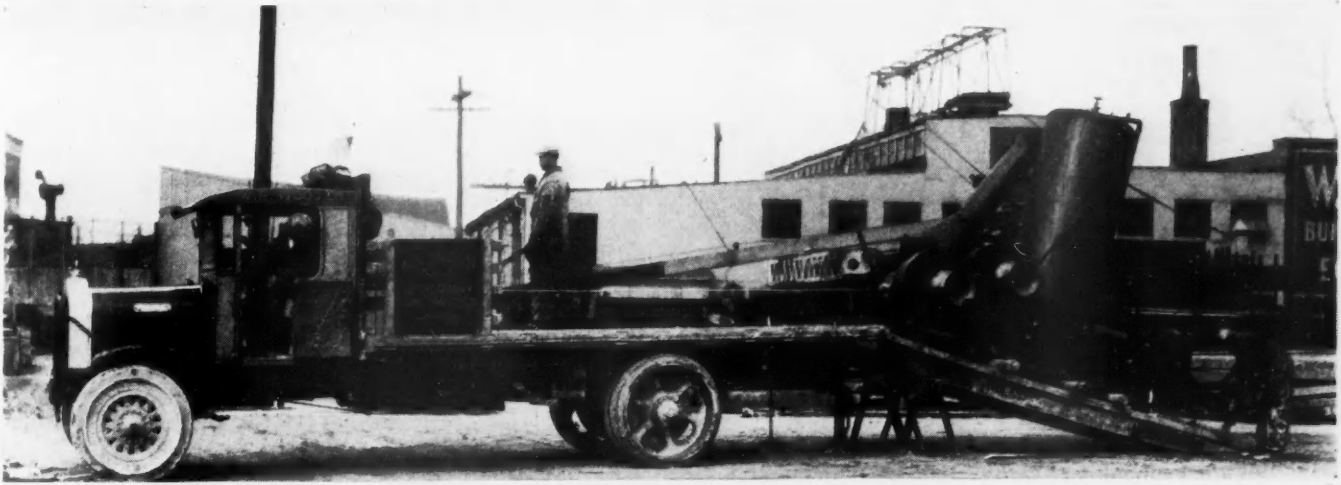
 Owner's Signature

Some remodeling work is done because it is necessary to the building either for purposes of resale, or to prevent further damage to property. These two types of remodeling must be governed by the actual value of the building in relation to the new selling price. If the improvement value of the building is in excess of the selling price, after the improvement is made, such jobs usually fall through because they do not pay.

After the work is agreed upon, the method of paying for it must be decided. Salesmen must be equipped with a number of financing plans to make it very easy to reduce all resistance by making it simple and convenient for the owner to pay.

When the job is sold, the salesman makes a contract subject to the O.K. of specification. These specifications are drawn in the office according to the agreement made between the owner and the contractor, and are signed by the owner. They are made out in minute detail, showing operation of work and grade of materials so as to permit the use of these specifications in routing the job through the office. With a very efficient check and cost sheet system, this work can be run over successfully. The folder, with specifications pasted across the front, and with details of estimate, bid and actual cost recorded

(Continued to page 130)



Controlling Up-Keep Cost Makes Trucks Pay

Steps You Can Take to Keep Trucking Cost at a Minimum and so Make This Equipment Save Money in the Yard or on the Job

THE old adage "A stitch in time saves nine" applies with particular emphasis to the maintenance of motor trucks on the construction job. Neglect of trucking equipment is an exceedingly expensive habit because troubles pile up so rapidly.

Each time a truck is taken out of service for repair work, the investment on the equipment becomes idle for that period. The contractor is without the service of the truck and a repair bill must be paid. Every builder who uses trucks should therefore have a maintenance system which, when properly operated, will eliminate unnecessary expenses in this regard as far as possible.

Maintenance schemes vary greatly with different concerns, but a brief survey of some of the methods in use that a few have tried will help illustrate the important points that will help make it possible to reduce trucking costs.

One maintenance plan used by a building concern is that each truck is assigned to the repair shop one day each month for a complete inspection and to have all repairs made. If it is found that the repairs required will take more than one day, a substitute truck is rented.

The following routine for inspection of the truck is followed.

The truck is first given a test run by the mechanics to show up any trouble that might escape if the car were merely looked over. The entire machine is then carefully inspected and notation is made as to repairs to be made and parts to be replaced. After the inspection the detail work, such as carbon cleaning, valve grinding, greasing and oiling, tightening up of bolts and minor adjustments, is done.

Another maintenance plan used by a company which has cut its expense in this respect to a very minimum is as follows:

(1) Drivers of trucks are given necessary time to lubricate and wash up their own trucks. This allows them to take some pride in the appearance of their own

machines and gives them an opportunity to inspect and report any defects. Important repairs are made by a trained mechanic.

(2) After every 5,000 miles of operation, each truck is sent to the repair shop for minor repairs such as carbon removing, valve grinding, relining brakes and sectional wheel bearing adjustments and sectional general lubrication.

(3) Each truck is completely gone over after every 40,000 or 45,000 miles of operation. The company used the unit system of overhauling. Besides replacing the engine, gear set, rear axle and steering column with units already overhauled, the chassis is inspected and reinforced wherever a weakness is discovered.

(4) The condition of the tires, paint, unloading equipment, as well as the mechanical parts, are constantly under the inspection of one man who superintends and checks up all the trucks of the company.

Regardless of what kind of plan is followed, it is important that some regular program for seeing to the maintenance of trucks on construction jobs should be followed. The following six rules have been compiled



Six Balloon Tires Give Traction for This Special Mixer Truck Over Soft Going on the Building Site.



Three-ton Trucks with Special Dump Bodies Are Able to Get in Close for Hauling Out Excavated Materials.

as a result of a very thorough investigation made by the Lehigh Cement Company, and are worth studying. These maintenance rules may be briefly summarized as follows.

Take care of small troubles before large ones develop. This is the keynote of any successful plan.

Adopt a systematic way and a regular time for inspection, adjustment and lubrication as such a plan will locate defects before they become serious and will save expensive replacements during later overhauling.

Unless the driver is a skilled mechanic, tell him not to tinker with the truck's engine. When a contractor has four trucks the repair work will enable him to afford to keep a full time skilled mechanic. A nightly inspection of the truck, involving minor repairs and adjustments such as tightening brakes, adjusting drive chains and radius rods is very advisable.

Overhaul the entire truck at least once a year or, let us say, approximately 12,000 miles.

Keep the truck clean. Dust, if allowed to accumulate, may find its way into many of the bearing surfaces and in some cases may make lubrication difficult or impossible. Keeping the truck clean will increase its life and reduce wear on the parts.

Have the drivers form the habit of examining water, oil and gas supplies without fail each morning.

In reply to a questionnaire sent out by the Lehigh Company as to what steps they took to keep trucking costs at a minimum of expenses, truck operators answered as follows:

"Have a monthly inspection of each unit. Make minor repairs on these at the same time. Oil is changed and trucks are greased every 500 miles. Major repairs are made on trucks when necessary."

"All our work is taken care of by a garage which operates as an ordinary public garage. Mechanics are on hand there at all times."

"We have forty trucks and tractors and we have three men keeping them in shape. We always have one or two in the repair shop and one or two ready in case of a breakdown."

"We give bonuses to drivers for keeping their trucks in first class condition."

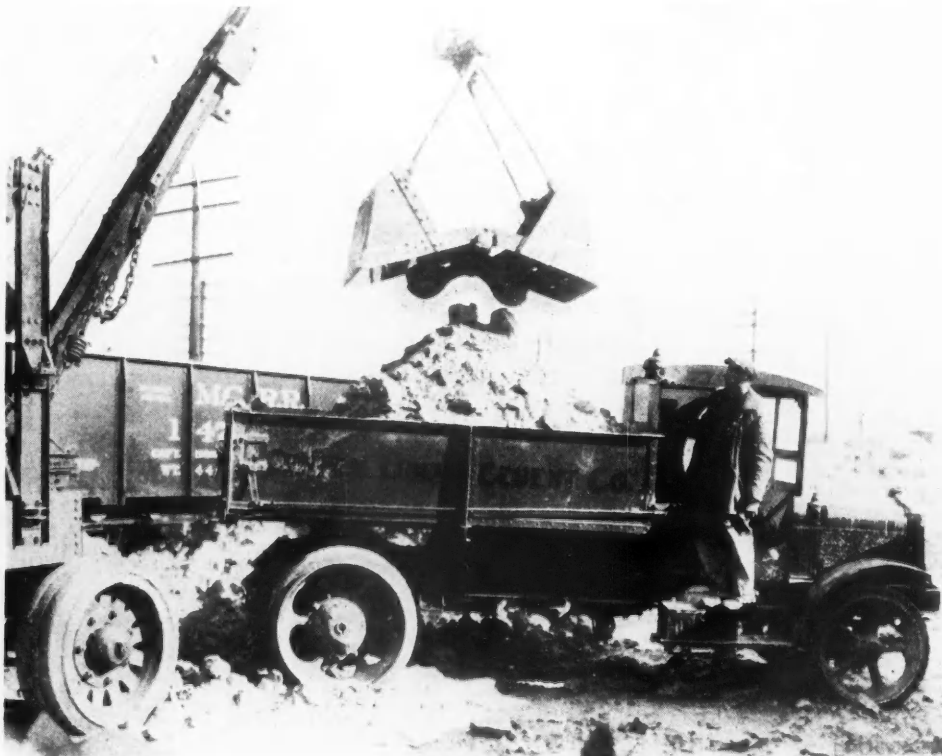
"Our truckmen take care of their own cars and only in extreme cases are we obliged to send trucks to garages for repairs, aside from our regular overhauling arrangement which comes once each month when we send our trucks for complete inspection and overhauling as may be needed."

"We employ one man to keep our trucks in running order. We run them with as little replacement as possible until they are worn out."

Packed in the Trunk of a Tree

DURING the World War an unexploded shell became embedded in the limb of a poplar tree near Compeigne in France. It is not known how it got there. Last year a farm laborer named Aubert was lopping off the dead limbs from the tree when his axe struck the shell. The shell exploded and Aubert was blown to pieces.

Strange objects become embedded in trees, among them the most frequent objects being stones tossed aloft and falling in the crotch of the tree, says the Manchester Guardian. The possible presence of such finds is dreaded by the men who saw them up, for a circular saw making thousands of revolutions a minute is likely to break into flying bits when it strikes the object in the wood.



Five-ton Truck, Part of Fleet of the Central Lime and Cement Company, Chicago.



The House of the Month

Working Plans of Attractive New England Colonial Home of Six Rooms and Two Baths

TOO often the square box type of house is ugly, but that it need not be is well illustrated in this "House of the Month." The exterior is well proportioned and the secret of its beauty is the clever handling of a few simple exterior details.

While not slavishly adhering to any particular period style, the exterior design is reminiscent of the New England Colonial type so very popular in and around Salem, Massachusetts about a century or more ago.

Note particularly the well proportioned entrance—the fluted pilasters supporting a plain architrave with a simple pediment top. This appropriately frames the six panel Colonial door. Broad brick and cement steps with simple iron rails, slightly curved, form the approach to the entrance, which is the principal exterior feature.

The first floor front windows balance the doorway, they are wider and higher than usual. Note the simply made lintel—an out of the ordinary detail, also the moulding under the sills.

A little iron balcony features the second floor small window. The double mullion windows balance on each side while slat blinds add width

to all the windows, and interest to the facade.

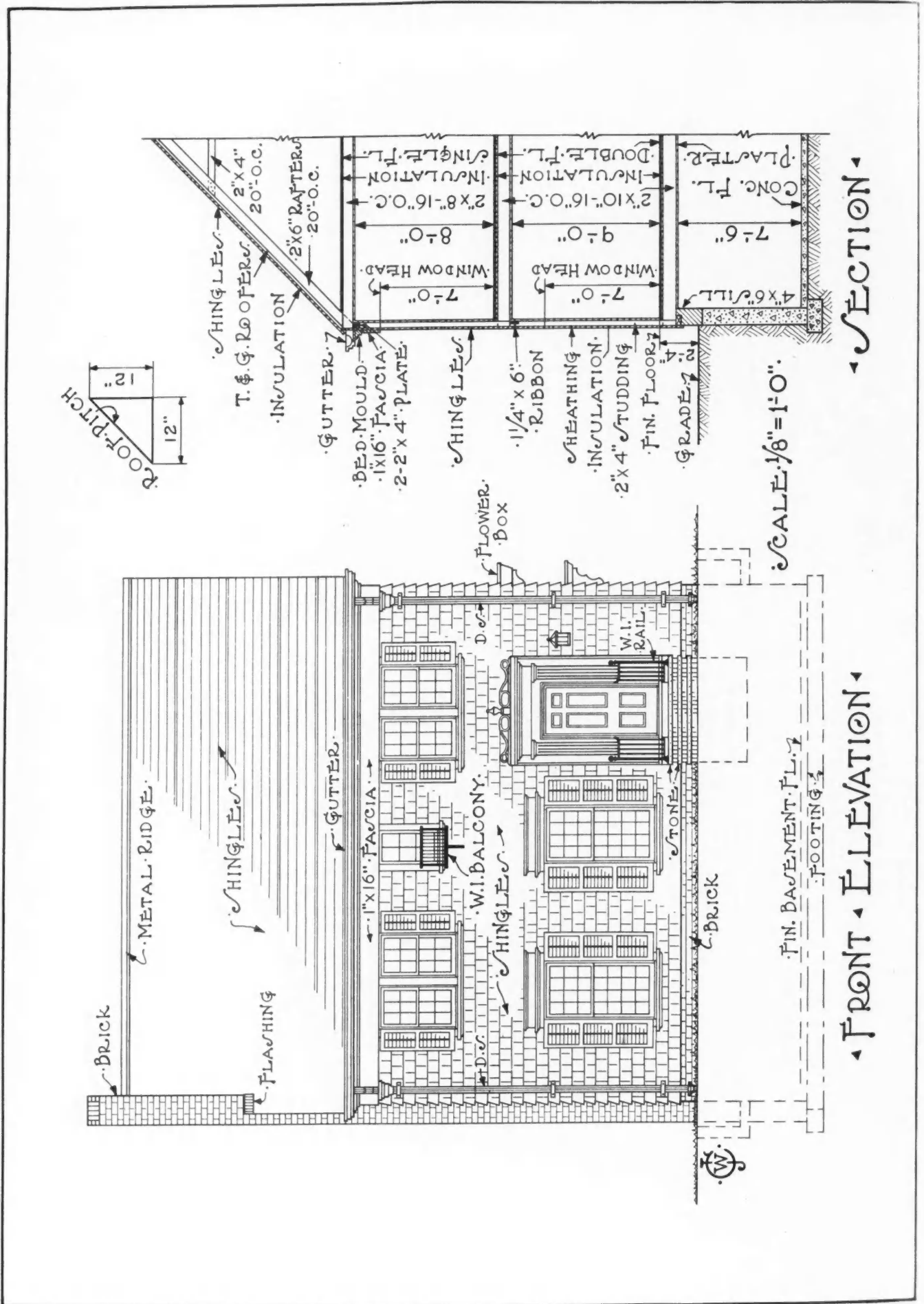
The color treatment is good, the plain shingled walls are left to weather, the trim painted white with blinds a light green; while a touch of red is introduced by steps and chimney.

The ordinary plain flat shingled roof surface is cleverly relieved in this design by breaking it up in eight sections—simply done by using doubled courses of shingles at proper intervals so as to cast interesting shadows.

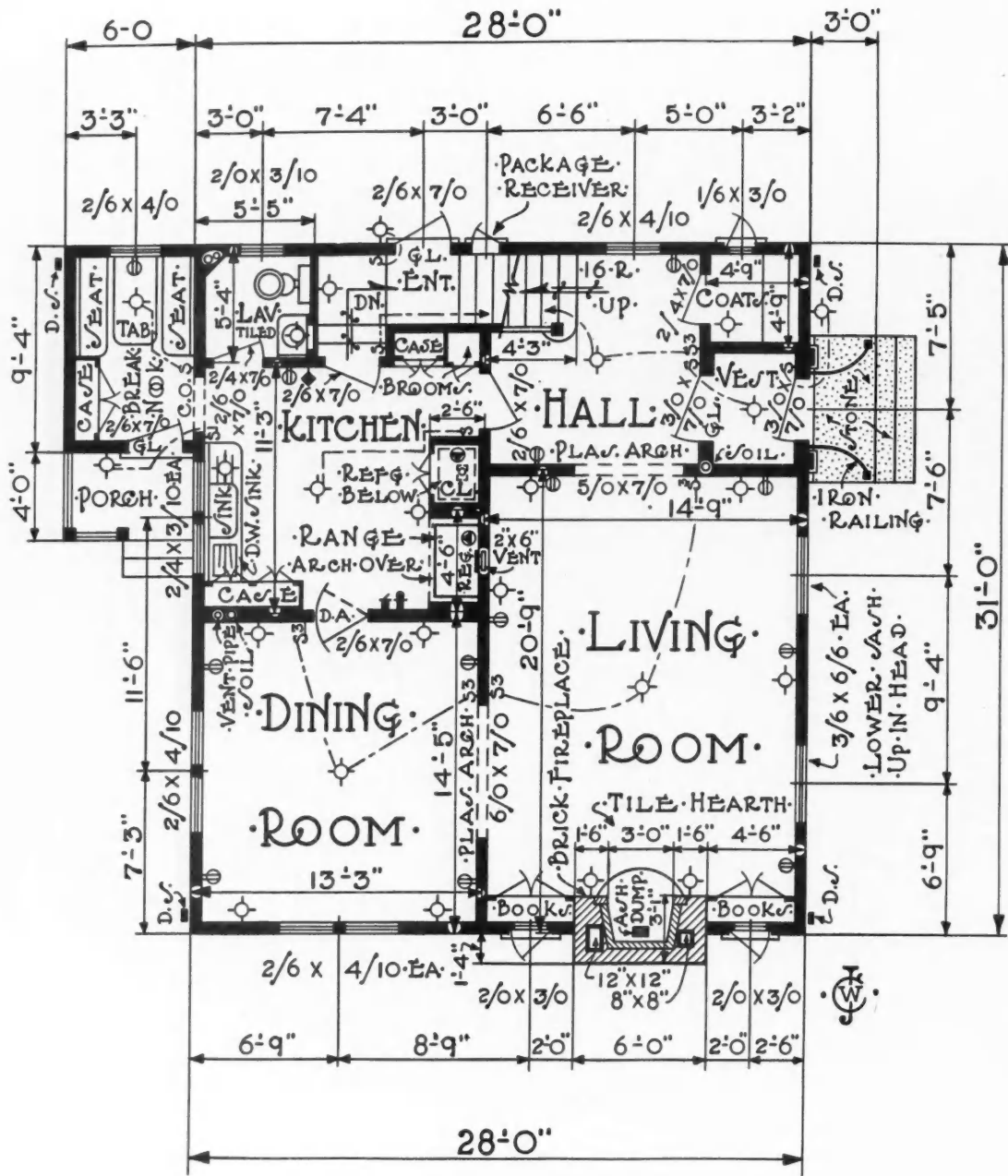
A very interesting floor layout is presented in the plans given on the following pages. Many features and equipment are shown to make this more than a "model" house. These include two bathrooms on the second floor, and extra lavatories on the first floor and in the basement.

The basement is thoroughly partitioned as to heater room, fuel room, store closet and laundry. The laundry is typical of the equipment of this house being provided with built-in tubs, washing machine, clothes drier, mangle, built-in ironing board, and shelving, in fact everything that could be desired in the modern home laundry.

This Practical Home Building Feature Appears Every Month in This Publication. Study, Use and File These Working Plans.



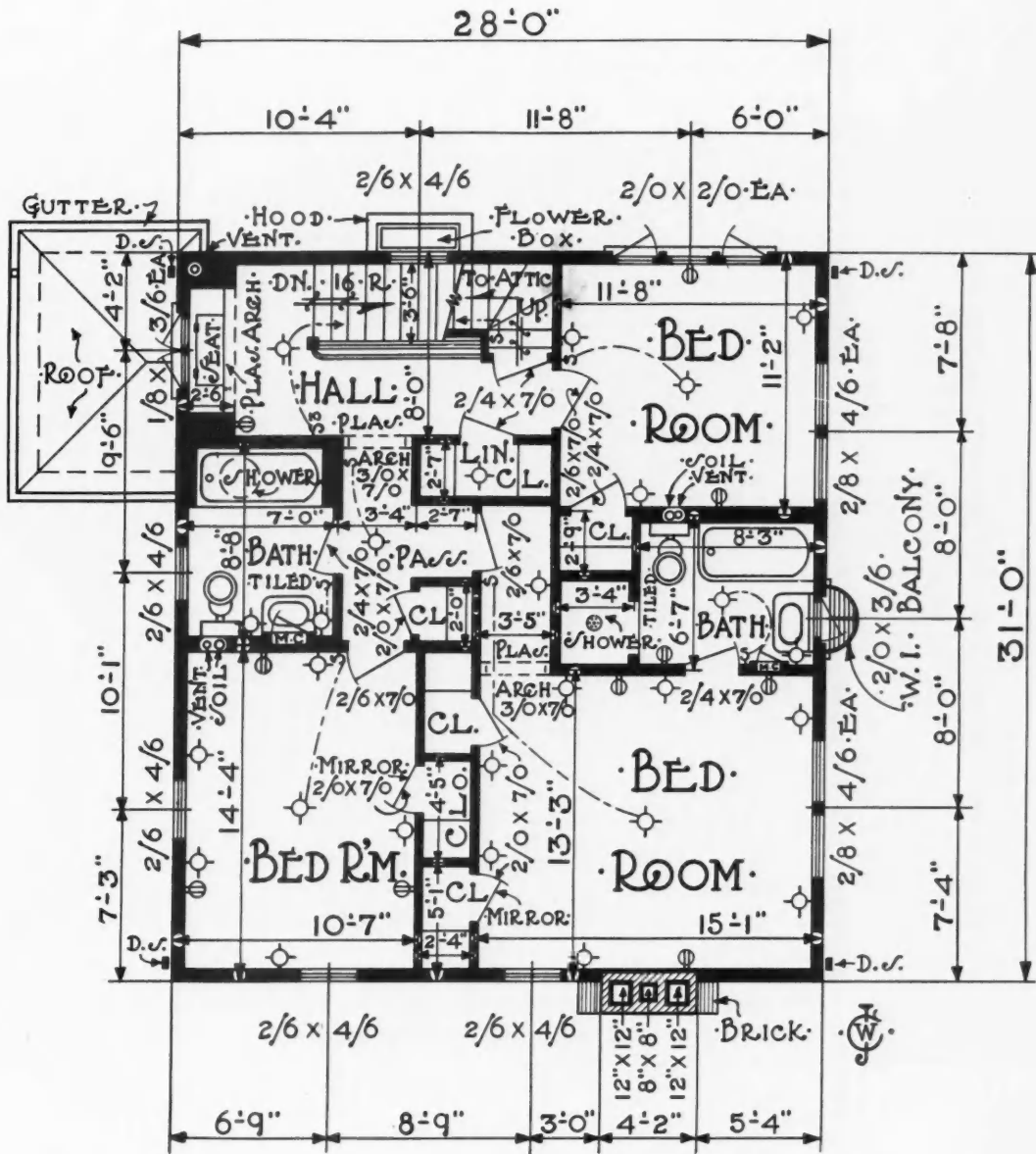
Eighth-Inch Scale Drawings of New England Colonial Home Pictured on Page 89.



◀ FIRST FLOOR PLAN ▶

◀ SCALE 1/8" = 1'-0" ▶

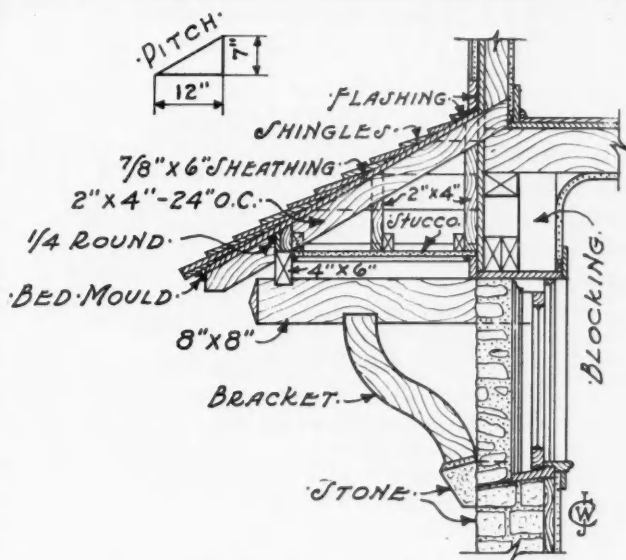
In 28 by 31 Feet It Would Be Hard to Lay Out a Better Arrangement of First Floor Rooms.



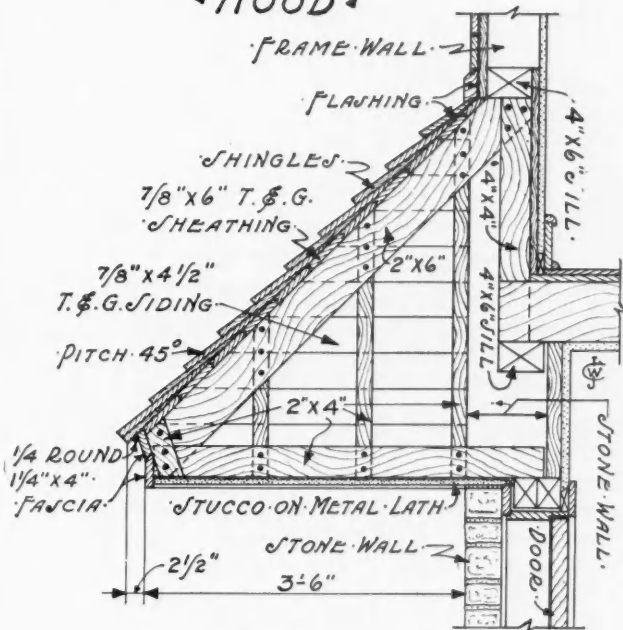
◀ SECOND FLOOR PLAN ▶

◀ SCALE 1/8" = 1'-0" ▶

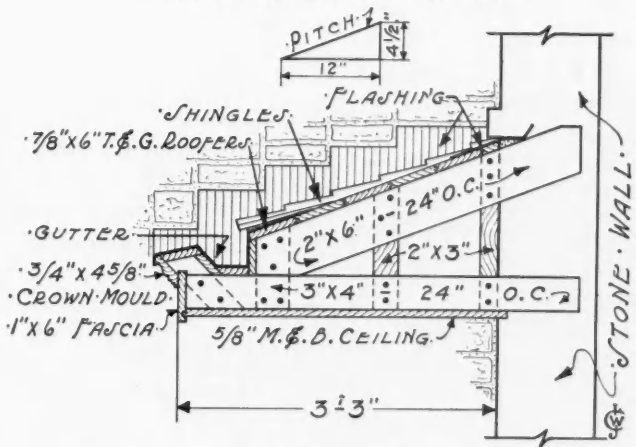
The Second Floor of the House of the Month Is Equally Interesting with Two Baths and Six Closets.



SECTION THRU. ENTRANCE HOOD

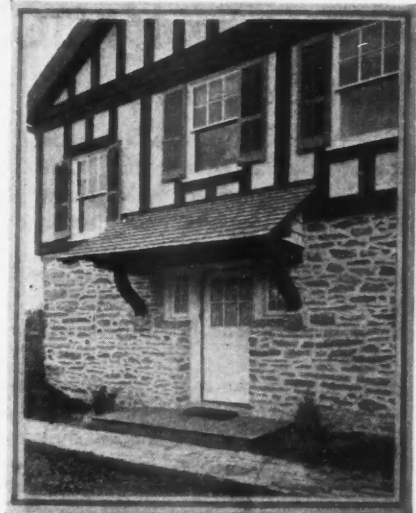


SECTION THRU. ENTRANCE HOOD

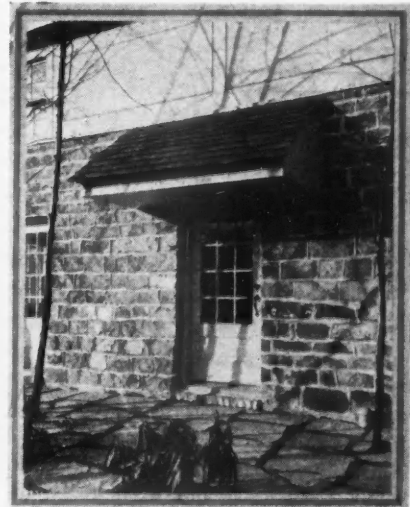


SECTION THRU. ENTRANCE HOOD

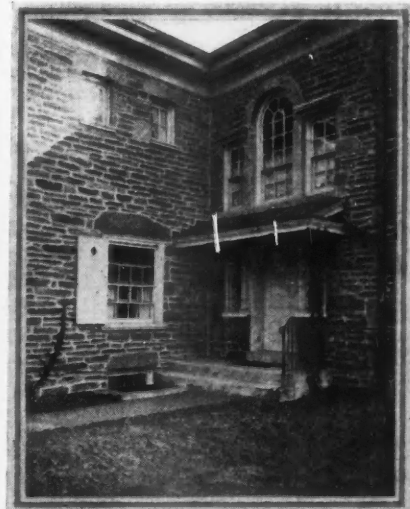
DOOR HOODS



This Hood Is a Pleasing Example of the English Country House Style.



The Rigid Simplicity of the Pennsylvania Dutch Colonial Is Shown in This Hood.



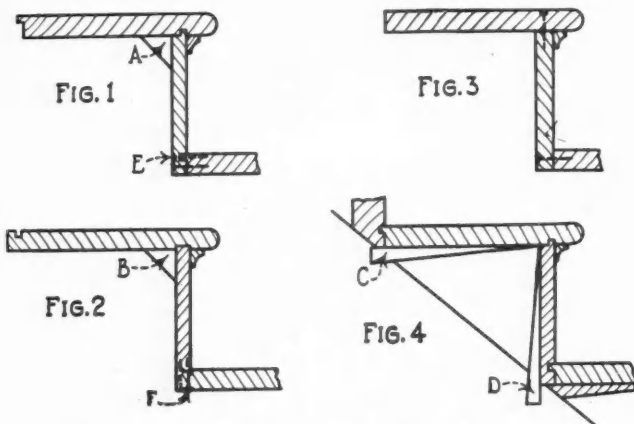
An Interesting Detail of the Georgian Period of Our Colonial Styles.

Practical Job Pointers

Stair Construction

IN these days when most of the stair material is gotten out by the mill it seems almost unnecessary to carry in mind the various constructions of stair steps. But every carpenter, at some time, comes to the place where he must get out material for a stair, even if it's only steps for a porch. For this reason he needs to know the construction.

Figure 1 shows the most commonly used construction for a housed stair. An angle block, which is glued into the angle to prevent the joint squeaking, is shown at the point A.



Typical Stair Construction Every Carpenter Should Know.

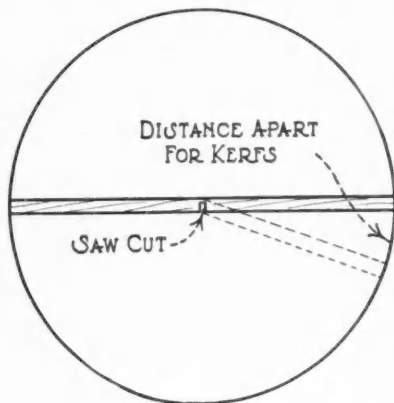
Figure 2 shows another form of construction, not so commonly used. The angle block is at the point B. Figure 3 shows a cheap construction such as used in unhouses work. Figure 4 shows the same form shown in figure 1, wedged into the stair stringer. The wedges are indicated at C and D.

Nailing such as is indicated at E, in figure 1, and at F in figure 2, should be avoided. When the nail is driven in this manner, the member with the groove is liable to crack and the point of the nail is liable to come out on the finish side of the member with the tongue.

H. H. SIEGLE, 222 S. Constitution St., Emporia, Kan.

Correct Spacing of Kerfs

HERE is a sure and convenient way of finding the distance between kerfs, in order to bend a board to fit any circle. First make a kerf in one side of the board to a depth to bend easily. Make this kerf a distance from the end of the board exactly equal to the radius of the circle to which the board is to be bent.



The Distance the End Moves Gives the Spacing.

With the board on its edge, on a smooth surface, not bent, mark the point on the surface where the end of the board is. Now, without moving the rest of the board, bend the end till the kerf is

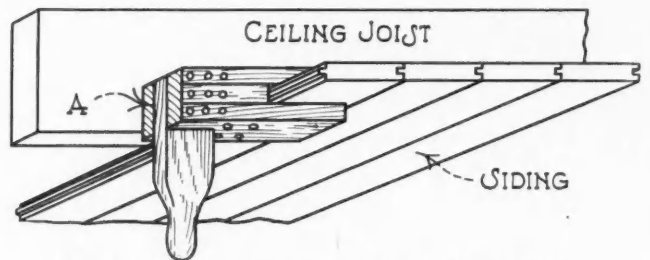
A Readers' Exchange of Tested Ideas and Methods, Taken from Their Own Building Experience. Two Dollars Will Be Paid for Each Contribution Published in This Department.

filled and again mark the point where the end of the board rests on the surface. The distance between the two points marked, that is the distance that the end of the board moves when bent to fill the kerf, is the distance for correct spacing between kerfs.

N. P. POWER, 1016 Connecticut St., Lawrence, Kan.

Helps in Nailing Ceiling

IN applying car siding to ceilings I had a lot of difficulty in getting the tongues and grooves to engage properly, until I made the device illustrated in the sketch, a sort of ceiling hook. In using this hook, the hammer is used at the point A and not directly against the ceiling material. This avoids any damage to the material which would interfere with the fit of the next piece.



This Will Hold Ceiling Boards in Place While Nailing and Prevent Damage to the Tongue.

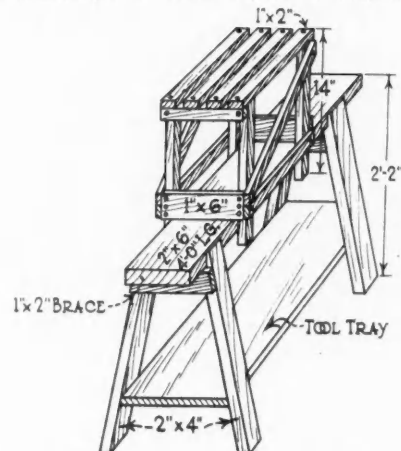
The perpendicular arm gives the workman the advantage of a more comfortable working position and enables him to see the work better as he is directly under it. The siding is easily driven tight with this hook.

BERT W. CULBERTSON, Jackson, Miss.

A Handy Scaffold

THE sketch shows a handy scaffold for use in applying picture moulding and in transom work. I use a saw horse with a top six inches wide. I make a box-like frame, as shown, and set this onto the saw horse. I can then easily step onto the saw horse and up onto the scaffold which is high enough for placing top hinges and all similar inside work. The box must fit tightly over the two by six so that it will not wobble. Aside from this point the sketch explains everything.

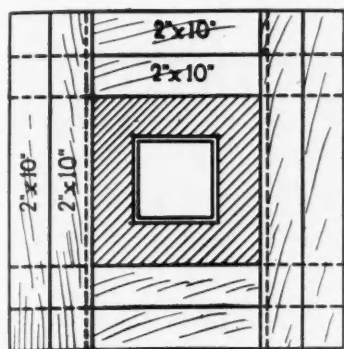
JOHN P. ANDERSON, 1107 Fifth St., Saskatoon, Sask., Canada



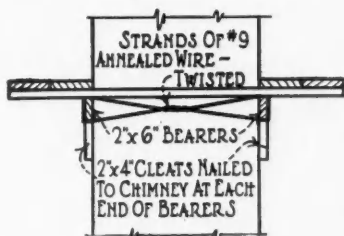
The Box-like Frame Fits Tight Onto the Saw Horse.

Handy Chimney Scaffold

A LIGHT chimney scaffold, quickly and easily constructed on the job, is illustrated in the accompanying sketch. This scaffold is capable of supporting two men safely and I have used it for a number of years to place and point up chimney caps.



TOP-VIEW



ELEVATION

Simple, but It Will Support Two Men Pointing up Chimney Caps.

To build such a scaffold, fasten two pieces, two by six inches, of sound lumber, with several strands of number nine or ten soft annealed wire, twisted as shown. Twisting the wires brings the two by six supports tight against the chimney. As a further measure of safety, nail two by four scabs, about a foot long, to the chimney above and below the two by six supports. If these scabs are nailed to the chimney with the spikes only partly driven into the mortar joints, they will hold more firmly than if the nails are driven home.

Upon the ends of the two by six supports, planks, long enough to support other planks at right angles, are placed. This is

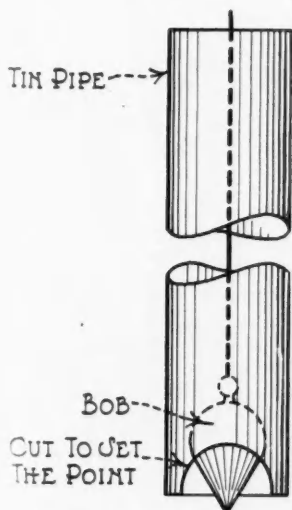
applicable, of course, only to rectangular chimneys.

J. D. LEVIN, 1139 W. Maple St., Milwaukee, Wis.

To Use a Bob in the Wind

IT is impossible to use a plumb bob when the wind is blowing unless some means is provided to protect the bob from the wind. A simple and effective means of protecting the bob is to use a piece of tin pipe, as shown in the sketch. Hang the bob inside the pipe. A small section of pipe can be cut away at the bottom to set the point and an accurate setting can be made and kept.

JOSE E. BERROCAL, Fajardo, P. R.



This Bob Is Not Affected by Wind.

Salvaging Painted Trim

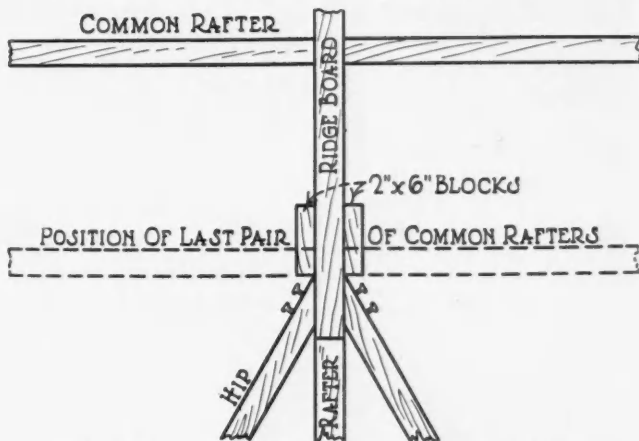
IT is often necessary to remove finish nails from material, such as trim, which is to be used again, especially in remodeling work. When the nails are hammered out, however, the surface is likely to break and be marred, particularly if it has been painted. This can be avoided by placing a piece of soft lumber under the board and driving the nails back until the head goes partly down into the soft wood beneath. The nails can be pulled, then, without marring the surface.

NILS O. FAGERSTROM, 150 9th St., San Francisco, Cal.

How to Nail Hip Rafters

IN nailing hip rafters to the ridge board, I always have two blocks of two by six, already nailed to the ridge board, as indicated in the sketch, for the rafter ends to butt against. I place the hip rafters before placing the last two common rafters.

In this way I get the same degree for the rafter ends and have much greater freedom in nailing. There is not the usual cramped quarters to nail in as when the last pair of common rafters are placed before placing the hip rafters.



It Is Easier to Nail the Hip Rafters This Way.

After the hip rafters are well spiked onto the ridge, the blocks are easily knocked off and the last pair of common rafters is then placed.

BERT W. CULBERTSON, Jackson, Miss.

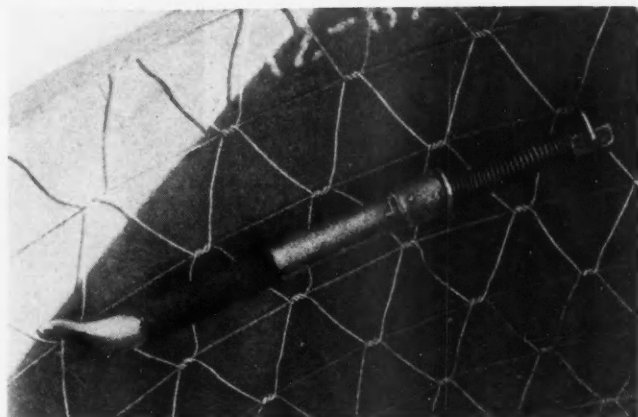
A Jack for Wire Netting

THE pipe jack shown in the illustration was used for stretching woven wire inside a steel cylinder, to be employed as reinforcing for concrete pipe. The same idea might be used under other circumstances with equal success.

An 18-inch section of 1 1/2-inch pipe, with a collar at one end, and flattened and forked at the other, is used. A 12-inch section of 3/4-inch rod, with a nut on the end which will fit inside the pipe, is inserted in the pipe and a bead welded around the end of the pipe collar so that the nut cannot slip out.

A section of coiled spring is next placed over the rod and slightly compressed with a nut screwed on the outer end. A fork of light sheet steel welded on this nut hooks into the netting at that end while the fork in the pipe hooks into the netting at another point, the spring furnishes sufficient pressure to keep the jack in place and the wire stretched tight.

JOSEPH C. COYLE, 538 Santa Fe Drive, Denver, Colo.



This Jack Keeps the Netting Stretched Tight Till It Is Fastened.



Booth used by the L. E. Fite Company at the San Antonio Better Homes Exposition.

I Went to the BUILDERS' FAIR and the PROSPECTS

all were there

Let Your Light Shine
At Exposition Time

By A. W. ROE

SOME developers maintain all year round exhibits and others never come before the public in this way at all. Where building expositions are held, and there are now many towns and cities that have them annually, developers are foolish not to take advantage of this splendid publicity opportunity. If you win a prize like the American Building Company of San Antonio, Texas, whose booth appears below, you get additional advertising.

To put on an exhibit that will catch the wandering eyes of people passing to and fro in front of your

rail, it is not necessary to have something elaborate and expensive. Good results have often been obtained in exposition booths with very little outlay.

After you have used your influence to secure a strategic location from the manager of the exhibition, concentrate in getting the message you want to convey to prospects across by a single dominant method. In photo above the house model attracts, then immediately above it the words "Parkmoor Place" impinge themselves on the onlooker's consciousness.

This Booth
Won First Prize

at the

San Antonio, Texas,
Better Homes
Exposition

It was the exhibit
of the
American Building Co.
San Antonio



Building Activities

The Month's News of the Industry

Wages Maintained in Building

ACCORDING to the research department of the Building Construction Employers' Association, which has just completed its annual wage scale survey, the building trades in the larger cities have maintained their wage scale or succeeded in getting increases, during 1930, in spite of the building slump.

"The survey," stated E. M. Craig, executive secretary of the association and head of the American Construction Council, "was compiled from data on building trades conditions in 130 cities."

According to this survey the five-day week has been established, in part, in forty-one American cities, while fourteen cities have inaugurated the forty-hour week for all residence building workers. Since the advent of the building depression, however, agitation for the five-day week has virtually ceased. Approximately thirty-five per cent of the cities in the survey operate partly open and partly closed shop.

To Build Model Tenements

WRECKERS have almost completed the work of demolishing nearly 200 buildings, mostly old four and five story tenements, as a part of the plan for improving the Christie and Forsyth Street district, on the lower east side of New York City. This was once a thriving and prosperous district but few buildings have been erected there within the past 10 years and there has been a steady decline in population.

Under the city's plan, the streets will be widened and the excess land, after the widening process, will be given over to a model tenement project by which the city plans to lease the property to philanthropic interests for the building of apartments to rent for about \$10 a room.

Chain Belt Appointments

THE Chain Belt Company, Milwaukee, Wis., announces the appointment of two new distributors of its construction equipment, the Alabama Machinery & Supply Company, Montgomery, Ala.; and the Concrete Products Sales Company, Ltd., Oakland, Cal.

Coming Events

- Dec. 2-4, 1930—Associated Leaders of Lumber & Fuel Dealers Annual, Congress Hotel, Chicago.
- Jan. 12-16, 1931—American Road Builders' Association, St. Louis.
- Jan. 13-15, 1931—Ohio Association of Retail Lumber Dealers, Annual, Cleveland Auditorium.
- Jan. 14-15, 1931—Retail Lumber Dealers Association of Indiana. Annual, Claypool, Indianapolis.
- Jan. 15-17, 1931—National Association of Real Estate Boards, Mid-winter Meeting, St. Petersburg, Fla.
- Jan. 15-17, 1931—Mountain States Lumber Dealers Association, Annual, Broadmoor, Colorado Springs.
- Jan. 20-22, 1931—Northwestern Lumbermen's Association, Annual, Minneapolis Auditorium.
- Jan. 21-23, 1931—Pennsylvania Lumbermen's Association, Annual, Bellevue Stratford, Philadelphia.
- Jan. 27-29, 1931—Northeastern Retail Lumbermen's Association, Annual, Hotel Pennsylvania, New York.
- Jan. 28-30, 1931—Southwestern Lumbermen's Association, Annual, The Forum, Wichita, Kan.
- Feb. 4-6, 1931—Michigan Retail Lumber Dealers Association, Annual, Hotel Book-Cadillac, Detroit.
- Feb. 10-12, 1931—Illinois Lumber & Material Dealers Association, Annual, Hotel Stevens, Chicago.
- Feb. 17-19, 1931—Wisconsin Retail Lumbermen's Association, Annual, Milwaukee (Wis.) Auditorium.
- Feb. 19-21, 1931—Western Retail Lumbermen's Association, Annual, Winthrop Hotel, Tacoma, Wash.
- Apr. 13-18, 1931—American Oil Burner Association, Annual, Benjamin Franklin Hotel, Philadelphia.
- Apr. 18-25, 1931—Fourth Biennial Exposition of Architecture and Allied Arts, Grand Central Palace, New York City.

Stone Production Up

PRODUCTION of stone in the United States in 1929, exclusive of stone manufactured into lime, cement, and abrasive materials, or crushed into sand, amounted to 141,109,580 short tons, valued at \$202,692,762, according to a compilation of reports from producers, made by the U. S. Bureau of Mines. These figures show an increase of five per cent in quantity and three per cent in value over 1928 production figures.

Construction Conference Meets

THE initial meeting of the executive committee of the National Conference on Construction, which will deal with problems common to the sixty-five business and industrial groups identified with construction, was held during November, in Washington, D. C.

This new conference takes the place of the National Building Survey Conference. Secretary of Commerce Lamont will serve as general chairman, and Julius H. Barnes, chairman of the board of the Chamber of Commerce of the United States, will be chairman of the executive committee. The conference is a permanent body representative of the various branches of the construction industry and allied agencies of finance.

General Cable Now One Unit

STARTING October 1, 1930, the several companies which formed the General Cable Corporation, 420 Lexington Ave., New York City, went under a new operating policy by which they will operate as a single organization under the name General Cable Corporation. This plan simplifies the distribution of products.

The companies involved are: A-A Wire Company; American Insulated Wire & Cable Co.; Atlantic Insulated Wire & Cable Co.; Detroit Insulated Wire Co.; Dudlo Manufacturing Co.; Peerless Insulated Wire & Cable Co.; Phillips Wire Co.; Rome Electrical Co.; Rome Wire Co.; Safety Cable Co.; Standard Underground Cable Co.; Southern States Cable Co.

To Celebrate 50th Anniversary

THE fiftieth anniversary of the founding of the Architectural League of New York will be formally celebrated by the Fourth Biennial Exposition of Architecture and Allied Arts, to be held April 18 to 25, 1931, in the Grand Central Palace, New York City.

The Exposition is held under the auspices of the American Institute of Architects and the Architectural League of New York, with the endorsement of the Society of Beaux Arts Architects and the New York Building Congress.

Addison H. Beale Dies

ADDISON H. BEALE, president of the A. M. Byers Company, and a prominent figure in the industry, passed away on October twenty-eighth.

CURRENT CONSTRUCTION FIGURES

AN increase of a little over six per cent in residential construction was the outstanding feature of building contract figure for the month of October. Total construction was slightly ahead of the preceding month with a total of \$371,031,540, divided between the different types of construction as follows:

Residential	\$115,137,330
Commercial	39,217,860
Industrial	17,764,890
Educational	31,409,840
Hospitals and Institutions	12,711,380
Public Buildings	16,008,410
Religious and Memorial.	5,924,930
Social and Recreational.	10,541,410
Public Works and Utilities	122,315,490
Total	\$371,031,540

These figures show the contracts awarded in 37 states, as reported by the F. W. Dodge Corporation, plus an estimate for the West Coast and Mountain States, which are not covered by the Dodge reports. In addition to the above reported contracts, there was, as always, a large amount of work in outlying and rural districts and contracts for less than \$5,000, which the Dodge reports do not cover, which regularly amount to 24 per cent in addition to the amounts shown.

\$1,500,000,000 Bridge and Subway

AVEHICULAR and railroad bridge and subway system to span the Hudson River from 57th St., Manhattan, to Weehawken, N. J., having a valuation of \$1,500,000,000, is projected. This figure establishes a new record.

The double decked suspension type bridge will carry 16 tracks for trains on the lower deck, and approximately 20 lanes for vehicular traffic on the upper deck. The subway to be built in connection with this bridge will provide tracks at a level below the present subway system for suburban routes from New Jersey, over the bridge, and from Long Island, through new tunnels.

Glass Company to Broadcast

RADIO broadcasting has been added, by the Libby - Owens - Ford Glass Company, Toledo, Ohio, to its already extensive program of advertising and merchandising. The central figure of these radio programs will center around Floyd Gibbons, rated by many as America's premier air attraction in point of popularity.

Building contracts, not including public works and utilities, showed a drop of about two per cent from September. While this is a disappointing fact, it is outweighed by a distinct increase in the total residential construction.

The heaviest loss in building volume during the current depression has been in the residential field which is, normally, the big item in the construction total. Distinct gains in residential construction in both September and October would seem to indicate a definite trend, with a good prospect of getting back to normal volume some time next spring.

In addition to this, the metropolitan district of New York and vicinity registered a gain of nearly 20 per cent over September, in residential construction.

It is interesting to note that metropolitan New York's construction volume trend has, in the past, been closely followed by like developments over the rest of the country, and a nation-wide building revival, that appears to be already in its initial stages in New York City, has been predicted.

This is a logical conclusion because residential construction has been below normal for a considerable period, creating an accumulated demand which must be met before long.

New Bakelite Office Opens

THE Bakelite Corporation's business address remains the same though the general offices of the company have recently been moved to larger quarters. Located since 1923 in the Park-Lexington Building, 247 Park Ave., New York City, this company has now disposed of its former

space and taken the entire eighteenth floor of the building.

The company's own product is used extensively in the finishing and furnishing of the new offices. Laminated Bakelite panels are used on the walls, tables and desks are provided with Bakelite tops and Bakelite material is used on the sides of chairs. The file department is enclosed by a four-foot wall of Bakelite sheet stock of dull ebony finish providing department privacy without restriction of ventilation and illumination.

Decorate Mt. Hope Bridge

ON November 10, the Mt. Hope bridge, constructed by the McClintic-Marshall Company, from plans by Robinson & Steinman, was decorated by the American Institute of Steel Construction, with a bronze plaque as the most beautiful, long-span bridge erected during the past year.

This is the second award made by the Institute for the most artistic bridge of the year. This award was established to encourage the construction of bridges which will be artistic as well as correct from the engineering standpoint.

Ship Large Order

THE Fir-Tex Insulating Board Company, of St. Helens, Ore., recently completed loading of a shipment of 1,000,000 feet of its new insulating board to fill orders from eastern building firms.

This order was secured by Glenn W. Cheney, of the sales firm of Dant & Russell, during an eastern trip. Mr. Cheney prophesied increased building activity in the East which would soon result in business which would far outshadow this initial order.



The New Offices of the Bakelite Corporation, Strikingly Finished and Furnished in Bakelite

Building and Loan Centennial

THE thirty-ninth annual convention of the U. S. Building and Loan League, and the second International Congress of Building and Loan organizations, will be held in Philadelphia, Pa., the week of August 10, 1931.

This convention and congress will culminate the various feature programs to be held during the year to commemorate the 100th anniversary of the founding of the building and loan business in this country. The celebrations will start on January 3, with a thousand anniversary dinners in all parts of the country.

Metal Lath Sales Expand

A REPORT of the development of the metal lath industry during the last ten years, prepared by Erwin M. Lurie, acting commissioner of the Associated Metal Lath Manufacturers, shows an increase of more than 400 per cent in the volume of metal lath shipments. Using 1919 shipments as 100 per cent, the sales had increased, by the end of 1929, to 465 per cent.

The figure for 1929 was a drop from the peak of 520 per cent, which was reached in 1928. This drop was due, however, to the marked decline in building contracts awarded in the last few months of 1929, not a decrease in the proportionate use of metal lath. The accompanying chart shows that the amount of metal lath sold, in proportion to the square feet of floor area of contracts awarded, has shown a steady increase.

Taking 100 as the ratio for 1929, for

lath shipped to floor area of contracts awarded for all type of building, the ratio has climbed rapidly to 390 per cent. Despite the drop in construction this year, preliminary figures for 1930 indicate that the percentage will go well above the 400 per cent mark.

Rockefeller Project Started

DEMOLITION work is well under way on the site of the Rockefeller radio and amusement center, in New York City. More than 240 houses, formerly residences of wealthy New Yorkers, before the encroachment of business on the district, will be torn down to make way for a group of modern skyscrapers.

Sponsors of the development have estimated that nearly 25,000 men will be employed at the peak of operations. Raymond Hood, Godley & Fouilhoux, with Corbett, Harrison & MacMurray, are the architects, and Todd, Robertson & Todd will be in charge of construction.

Real Estate More Active

AN increase of 7.2 in the index figure representing real estate activity for October, over the figure representing September, is reported by the National Association of Real Estate Boards, following its monthly computation of real estate activity.

This index figure is based on official reports of the total number of deeds recorded in 64 typical cities throughout the country. The activity of 1926 is taken as the basis for computing the monthly index, which, for October was 74.

Construction Census Progresses

WORK on the Construction Census, is progressing and the tabulations now being made are expected to furnish the building industry much valuable information, according to an announcement recently made by Dr.

Alanson D. Morehouse, Chief, Construction Section, Division of Distribution, United States Bureau of the Census.

The period from February to July was devoted to the task of compiling a list of about 200,000 contractors, to whom census questionnaires were mailed. Those failing to reply were followed up with a series of letters, in order to make the returns as complete as possible.

Contractors who have not yet filled out and returned the Construction Census questionnaire, are urged to do so immediately, so that the information may be prepared for early publication.



Dr. Alanson D. Morehouse.

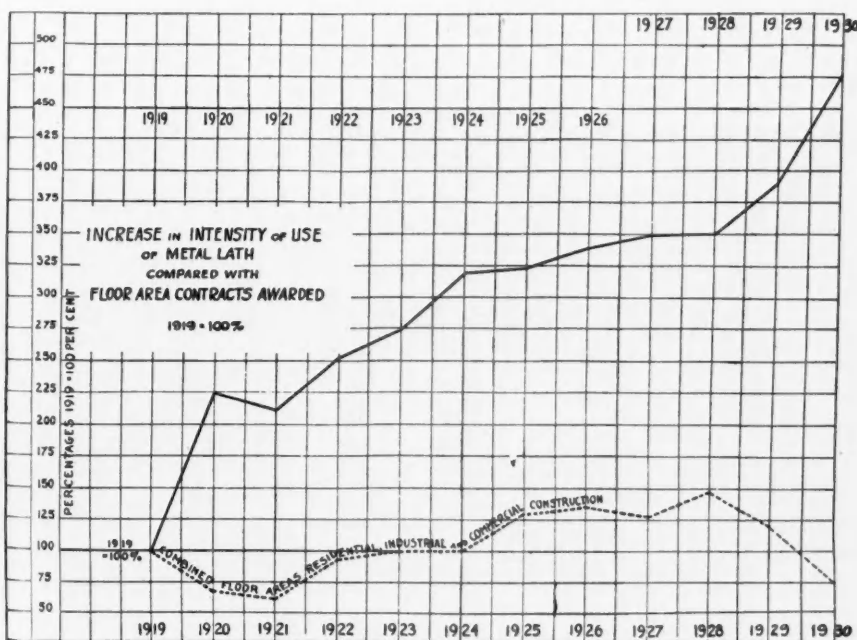
Adopts Truck Depot Plan

A NEW national distribution arrangement, known as the truck depot plan, has been inaugurated by Dodge Brothers. Under this new plan, approximately 84 truck depots are being established in the natural trade centers throughout the country. These depots will be operated by well established Dodge dealers.

The new method of distribution is intended to facilitate prompt delivery; to bring adequate maintenance and parts service closer to all users; and to provide a representative display of Dodge models within easy reach of all operators. A trained truck organization will be established at each of the depots.

To Build New Warehouse

THE Wheeling Corrugating Co., of Wheeling, W. Va., has announced that it will begin construction immediately on a new warehouse in Philadelphia. The new building will be a one-story brick structure with 70,000 square feet of floor space. The contract has been let to E. R. Hall.



The Solid Line Shows the Ratio of Metal Lath Used During the Last 10 Years to Floor Area of Contracts Awarded.

IT IS REPORTED THAT—

More than 5,000 carloads of non-utilized wood are available annually in the sawmill and woodworking plants of the State of Maryland alone which, if in the form of lumber, would have a value of nearly \$2,000,000.

Natural gas will be piped from southeastern Kentucky to the industrial region of central Indiana in a project involving the expenditure of \$12,000,000 for material and labor.

Final plans have been approved for a toll bridge across the Golden Gate, San Francisco, with a main span 4,200 feet long.

A 14-story building, in San Francisco, Cal., was transferred from its old wooden pile foundation to new concrete piers without disturbing the tenants or causing appreciable settlement.

Allegheny metal, the silver colored, chromium-nickel alloy, will be used, in combination with black velvet, as an interior decoration medium in the new Earl Carroll Theater, New York City.

A total of 45,481 miles of local and county roads were constructed in the counties of the 48 states in 1929, at

a cost of \$256,581,811, making a total of 2,710,097 miles of highways now in county systems.

Passenger transportation, by means of an aerial cable will provide a three-minute trip between the City of Barcelona, Spain, and the neighboring beach at San Sebastian. The cable will be a mile long and will cross the port at a height of 200 feet.

A total of 362,009,047 cubic feet of timber was treated by preservative processes in 1929, an increase of nearly eight per cent over 1928.

The port of Chicago now has what is claimed to be the largest bulk cargo boat afloat, the J. R. Sensibar, the new \$2,000,000 craft of the Construction Materials Corp., which will carry a 10,000-ton load of sand and gravel.

A new odorless varnish has been perfected and is expected to extend the use of laminated, phenolic resin compounds, such as Formica and Micarta, to refrigerator construction.

Fifty billion dollars will be spent on new residential construction in this country during the next 20 years, in addition to \$500,000,000 a year on household repairs and maintenance, according to Secretary of Commerce Lamont.

Organize Window Company

THE Campbell Industrial Window Company, Inc., owned by the Campbell Window Corp., a subsidiary of the American Radiator & Standard Sanitary Corp., has recently been organized to complete the group of Campbell window manufacturers, which includes the Campbell Casement Window Corp., and Voigtmann Metal Window Corp.

The offices of the new company are located at 1607 Pershing Square Bldg., New York City. Milton T. Clark, who is well known in the building industry, heads the company as president.

This company is organized to handle a large volume of door, window, window hardware and mechanical operating device business including doors of every type, from ash dumps for fireplaces to airplane hangar doors.

Deepest Steel Girders Placed

THE deepest steel girders ever fabricated in America were recently placed in the 32-story Kansas City Power & Light Building, in Kansas City, Mo. These beams, one of which is shown in the illustration, were 15 feet high by 70 feet long, and weighed 60 tons each. Twelve such girders were fabricated and erected.

Had not the construction job been in the same city as the fabricating plant, the problem of transporting the girders to the job would have been difficult. They were too deep to be placed flat on a railroad flat car for shipment. They were trucked from the steel plant to the building site during the early morning hours when the city streets were deserted.

Merger Announced

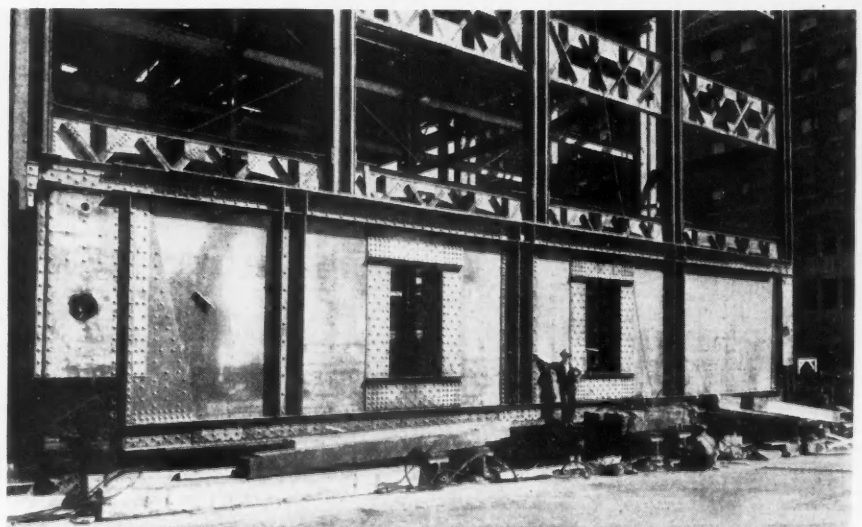
ANNOUNCEMENT has recently been made of a merger of the Carrier Engineering Corp., of Newark, N. J., which has been taking a leading part in the development of air conditioning systems for buildings, with the Brunswick-Kroeschell Co., manufacturers of refrigeration systems, and the York Heating and Ventilating Corp. of Philadelphia, Pa. Including subsidiary and affiliated companies, the merger will unite fifteen concerns, five of them foreign, with total assets of approximately \$15,000,000. All the companies involved will retain separate entities under a holding company to be known as the Carrier Corporation.

Buyers Personnel Changes

THE A. M. Byers Company, Clark Bldg., Pittsburgh, Pa., has announced the following personnel changes: H. R. Rowland, division manager at Philadelphia, is transferred to Pittsburgh as division manager; E. L. MacWhorter, representative in western New York, is promoted to division manager at Philadelphia.

Open New York Office

THE Gypsum Association, which was recently organized in Chicago, with offices at 211 W. Wacker Drive, has announced the opening of a New York office at 11 W. 42nd St., with J. Kent Smith as district engineer.



One of 12 Steel Girders, 15 Feet Deep by 70 Feet Long, Which Are the Deepest Ever Fabricated in This Country.

A \$600,000,000 Waste!

Are you responsible for a part of it?

The annual loss in the United States due to rust is estimated at \$600,000,000. This figure is appalling—particularly when you realize that much of the loss is preventable by using equipment made from copper and its alloys.

Do you contribute to this waste by installing equipment that can rust—for service where it is constantly exposed to dampness?

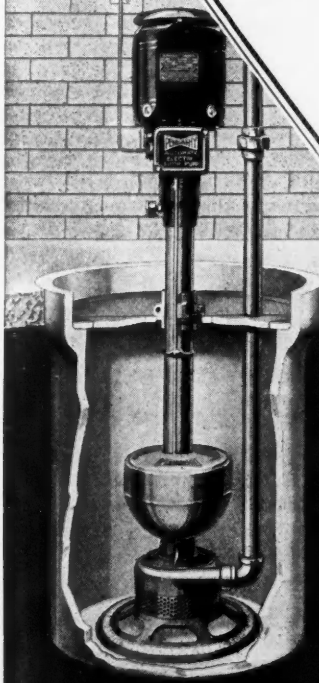
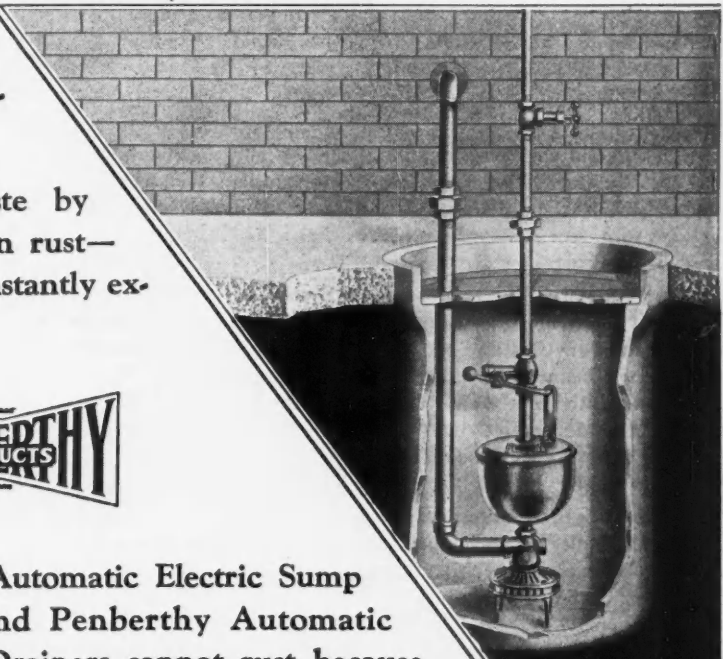


Penberthy Automatic Electric Sump Pumps and Penberthy Automatic Cellar Drainers cannot rust, because they are constructed of copper, brass and bronze throughout. Builders who install them keep their clients' dollars out of the rust pile.

The operation of Penberthy Sump Pumps and Cellar Drainers is thoroughly dependable and economical. There is a size and type for every drainage requirement.

The Penberthy Pumps are quickly available—they are carried in stock by the leading jobbers throughout the country.

Penberthy Automatic Cellar Drainer



Penberthy Automatic Electric Sump Pump

PENBERTHY INJECTOR COMPANY

ESTABLISHED
IN 1886

DETROIT

CANADIAN PLANT
WINDSOR, ONT.

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER AND BUILDING AGE

The Builder's Library

"Douglas Fir Use Book"

Here is a new and practical book of design tables and their application for the use of architects, engineers and builders in designing with structural Douglas fir. It contains data which make it possible to figure loads and specify sizes with ease and assurance. Published by the West Coast Lumbermen's Association, 364 Stuart Bldg., Seattle, Wash. Price \$1.00.

A New Sander

A new folder describing its "Whirlwind" sander has just been issued by the Reidway Co., Cedar Rapids, Iowa.

"Practical Mechanics and Strength of Materials"

A second edition of this book, which was written by Charles Wilbur Leigh, B.S., and John Frederick Mangold, C.E., for use in colleges, vocational schools and night schools, and for the use of men engaged in practical construction work, has been published by the McGraw-Hill Book Co., 370 Seventh Ave., New York City. Price \$2.75.

"Decorative Tiles of North Africa"

Rexford Newcomb, Professor of History of Architecture, University of Illinois, is preparing a series of architectural monographs on tiles and tile work. This is Number 7 in the series. It is beautifully illustrated with photographs of North African architecture, which designs are the source of inspiration in the decorative use of tile in modern architecture. Published by The Associated Tile Manufacturers, 420 Lexington Ave., New York City. Price \$1.50.

"Fundamentals of Architectural Design"

A text book for beginning architectural students and a ready reference for architects embracing those fundamental principles that are constantly arising in the practice of the profession. By W. W. Turner. Published by the McGraw-Hill Book Co., 370 Seventh Ave., New York City. Price \$6.00.

"My Life Work—Building and Metal Trades"

This book is the first of a series of four volumes and has been prepared by Robert L. Cooley, Director of Vocational Education, Milwaukee, Wis., and Robert H. Rodgers and Harry S. Belman, both of the Division of Vocational Teacher Training and Research, the Milwaukee Vocational School, for the purpose of giving occupational information on the building and metal trades. Published by the McGraw-Hill Book Co., 370 Seventh Ave., New York City. Price \$1.75.

"Estimating Construction Costs"

Designed to aid anyone who may have occasion to do estimating work this book, by G. Underwood, Construction Engineer, employs a new method based on the use of charts, for the purpose of providing a means of estimating the cost of construction work with the smallest possible effort. Published by the McGraw-Hill Book Co., 370 Seventh Ave., New York City. Price \$6.00.

"Byrne's Inspector's Pocket Book"

Originally written by Austin T. Byrne, the fourth edition of this reference book has been revised by Samuel T. Goldsmith, Instructor, C.C.N.Y., A.M.Am. Soc.C.E. It contains a collection of memoranda pertaining to the duty of inspectors, quality and defects of materials, requisites for good construction, methods of slighting work, etc. Published by the Gillette Publishing Co., 221 E. 20th St., Chicago. Price \$3.00.

Metal Ceilings and Walls

"Beautiful Metal Ceilings and Walls" is the title of a new booklet illustrating actual installations where excellent effects have been secured with this construction. Issued by

Check These Items Every Month and Write for Those You Need to Keep Your Files Up to Date. Any Item Listed Will Be Sent Free on Request Except Where a Price is Noted. The American Builder & Building Age Should Be Mentioned When Writing for These Publications.

the Milcor Steel Company, Milwaukee, Wis.

Plaster and Stucco Base

"Modern Building Methods" is the title of a new booklet illustrating the use of, and giving specifications for, Steeltex as a plaster and stucco base. Published by the National Steel Fabric Company, Pittsburgh, Pa.

"The A B C of Roofing"

The building mechanic or student will find this a simple and direct treatment of the subject of roofing written in a practical style by J. E. Cotgrave. Published by John Heywood, Ltd., 20 and 22 St. Bride St., London, E.C.4, England. Price 3 shillings.

"Homes—Designed by Robert L. Stevenson"

Here is a collection of designs and floor plans for homes offering a wide range of choice in the selection of a residence suitable to its location and pleasing to the owner. Prepared and published by Robert L. Stevenson, 101 Tremont St., Boston, Mass. Price \$3.00.

Milcor Spanish Texture Walls

This new texture obtained with the use of Milcor metal lath is announced by the Milcor Steel Co., Milwaukee, Wis., in a new pamphlet illustrated in full colors.

Metal Lath and Insulation

The Flax-li-num Insulating Co., St. Paul, Minn., offers a pamphlet describing its new product Bi-Flax, which is a combination, in one unit, of metal lath, building paper and Flax-li-num insulation.

"Swimming Pools"

This is the title of a new booklet published by the Portland Cement Association, 33 W. Grand Ave., Chicago, with text, illustrations and specifications showing that it is a comparatively simple matter to construct attractive and serviceable pools both indoors and outdoors.

"Ambler Asbestos Shingles"

The Ambler Asbestos Shingle & Sheathing Co., Ambler, Pa., has prepared this new booklet, illustrated in colors, to present complete information on its asbestos shingles and their application.

Design in Brickwork

The Common Brick Manufacturers Association of America, Cleveland, Ohio, has published a very handsome folio of design under the title "Contemporary Detail in Common Brick" containing photographic reproductions of a large number of outstandingly handsome examples of common brick work. A booklet of "Specifications for Brickwork and Other Essential Information" is also available.

Universal Atlas Personnel

THE Universal Atlas Cement Company of Chicago announces the following appointments: Richard B. Hynes, formerly assistant secretary and assistant treasurer of the Atlas Portland Cement Company, has been appointed secretary of the new Universal Atlas Company. T. E. O'Connor, formerly assistant to the treasurer and secretary of the Atlas Company, has been appointed treasurer of the new organization. A. J. Joyce, formerly assistant credit manager of the Universal Company, is now assistant treasurer at Chicago for the Universal Atlas Company, and E. M. Johnson, for twelve years eastern credit manager of the former Universal Company, has been named assistant treasurer at Pittsburgh of the new company. J. L. Medler has been appointed assistant treasurer.



THE FLEET OF MCELWEE & ROGY, GENERAL PAVING CONTRACTORS, PEORIA, ILL., IS 100% GOODYEAR-EQUIPPED

WHY DO MCELWEE & ROGY use Goodyear Dump Truck Pneumatics?

LOOK at the ground where these trucks must travel, and you see why they need husky, strong-pulling, stout-gripping tires.

Goodyear Dump Truck Pneumatics are specially built for this kind of hauling. Their All-Weather Treads are extra-broad—they stay on top when loads

are heavy and ground is soft. There are heavy vertical bars reaching up on the sidewalls—to armor these tires against the damage of sharp stones and give extra tractive power.

Around gravel pits, in road construction, in excavations and around building jobs, these tires have

proved their ability to bring out their loads and keep going for a profitable number of miles.

Goodyear Truck Tire Service Station Dealers have tires for every type of hauling service. It will pay you to find out which tire is best for your road, load, and speed.

ON YOUR NEW TRUCKS SPECIFY GOODYEARS

GOODYEAR

MORE TONS ARE HAULED ON GOODYEAR TIRES THAN ON ANY OTHER KIND

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER AND BUILDING AGE

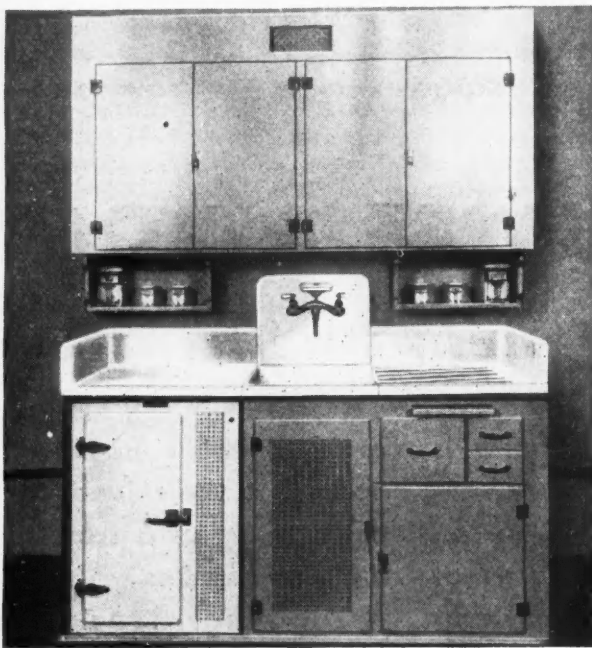
These Are New

Complete Kitchen Cabinet

THIS complete kitchen cabinet, including a mechanical refrigeration unit, was selected as equipment for the new Seville Towers apartment building, as well as the London Terrace, and the Beaux Arts Apartments, all outstanding New York City developments of recent months. Four hundred seventy-three such cabinets were installed in the Seville Towers alone.

This cabinet is made by a well known manufacturer of similar specialties, including disappearing beds and bathroom cabinets, and is a quality product throughout. The refrigeration unit is not a part of the cabinet but space is provided to receive a refrigerator of standard quality.

Both because of its practical efficiency and its handsome finish and appearance, this cabinet is a valuable addition to any apartment or home and adds to its rental or resale value.



Complete Kitchen Cabinet and Refrigerator as Installed in the Seville Towers Apartments.

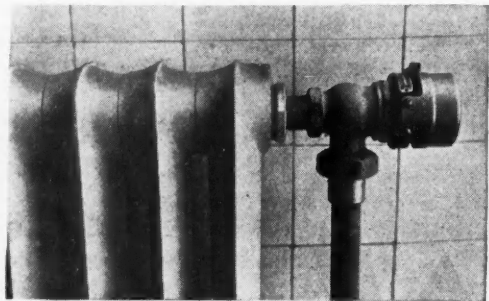
Thermostat Radiator Control

THIS new device effects independent and automatic temperature control for each room by means of a simple thermostatic device for automatically controlling the steam supply to each radiator on two pipe systems. As long as an adequate heating system is in operation, individual room warmth is uniformly maintained at any desired temperature. The device does just what would be done if the occupant of each room constantly watched a thermometer and opened and closed the radiator by a graduated hand control to maintain a constant temperature.

The manufacturer of this device claims that it makes possible fuel economies to the extent of 20 to 40 per cent, as compared with systems employing hand operated valves, because it maintains the temperature at a predetermined and constant level regardless of changes in pressure or outside temperature.

For Further Information in Regard to Any Product Described in This Department, Write to the American Builder and Building Age, Information Exchange, 105 W. Adams St., Chicago.

Radiation is figured to take care of the coldest weather. Given ample steam supply, it is easy to heat satisfactorily during the relatively few days when the full capacity of the radiation is required. The difficult part to handle is, during the greater portion of the heating season when the weather is mild and overheating is so objectionable and wasteful. During this period only a very small portion of the radiator is required to hold the temperature at 70 degrees. The new device sees to it that only that much of the radiator is heated, and so saves much fuel.



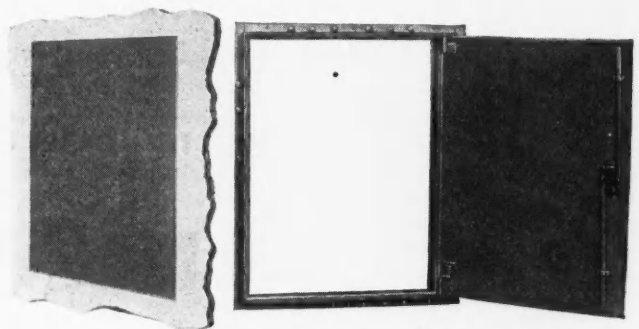
A Thermostat on Each Radiator Controls Individual Room Temperatures.

Concealable Access Units

THESE units are designed to afford ready access to hidden plumbing, steam pipes and wiring, at any time, without the necessity of tearing out a plastered wall. Because of their construction they are adapted to all types of installation.

The door is hinged to swing open but a novel hinge arrangement makes it possible to remove the door completely by simply removing one screw which holds the lower hinge pin in place. The door is held flush with the frame when closed. The cracks between the door and frame may be filled with putty and the whole unit painted or papered over, if desired. When access is necessary the plastered wall need not be ruined.

The frames are made of 18 gauge, and the doors of 1/4 inch steel. Corners are strongly reinforced and the door locks firmly in place. The edges of the frame and door panel are installed flush with the plastering. The door fits against the angle sills when closed making the unit dust-tight.



Access to Wiring and Piping Which Is Easily Concealed.

(This Department Continued on Page 108)

To cut labor costs, and get a better job, builders use this new Andersen Master Frame . . .

New Andersen Master Case-ment, inswinging or outswinging. Note die cut trademark, your quality guarantee.

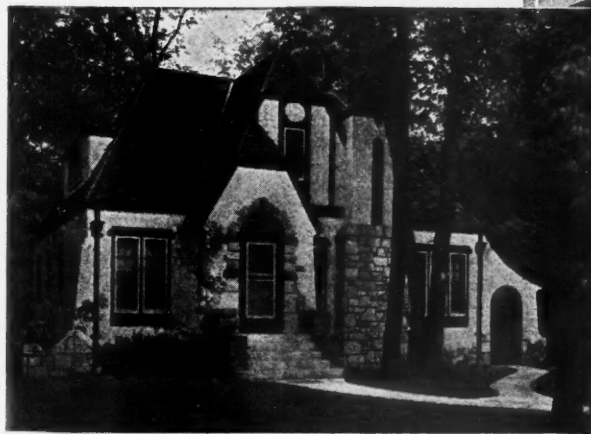
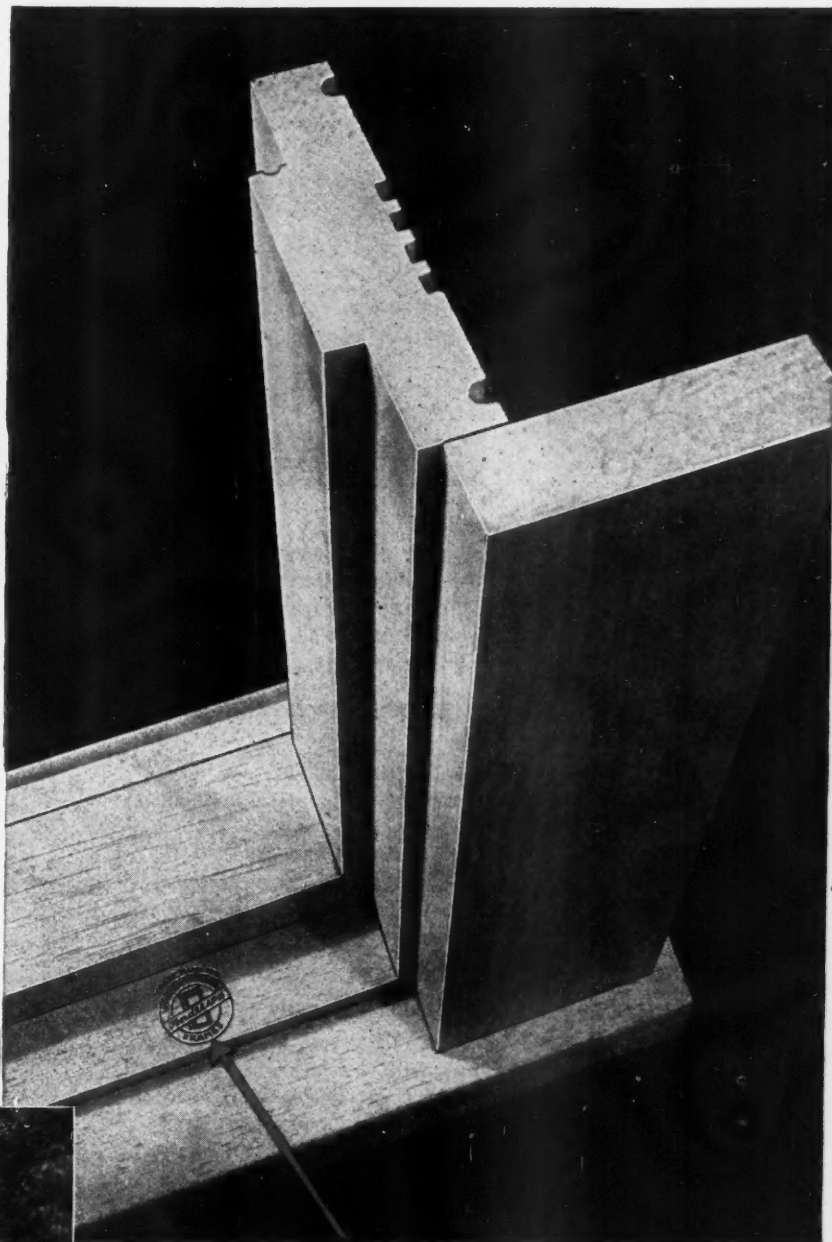
ANDERSEN'S new Master Frame with locked sill-joint already has won first rank with builders.

They can cut labor costs as much as \$1.00 per opening; they fit trim and cut sash at the bench, because the millwork is absolutely accurate.

The locked sill-joint, the steep sill slope, the wide blind stop provision, give them a better job.

Ask an Andersen dealer for a demonstration or write us for a descriptive folder.

ANDERSEN FRAME CORPORATION
Bayport, Minn.



MASTER
WINDOW and DOOR
Andersen Frames
FRAMES

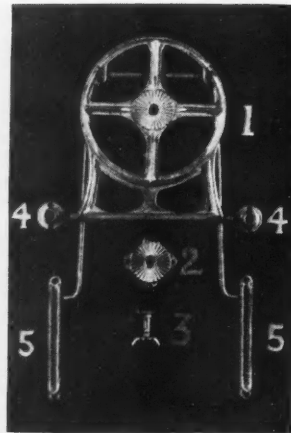
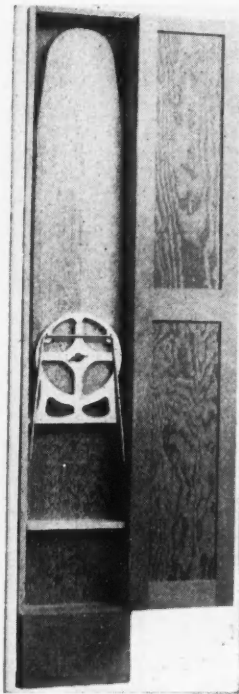
FOR WEATHERTIGHT INSTALLATIONS — USE ANDERSEN SPECIFICATIONS

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER AND BUILDING AGE

Ironing Board Swivel Mounted

PRESENT day building demands of small homes and apartments, with their limited space, have brought about the development of the type of built-in ironing board shown in the illustration. This is a departure from the former straight type. It is equipped with hardware which permits it to swing parallel with the wall. This feature avoids kitchen obstacles and greatly increases convenience.

The builder can build his own case in the wall, 12 inches wide, for the installation. The hardware can then be attached in ten minutes and the result is a well-built ironing



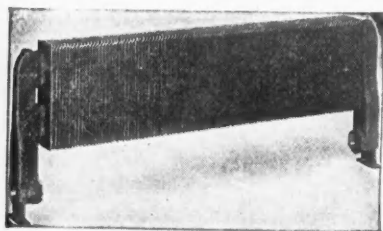
This Hardware Permits the Ironing Board to Swing Parallel to the Wall.

board at a small cost. The cost of the hardware is less than 25 per cent of the usual cost of a complete built-in ironing board it is stated.

Either on new work or in modernizing, the whole job can be done by a carpenter at a small cost. Where a complete ironing board with the swivel feature is desired, it can be furnished by the manufacturers.

Finned Radiators at Low Cost

THE plant of one of the large manufacturers of radiators has been completely equipped with modern machinery and appliances for the manufacture of concealed, finned radiators, enclosures and cabinets. The new type of radiator is illustrated here. The flattened tubes of this radiator are of seamless copper, and the end fittings, with integral legs, are of malleable iron, galvanized inside and outside.



Finned Copper Tube Radiators at Moderate Prices.

The design of this radiator permits the supply and return connections to be made under the radiator, as there is sufficient space for the valve and trap. The steel recess enclosures are adjustable to exactly fill the space between the lower edge of the window sill apron and the floor. They have removable panels the height of the radiator.

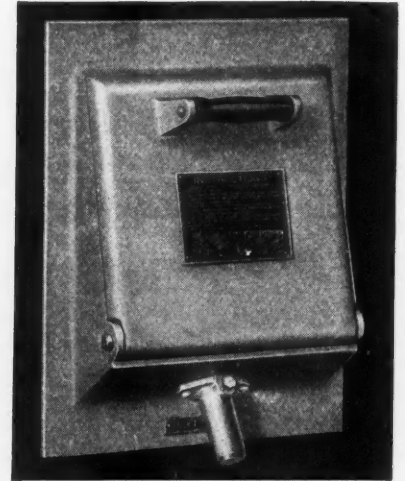
The 5-inch radiators have a greater internal volume than a

2½-inch pipe and have an extra fin in every inch of length, making them suitable for hot water systems. The manufacturers state that their equipment will enable them to sell this new type of radiator at the prices usually charged for cast iron radiators.

Slam-Proof Incinerator

IN apartments, hospitals and similar buildings, the incinerator is an established necessity. It is difficult to finance an apartment building which does not provide incinerators, it is almost impossible to rent the apartments. In houses the same situation is rapidly developing. An incinerator is coming to be a necessity in any house to make it rentable or salable.

And now an improvement has been made in incinerators which adds one more feature to their many advantages. This is a slam-proof door. The door is equipped with a check device which keeps it from slamming when it is closed. This eliminates much annoyance in an installation. In apartment building, corridor installations, it is especially valuable, eliminating a source of annoyance to many tenants every time the incinerator is used.



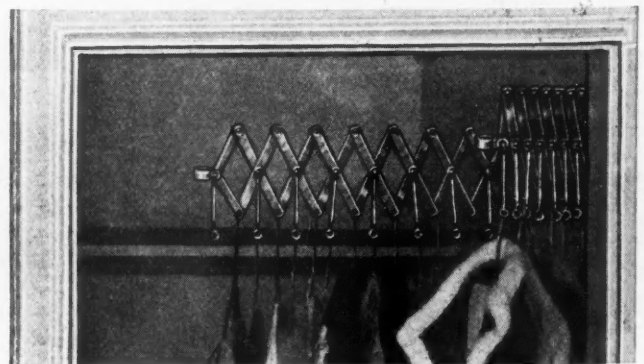
Incinerators with Slam-proof Doors for Apartments.

Extension Hangers for Closets

BUILDERS and contractors can effect important savings in homes, apartments and hotels, by cutting down the required closet space. This is possible through the installation of the garment hanger shown in the illustration. This hanger is of the extension type, similar to the extension arms frequently used for telephones. It has a large capacity but takes up a minimum space when pushed shut.

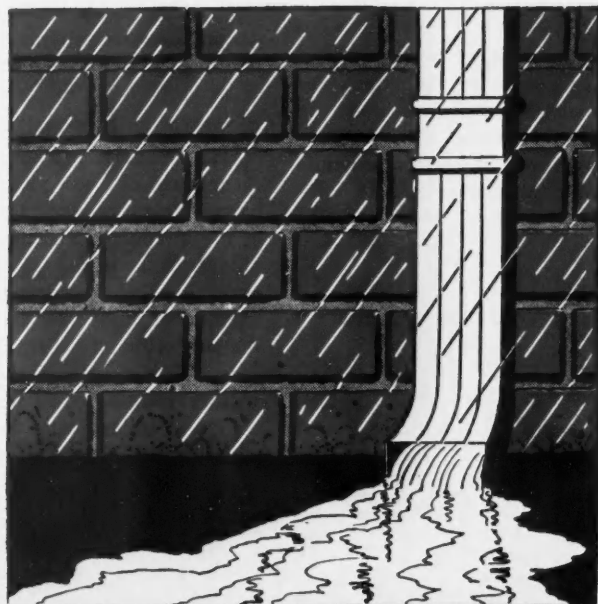
At the same time every garment on the hanger is readily accessible by pulling the hanger out full length. From 12 to 30 garments can be cared for with each hanger and are kept smooth and unwrinkled.

The hanger is attached directly to the wall. No overhead shelf support is required. It is finished in either nickel or bronze, as preferred, and makes a pleasing appearance.



A Simple and Inexpensive Device for Increasing Closet Capacity.

(This Department Continued on Page 110)



FOR WATER REPELLENT MORTAR

WHEN Brixment is used, no water-proofing admixtures are necessary to produce a water-repellent mortar.

Brixment itself is made *permanently* water-resistant by a small amount of mineral oil, added during manufacture.

This makes the mortar more plastic and helps prevent efflorescence and fading of colors. . . Write for full details. Louisville Cement Company, Incorporated, Louisville, Kentucky.

CEMENT MANUFACTURERS SINCE 1830

BRIXMENT

for MASONRY and STUCCO

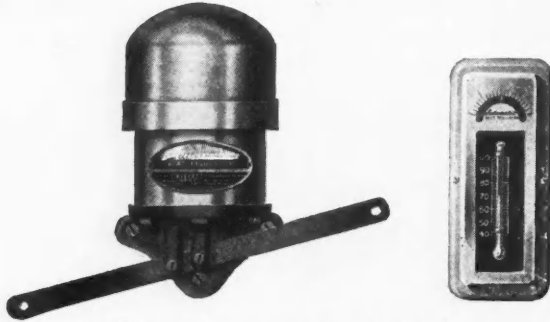


WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER AND BUILDING AGE

Automatic Heat Regulator

AN efficient, dependable, electric, temperature regulator, for coal, coke or gas furnaces, in steam or hot water systems, has been placed on the market to sell at a moderate price. This device consists of a thermostat and a regulator.

The thermostat is constructed on the well known principle that metal expands with heat and contracts with cold. By



A Thermostat and Regulator for Automatic Furnace Control.

combining two different metals in the shape of a flat strip, a very sensitive effect is obtained, so that the thermostat operates on a variation of less than one degree.

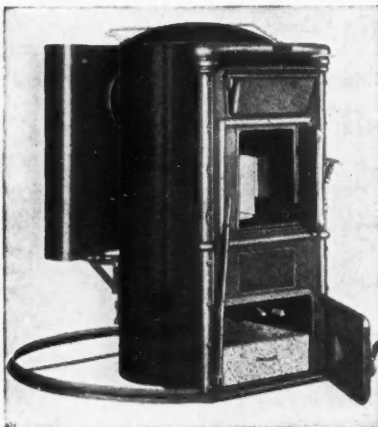
The regulator, which operates the check damper and draft door, consists of a metal, one-piece, syphon bellows with a vertical bulb, filled and sealed under a vacuum with a liquid which is remarkably sensitive to temperature changes.

Nichrome resistance wire is wrapped around the bellows bulb. When the room temperature drops below the temperature for which the thermostat is set, the thermostat closes an electrical contact, causing electricity to flow through the resistance wire. The heat produced raises the temperature of the liquid in the bulb, and causes the bellows to expand and move the lever which opens the draft door and closes the check damper.

When the room temperature rises above the point at which the thermostat is set, the thermostat opens the contact, shutting off the current to the electrical resistance wire. As a result the bellows cools and contracts and thereby permits the draft to close and the check damper to open.

Leak-Proof Seamless Steel Furnace

THE outstanding feature of this warm air furnace is its seamless steel construction. Another important feature is



Leak - proof, Welded, Copper Steel Furnace.

the use of copper bearing steel which adds years to the life of the furnace. The body and radiator of this furnace are made of copper bearing steel plates joined together by electric arc welding. This gives positive assurance that the furnace will be smoke-tight and gas-tight. There are no puttied joints.

This furnace is guaranteed against defects in workmanship and material and against leakage of gas or smoke for a period of

10 years from the date of its installation in the building.

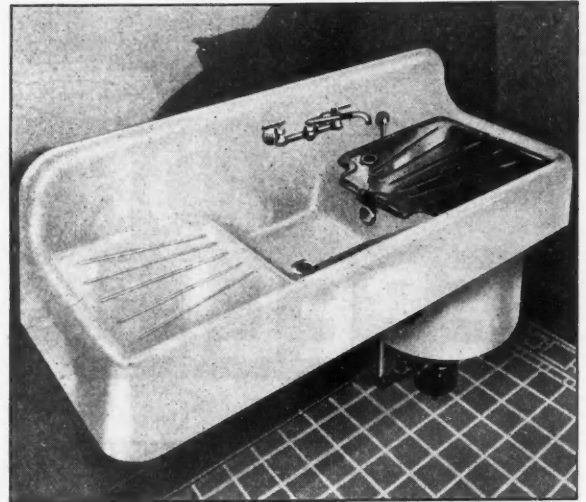
Various other features and improvements also mark this furnace as a quality product. One of these is a large

water pan tapped on both sides for a piped water supply. Automatic water supply control can also be supplied if desired, assuring proper humidification of the home.

Dishwashers for Homes

THE modern kitchen contains many things which were unheard of a few years ago and there is a constant demand from housewives for more and better labor saving equipment in the kitchen. This demand can be converted into profitable modernizing business by the contractor. For this reason every item of improved kitchen equipment is of interest and the dishwashing sink shown in the illustration fits right into the modernizing scheme.

In this sink, the drain pipe from the bottom of the dishwasher terminates in a metal outlet cap in the sink. Soap suds and soiled water are drained through this pipe and out through the regular sink outlet by means of a small cen-



Dishwashers for Installation in Modern and Modernized Kitchens.

trifugal pump attached to the motor. This makes possible the use of a single, standard sink trap at the regular height, reducing the expense of installation in existing homes.

This unit is made in both double and single drainboard model and is finished in a variety of attractive colors in either acid-proof or plain enamel. A movable drainboard, covering the dishwasher, slides aside to a position over the sink so the dishes need not be removed from the drain board to get at the dishwasher as in types where the cover is hinged.

The dishwasher has a large capacity, holding 57 pieces of china and glassware in addition to the silverware. Its rubber plated, wire racks protect the finest china and glassware against breakage. The unit is self-cleaning which saves much disagreeable work for the housewife.

Time Switch for Oil Burner

THE illustration shows a time switch which has a wide range of application. It is used for timing fuel oil burners, closing the switch of an electrically operated valve at a predetermined time. It can also be used to control the operating circuit of the blower and motor ignitor and oil supply valve.

This switch also, automatically, turns lights on and off at predetermined times, and is used for the control of sign lighting, flood lighting, marquee lighting, for airway beacons and roof markers installed on top of commercial buildings.



For Timing Oil Burners or Lighting.

(This Department Continued on Page 112)

IT'S OVERCOAT TIME FOR ROOFS AND HOUSES

Winter is the best re-roofing and re-siding salesman. It makes prospects realize their need for a warm, weather-tight job. So go after this timely business now. You will find re-roofing and re-siding contracts profitable.

For Re-roofing

You have a wide choice of shingles under the four popular brands. There are individual and labor-saving strips in various weights and popular designs — re-roofing shingles to fit every type of building and pocketbook.

The colors are attractive — warm reds, blended browns, rich purples, bright greens and shaded grays — to meet all individual tastes.



For Re-siding

Select Brick-style Siding. It is especially designed for fast application. Strips are 36 in. long and self-aligning, reducing the application cost to the minimum. The double coated, heavy slated butts have the appearance of deeply recessed bricks in true brick style.

The colors are a rich red, a radiant bright red, and a handsome buff. By combining these colors you get an

attractive tapestry effect. Brick-style Siding has a great sales appeal to property owners. It stops paint bills forever. It reduces fuel costs drastically.

The Ruberoid Co. joins its dealers to help you get this business. Write the nearest office for full particulars.

CONTINENTAL
ROOFING MILLS

RUBEROID
MILLS

SAFEPACK
MILLS

H. F. WATSON
MILLS

→ Divisions of ←

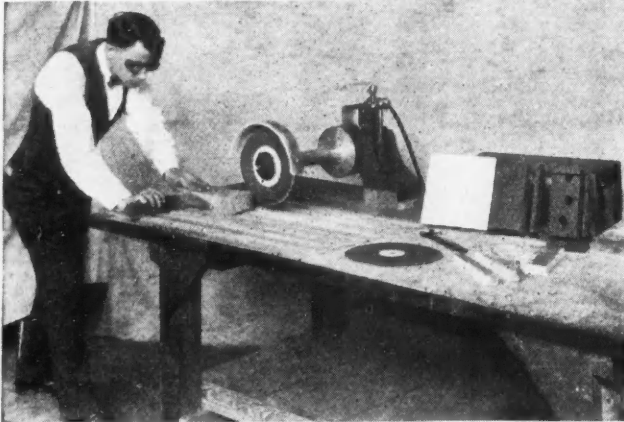
The RUBEROID Co.

Offices: New York • Chicago • Boston (Millis) • Erie • Baltimore • Mobile



Moderate Price Brick Cutters

BRICK cutting machines, designed to sell at a moderate price and to give efficient and economical service either in the yard or on the job, where brick must be cut in a hurry or where the amounts to be cut do not justify the cost of a larger unit, have been perfected and placed on the market. These machines are made in two types, one for standard size brick and the other with an extended head for material up to approximately 26 inches in length.



Here Is a Moderate Priced Machine for Cutting Bricks in a Hurry.

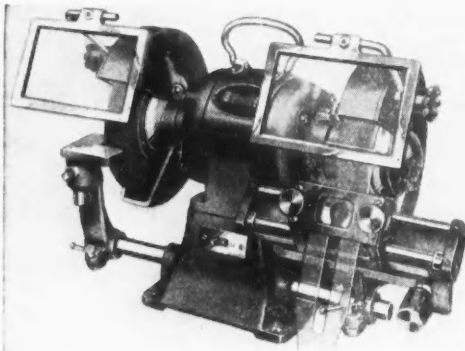
The extended head machine is made in two sizes, one with a cutting wheel having a vertical travel of three inches the other having a vertical travel of 4½ inches. The machine for standard brick is made in one size only having a vertical travel of wheel of 4½ inches. Both machines have vertical feed so that the wheel can be raised or lowered for any depth of cut.

These machines are portable. There is just one heavy bolt to hold them down on a table and a few wood screws to drive home, to set up the machine. The motors are mounted in the machines.

The operation of the machine is simple. It is only necessary to place the brick against the tee head and push toward the wheel, the same as operating a saw. The tee head is adjustable for either square or angle cutting.

Knife, Gouge and Chisel Grinder

THIS new, 7-inch grinder is designed, primarily, for the grinding of woodworking knives, gouges and chisels. It is furnished with a guard which totally encloses the wheels except at the cutting point of the wheel. It can be furnished with two adjustable tool rests or with one adjustable tool rest and a floating grinding attachment, which gives the knife or chisel the correct position for grinding a true edge. Another feature is an adjustable eye shield affording added safety. The outer side



All Kinds of Woodworking Knives Can Be Sharpened on This Grinder.

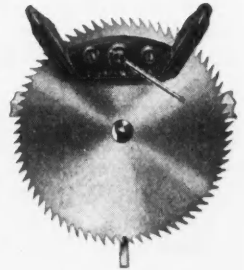
correct position for grinding a true edge. Another feature is an adjustable eye shield affording added safety. The outer side

of guard can be removed quickly so as to allow the mounting of the cone wheel for the grinding gouges and other circular knives.

Circular Saw Filing Vise

ELECTRICITY has made the small circular saw very popular for a wide variety of work and this popularity has resulted in the development of a vise, by a well known tool manufacturer, to facilitate the filing of these saws. This vise is practical, easily handled, and strongly built. It is adapted to saws ranging from five to eighteen inches in diameter.

To use the vise, the saw is slipped over the support pin on the bracket, it is raised until the teeth are slightly above the curved jaws, and clamped by turning a lever. The vise is then tilted to a convenient angle and the saw is ready for filing.



A Vise for Easy Filing of Small Circular Saws.

Vacuum Ash Removal Equipment

THERE is a new business opportunity which has been opened up by the development of the equipment shown in the illustration. This equipment makes possible the establishment of a business as an ash removal contractor, which should be profitable in any of the larger cities.

The removal of ashes from buildings has always involved considerable labor in hoisting and carrying ash cans to trucks, noise in handling of cans, and dirt in dumping the cans into the trucks and later in hauling the ashes through the streets. All this is avoided by means of the new system, which has been brought out by a leading company in field of blowers and compressors.

The apparatus consists of two trucks. On one truck, a 75 h.p. motor is mounted, operating a multi-stage, vacuum producer together with two large dust filters. On the other truck is a large steel receptacle into which the ashes are drawn by the suction produced with the motor unit. This ash dump unit is sealed so that no ash or dust can leak out, either while loading or while hauling the ashes to the dump.



Removing Ashes by Suction, Without Noise or Dirt, at Low Cost.

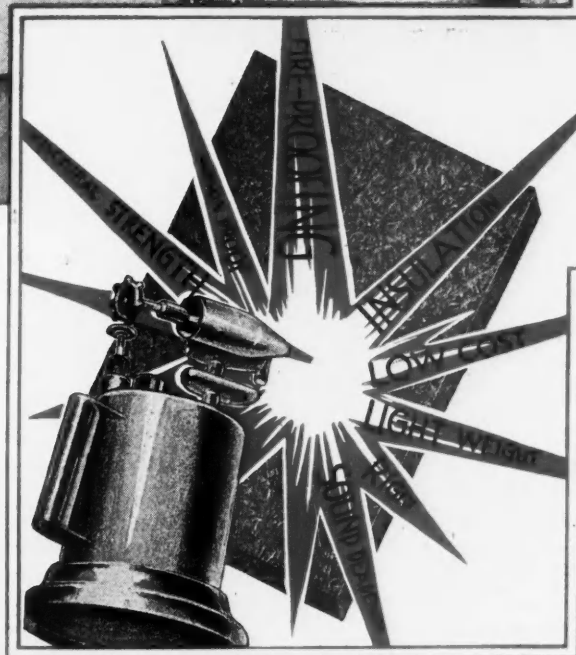
The power unit stays at the job and, as soon as one ash dump unit is loaded and leaves for the dump, another ash dump unit is hooked up and removal proceeds without delay. Two or more ash dump units are used with each power unit and the power unit is moved along from job to job.

(This Department Continued on Page 114)



Here's a new kind of Lumber

FIREPROOFING AND INSULATING



Thermax is manufactured in 1", 2", and 3" thicknesses, all 20" wide, and in 48" and 64" standard lengths; special lengths furnished on order.

No matter what you use it for:
 Sheathing Insulation over Roof Decking
 Base for Stucco Solid ("tile") Partitions
 Base for Plaster Self Supporting Roof Slab
 Concrete Floors Industrial Insulation
 Fireproofing Steel Work Etc., Etc.,
 Thermax provides characteristics and qualities never before incorporated into a single product, and at the absolute minimum material and labor cost.

Thermax Solid Partitions, for instance, are lighter and more sound proof than "tile" or solid partitions. Again, a 3" Thermax Self Supporting Roof weighs only about 7 pounds per square foot and has a conductivity factor of only 0.13 Btu.

Because of its great structural strength, it must be sawed, as is lumber—it cannot be scored and "broken," as other insulation boards. Thermax is used just like ordinary sheathing lumber, with which it compares very favorably in first cost. Furthermore, Thermax is truly fireproofing.

And, surprisingly, Thermax provides more insulation, *per dollar of cost*, than any other insulation board.

Write for sample of and literature about this amazing new building material.

THERMAX CORPORATION

1411 FOURTH AVENUE

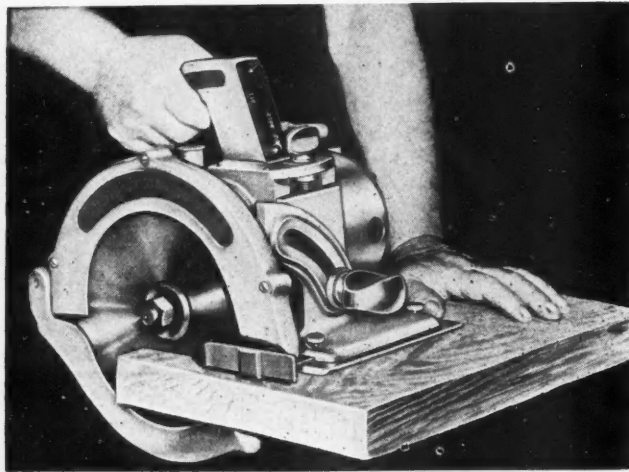


SEATTLE, WASHINGTON

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER AND BUILDING AGE

High Speed Electric Hand Saw

A NEW hand power saw has recently been placed on the market, in addition to a model of the same type, similar in general appearance, manufactured by this company. This new saw is mechanically different, however, being of the gear driven type.



High Speed, Gear Drive, in a New Electric Hand Saw.

The motor is $1\frac{1}{4}$ horsepower and is geared to the drive arbor through hardened, spiral gears having a reduction ratio of $2\frac{1}{4}$ to 1, thus driving the 9-inch saw blade at an unusually high speed for this type of saw, running at 5,000 r.p.m. free speed, and about 4,000 r.p.m. under the average cutting load.

At this high speed, it is possible to rip a 3-inch plank 12 feet long in one minute, cross cut a 3 by 6 in two seconds, and cross cut a 2 by 12 in four seconds. This saw will cut a maximum depth of $3\frac{1}{8}$ inches, both depth and angle being easily adjusted by turning a thumbscrew.

Saw Filer Improved

A COMPANY which has for several years been making a highly successful automatic saw filing machine has recently announced a new model in which is incorporated a new and improved feature. This feature, worked out by the company engineers, greatly increases the life of the machine and insures work of the utmost precision at all times.



No Filings Can Reach the Bearing Surfaces.

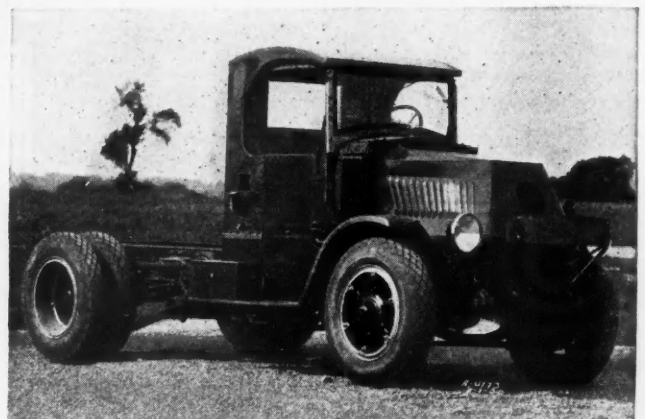
This new machine is so designed that all bearing surfaces are above the level of the file, so that no metal particles from the filing can reach them or work into them. In addition, the machine is designed with great strength and rigidity, and will stand up under the most severe industrial service in a satisfactory manner. Simple take up adjustments for wear insure that the original accuracy in filing can be permanently maintained.

The machine is equipped with a 24-inch vise so that circular saws up to 24 inches in diameter can be filed, as

well as band saws from $\frac{1}{8}$ inch up to $4\frac{1}{2}$ inches wide, and all types of hand saws. In operation the saw is fed by a feed pawl acting on a tooth which has already been filed. By this method all teeth are quickly brought to the same size, height and spacing, and automatically kept so. A saw always filed on this machine needs no jointing. Circular saws are kept perfectly round, any desired hook can be put on band saws, and any bevel on cross-cut saws. The machine will handle all saws that can be filed with a three-cornered file.

Fast Powerful New Truck

THE latest addition to a well known line of four and six cylinder trucks is a new six. Designed for heavy duty service where greater speed and power is essential, the six meets a specific need and does not supplant the present four cylinder model. It is offered with either a covered or coupe type cab.



Speed and Power Are Combined in This Six Cylinder Truck.

Smooth running at all speeds is assured by the use of a case-hardened, drop forged crankshaft which has integral counterweights and a vibration damper. Valves are flat seated, of L head type and are located at the right. Lubrication is of the force feed and splash type used so long and successfully on other models of the same make, and all oil is filtered through an H. W. filtrator.

Water circulation is by centrifugal pump, the temperature being automatically controlled by a thermostat. Transmission has four speeds forward and one reverse, and is driven by a single plate dry type clutch. Brakes on all four wheels of the expanding type, are in two independent sets, the foot brakes being vacuum booster actuated, and the hand lever operating a secondary set on the driveshaft. This great braking power assures absolute safety at maximum speed.

New Improved Outlets

THE new, top wired, convenience outlets illustrated here are all bakelite and of one piece construction, very sturdy and solid. The base receptacle has a finding ridge and groove which guides the prongs of the attachment plug into the slots easily. The plug can be inserted handily from any angle. The style and design of the receptacle base is modernistic, harmonizing in appearance with brown bakelite flush plates. These receptacles are made in both single and duplex styles as illustrated.



New All Bakelite Outlets.

(This Department Continued on Page 116)

Internationals Are Built to Do Your Kind of Hauling




THE building industry needs trucks that can be depended on for day-in and day-out performance, that can tackle the loads and hard going in and out of construction jobs. The long experience of International Trucks in the building trades offers sound proof of the performance and dependability of these trucks and of their real worth in the transportation of building materials.

Today there is a complete new line of International Trucks. They are advancing the reputation Internationals have for turning in the maximum pay loads and pay mileage. They are modern trucks that meet modern hauling conditions.

The best way to get acquainted with the new Internationals is to ask the nearest of 180 Company-owned branches in the United States and Canada for a demonstration. You will see International performance at first hand under all conditions you want to put it through. You will get a new conception of motor truck values. Write us for information.

INTERNATIONAL HARVESTER COMPANY
OF AMERICA
606 So. Michigan Ave. (Incorporated) Chicago, Illinois

INTERNATIONAL TRUCKS

Special Delivery: ¾-ton, 4 cylinders, 3 speeds forward, 136" wheelbase, spiral bevel drive, 4-wheel brakes.

Speed Special: 1½-ton, 4 cylinders, 6 speeds forward and 2 reverse, 136" wheelbase, spiral bevel drive, 4-wheel brakes.

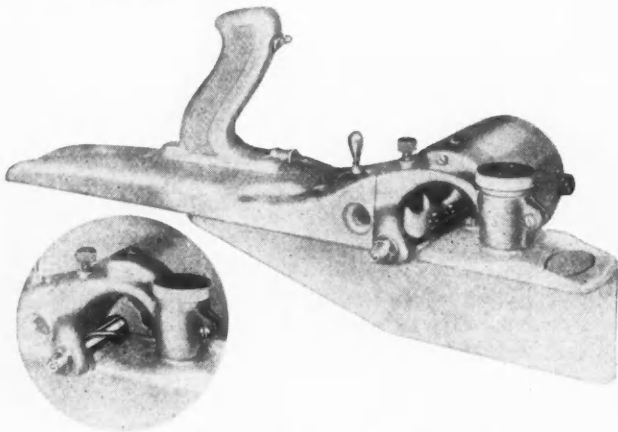
Speed Trucks: 1½-ton, 6 cylinders, 4 speeds forward, 138", 152", 164" wheelbases, spiral bevel drive. 2-ton, 6 cylinders, 5 speeds forward, 145", 156", 170", 185" wheelbases, spiral bevel drive. 3-ton, 2 types, Model A-5 (spiral bevel drive) and Model A-6 (double reduction drive), 6 cylinders, 5 speeds forward, 140",

156", 170", 190", 210" wheelbases. All have 4-wheel brakes. **Heavy-Duty Trucks:** Models W-1 and W-3, 2½ and 3½-ton, 4 cylinders, 5 speeds forward and 2 reverse, double reduction drive, "steer easy" steering gear, 4-wheel brakes. W-1—130", 148", 170", 185", 200" wheelbases. W-3—144", 160", 185", 210", 235" wheelbases.

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER AND BUILDING AGE

Safety Power Plane

ANNOUNCEMENT has been made of the development of a new safety power plane. This improved plane has a long shoe for jointer work and a guard for the cutter which is approved by safety councils. This new plane is designed for fitting doors, sash, transom, and is three to five times as fast as hand work.



No Sanding Is Needed After This Plane Has Been Used.

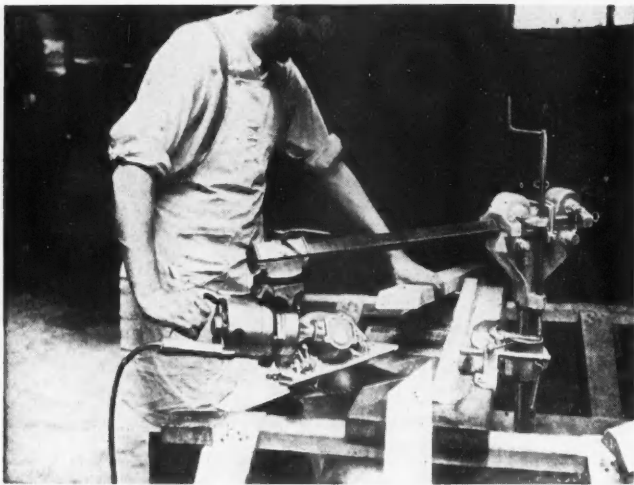
This plane uses a spiral cutter which gives a shear cut, the plane not only cutting easily and rapidly, but leaving a surface that does not have to be sanded. It cuts equally well with the grain or on the end grain. It is easy to maintain a sharp cutter as a special grinding attachment is packed with each plane, permitting the operator to resharpen the cutter to a keen edge in a few minutes.

A bench bracket is also included which holds the plane in such a position that it can be used as a jointer, the apron acting as a working table. The plane is shipped packed in a convenient metal carrying case together with all attachments.

Radial Arm for Electric Saws

A NEW accessory for electric hand-saws has recently been developed by a leading manufacturer of these modern tools. This device, called a radial arm, is designed to convert a portable saw into a table or bench saw, quickly and easily.

An extended movable arm is provided to which the electric saw is clamped. This arm moves forward or backward on ball bearings. The saw slides with the arm. This is an exclusive safety feature. It also eliminates interference and provides plenty of working room with clear vision.



With the Radial Arm an Electric Saw Becomes a Bench Saw.

Vertical adjustment for all depth cutting such as accurate cross-cutting, ripping, rabbetting and grooving, either straight or bevelled, is obtained by a convenient hand screw, giving full depth capacity for the electric hand-saw which is used.

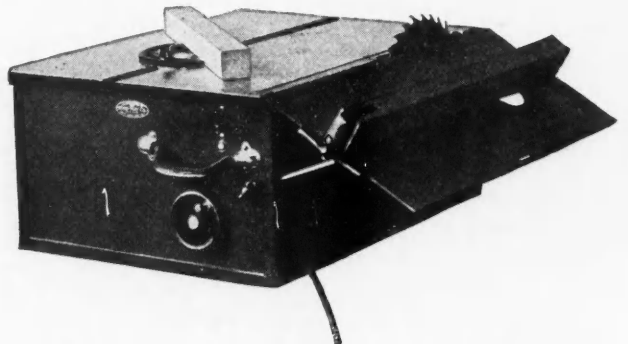
On all operations including mitering and bevelling, the saw is always locked against any movement and cutting is performed by sliding the arm forward, away from the operator, which assures absolute safety. For ripping, the saw can be locked in a fixed groove at right angles to the arm, which positively prevents blade binding. A spring safety clamp is also used for protection of the operation.

Although designed for use with one of the leading electric hand-saws, most any type of electric hand-saw can be adapted to the radial arm with special brackets provided for the purpose.

Highly Portable Bench Saw

A NEW type of portable saw has been introduced which can be easily carried like a suitcase by one man. The inventor of a sander, which is distinctive in that it has only one moving part, is also the designer of this saw and, like the sander, it has only one moving part. The saw is mounted directly on the shaft of a powerful motor built especially for this purpose.

The saw is said to be capable of cutting two-inch material at a satisfactory rate of speed, and $\frac{7}{8}$ -inch material as fast as one can feed accurately. Angle cutting up to 45 degrees is accomplished by the adjustable cover. It is provided with an adjustable cut-off gauge, also a positive rip gauge which may be used on either side of the saw. A small hand-wheel conveniently located on the front of the case raises and lowers the saw. When not in use, the saw may be lowered and the cover closed and locked.



This Power Saw Can Be Carried Like an Ordinary Suitcase.

The inventor further states that, although this tool is now being offered to the public for the first time, it is not an experiment, having been used continuously in the company's woodworking department for the past three years.

New District Engineer

AN announcement made by Mr. Charles F. Abbott, executive director of the American Institute of Steel Construction, with headquarters at Dallas, Texas, states that an additional district engineer has been added to the field staff of his company. Mr. Leslie H. Dodd, of Lawrence, Kan., has been selected to fill this position.

An announcement from the American Institute of Steel Construction, Inc., formerly located at 285 Madison Ave., New York City, states that its executive offices will be located in the International Combustion Building, 200 Madison Ave., New York, N. Y. The engineering office is at 1050 Leader Bldg., Cleveland, Ohio.

Every Modern Builder NEEDS THIS NEW BOOK OF Architectural Designs



It is a handsome book of 272 pages, size 9¼ x 12¼ inches, bound in durable green cloth. It will be a real addition to any builder's library.

This book has been prepared by the staff of AMERICAN BUILDER AND BUILDING AGE as a Style Book on Residential Architecture for the Practical Builder.

It contains a carefully assembled group of designs that are examples of all that is best in convenience of floor arrangement, as well as models of exterior and interior architecture. Every design is in line with the demands of the day. They range from small homes of moderate cost, to the more elaborate types in demand by many prospective builders. The varying needs of different sections of the country have been heeded.

Twelve Architectural Period Divisions

For convenience and comparison, the designs have been divided into *Twelve Separate Period Styles*. Houses of similar character are grouped together. Each of these groupings is introduced with a description of the style, decoration and furnishing appropriate to the period discussed.

This book with a year's subscription to AMERICAN BUILDER AND BUILDING AGE will make an exceedingly appropriate Christmas Gift for any builder.

Designs By Leading Architects

Illustrated in this book are homes designed by over 100 leading architects, in period styles as follows: *Early American, New England Colonial, Dutch Colonial, Southern Colonial, Colonial Types, Tudor, Georgian, English Types, Norman, Italian, Spanish, Modernistic*, also specifications of residence, details of residential construction, useful rules, tables and data.

122 Designs with Floor Plans

In all, there are 122 illustrated designs with floor plans. These are arranged according to type, so that they may be referred to conveniently. 1½ story, 2 story and 3 story houses are shown in a variety of materials—stone, brick, stucco, wood, etc. There are 79 illustrations of interiors in the correct period style described. 181 illustrations show fittings and furnishings appropriate to style of architecture. 85 views show exterior details of doors, windows, towers, gates, etc.

These offers good only within the United States and Canada.

\$4.50

Will bring you *American Builder and Building Age* for 3 years and a copy of the book postpaid.

\$3.50

Will bring you *American Builder and Building Age* for 2 years and a copy of the book postpaid.

\$2.50

Will bring you *American Builder and Building Age* for 1 year and a copy of the book postpaid.

Here Is your Order Form — Clip and Mail — NOW!

The American Builder and Building Age,
105 W. Adams St., Chicago, Ill.

Date.....
Dec. 30

Gentlemen: Find \$..... to pay for..... year's subscription to the big New AMERICAN BUILDER AND BUILDING AGE—with which I am to receive, postpaid, a copy of your New "*American Builder Year Book—Modern Homes.*"

Name

St. and No.....

Post Office..... State.....

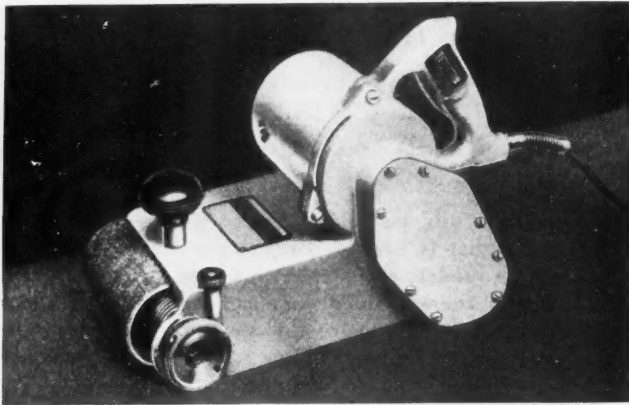
IMPORTANT: Building publications are required to show occupations of subscribers. Please help us to properly classify you by stating on line below the business in which you are most active

My Business is

Light Efficient Belt Sander

A NEW and improved electric belt sander is now being offered for use on wood, metal or stone. This machine, being of the belt type, provides perfect surfacing in all degrees of cutting without ripples. Extra smooth finish is assured through the use of a flexible pad.

One of the important mechanical features of this new sander is the adjustment of the front roller on an eccentric shaft with spring tension which permits changing belts in ten seconds. Tension is controlled by a hand wheel on the side



This Belt Is Easily and Quickly Changed or Adjusted.

of the machine, and a convenient thumbscrew adjustment provides perfect alignment of the belt on the rollers at all times.

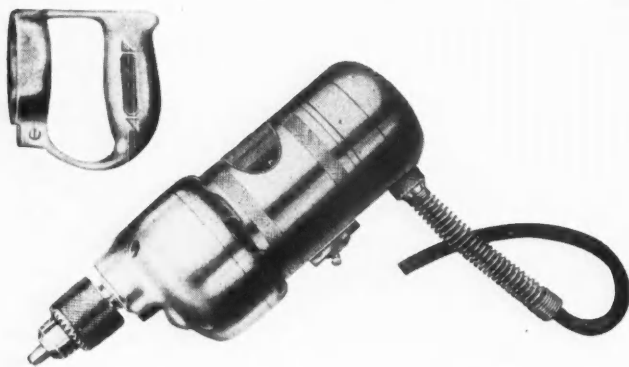
For accuracy, strength and lightness, the frame is made of aluminum and is die-cast. The motor, air-cooled by centrifugal fan, is a universal type operating from any light socket. The helical gears are especially designed for silent operation and are made of heat-treated nickel steel. Ball bearings are used throughout.

New Improved Electric Drill

A NEW electric drill has been brought out by a well known tool manufacturer to meet a known demand in the woodworking field. This drill is enclosed in a mirror polished case which not only presents a beautiful appearance but is easily cleaned. What little dirt and grease does adhere to the surface can be wiped off.

The speed of 6,000 r.p.m. is such that it literally punches holes through wood. This high speed makes it especially adapted to drilling lead holes for screws as it cuts so fast that it does not wedge and consequently does not split the wood.

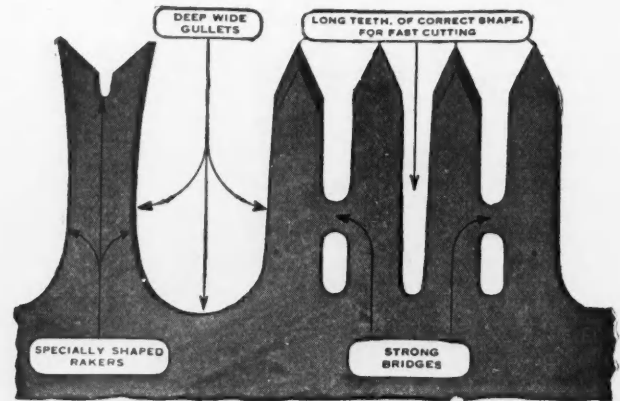
The switch is mounted on the casing in such a position that it is always under the control of the operator.



Grease Is Easily Cleaned Off the Polished Surface of This Drill.

Improved Cross-cut Saws

A NEW line of cross-cut saws has been placed on the market by one of the leading saw manufacturers. These saws are ground by an improved method to assure true

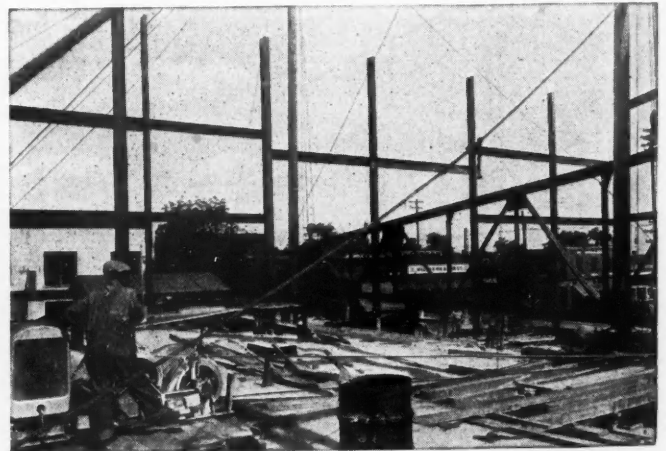


Better Results Are Obtained with Saws Filed Like This.

taper and uniformity of cutting edge. The illustration shows other features of the tooth and gullet construction. The new line includes nine models adapted to various types of work.

Efficient Thrust Hoist

THE illustration shows a thrust hoist, in use on one of the jobs handled by M. E. Gillioz, Contractor, of Monett, Mo. On this job it is being used in connection with two gin poles, one drum line leading to each pole. Featherweight controls and positive brakes enable the operator to set the truss in exact position.



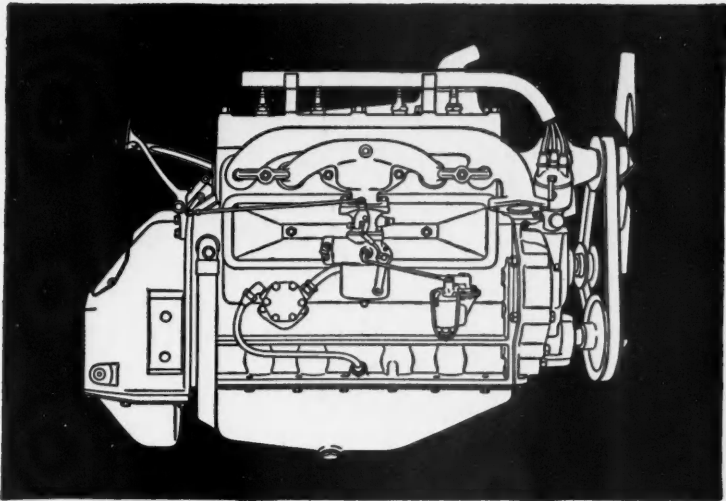
A Thrust Hoist Used with Two Gin Poles to Place Trusses.

In addition to this ease of operation, this unit is rugged, simple and economical to operate. Friction is attained by a positive thrust action, using asbestos compound blocks. Friction return and release are attained by the same screw action of the thrust. Thrust and release springs are entirely eliminated.

These outfits are used in all parts of the country by general contractors for material hoisting, in connection with various makes of mast plants and towers, and for steel erection, as well as for bridge building, pile driving, in gravel pits with dragline hauls and similar work. They are built in two models, single and double drum, ranging from 10 h.p. to 50 h.p. Sales and service all over the country are provided by a chain of 100 company distributors.

(This Department Continued on Page 122)

Compare.. this 48-horsepower engine-



1 1/2 ton

DODGE TRUCK

SEE THIS NEW TRUCK. INSPECT THE 48-HORSEPOWER TRUCK ENGINE. NOTE ITS MODERN DESIGN, ITS STURDINESS. ASK WHY FULL FORCE-FEED LUBRICATION INSURES LONGER LIFE, GREATER ECONOMY AND DEPENDABILITY. ASK WHY ALUMINUM ALLOY PISTONS, EXTRA LARGE WATER AREA, RIGID CRANKSHAFT, PRECISION BEARINGS, AND CRANKCASE VENTILATION CONTRIBUTE TO SMOOTH, QUIET, LOW-COST OPERATION.

INSPECT, TOO, THE FULL-FLOATING REAR AXLE, RUGGED 4-SPEED TRANSMISSION, 4-WHEEL INTERNAL HYDRAULIC BRAKES AND MANY OTHER NOTEWORTHY FEATURES OF THIS NEW 1 1/2-TON TRUCK. BUY IT COMPLETE WITH STANDARD OR SPECIAL BODY.

\$595

CHASSIS F.O.B. DETROIT. DUAL REAR WHEELS AT SLIGHT EXTRA COST

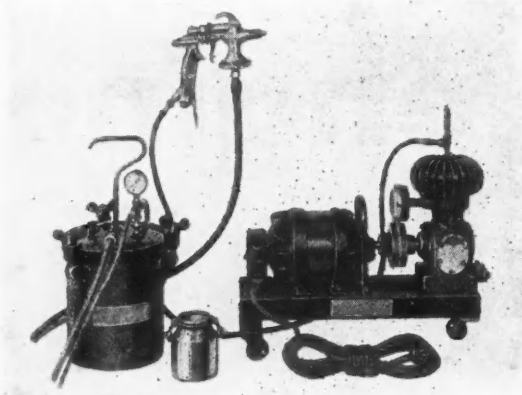
DODGE TRUCKS RANGE IN PAYLOAD CAPACITIES FROM 1,200 TO 11,175 POUNDS

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER AND BUILDING AGE

Paint Spray Improved

A NEW advanced model spray painting outfit has been added to a line of spray painting equipment manufactured by a well known company. This new outfit is electric powered—compact, ruggedly constructed, easily portable and equipped with a 2½ gallon pressure feed material tank, which holds sufficient material to spray from 800 to 1,000 square feet.

One of the distinctive patented features of the spray gun is the air conditioning unit built into the hollow part of the handle. Like other spray painting outfits manufactured by this company, the gun is of the pressure feed type with



An Air Condition Unit and Filter Traps All Dust and Dirt.

internal atomization in spray head which assures a steady, uniform spray of light or heavy materials the instant the trigger is pressed. Rebound, fog and mist are reduced to an absolute minimum.

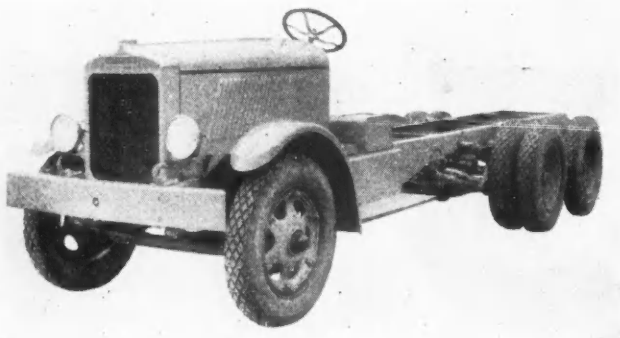
The intake valve on the compressor is fitted with an air filter which traps all dust and foreign matter, this feature, in addition to the second air conditioning unit in the handle of the gun, permitting only clean, dry air to pass through the spray gun head.

New Truck Increases Pay-Load.

TWO new, six-wheel trucks of the two-wheel drive type, in which pendulum suspension has been incorporated on all four of the rear wheels, have recently been placed on the market. These trucks have been developed to enable the operator to secure greater financial returns from increased pay-load.

The basic feature of the suspension, in connection with this two-wheel drive, six wheeler, is the fact that the upward swing of the load automatically increases the downward pressure on the wheels, greatly adding to the traction.

These trucks incorporate a number of other advanced



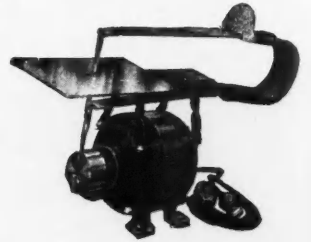
The New Truck Chassis Featuring Pendulum Suspension.

mechanical features and are equipped with two complete sets of brakes, operating independently. The selective gear type transmission is mounted in unit with the clutch. There are five speeds forward and two speeds in reverse. A pad is provided for a power take-off.

Fast Cutting Jig Saw

HERE is a fast cutting jig saw which is designed to do the work of medium sized band saws. It cuts as fast as the operator can follow a line and leaves a smooth finished cut which does not require filing or sanding. This saw has a wide variety of uses as it will make inside cuts that can be made only with a jig saw, besides fine scroll work, or straight cutting.

The design of this saw permits the use of a short blade, held straight and true under constant, rigid tension, between two wide, flat guide springs. This eliminates the use of the usual cross heads and guides, with their friction wear and annoyance. All the motor power is applied direct to the saw blade, through a ball bearing crank pin, on a special motor crank disc-pulley. This gives a 1¼-inch stroke at a speed of 1725 strokes per minute. The connecting rod can be quickly removed from the pulley when the motor is desired for belt drive to other small machinery in the work shop. The blades can be changed instantly. The complete machine is 21½ inches long, 14 inches high and 6½ inches wide, and weighs 30 pounds.



A Handy Little Jig Saw with a Wide Variety of Uses.

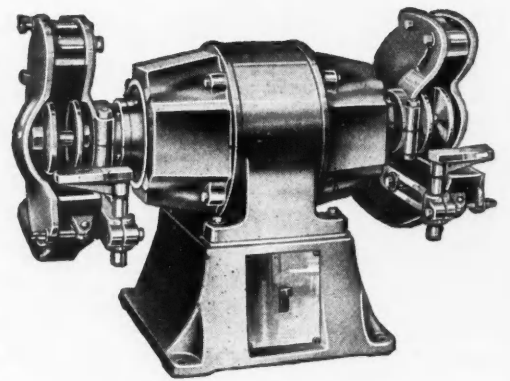
New Electric Grinders

FOUR, 10-inch, electric grinders have recently been added to a well known line of electric tools. They are made in two sizes, ¾-h.p., and 1-h.p. motor, and each of these in bench and pedestal type. All four embody the latest improvements in design and construction. They have exhaust type wheel guards with adjustable dust shields for closing the gap between the guard and the wheel as the wheel wears.

The motors are full ball bearing and totally enclosed to dust and grit. They are furnished complete with toggle switch, adjustable tool rests and conduit box. A starting rheostat is furnished on all D.C. current grinders.

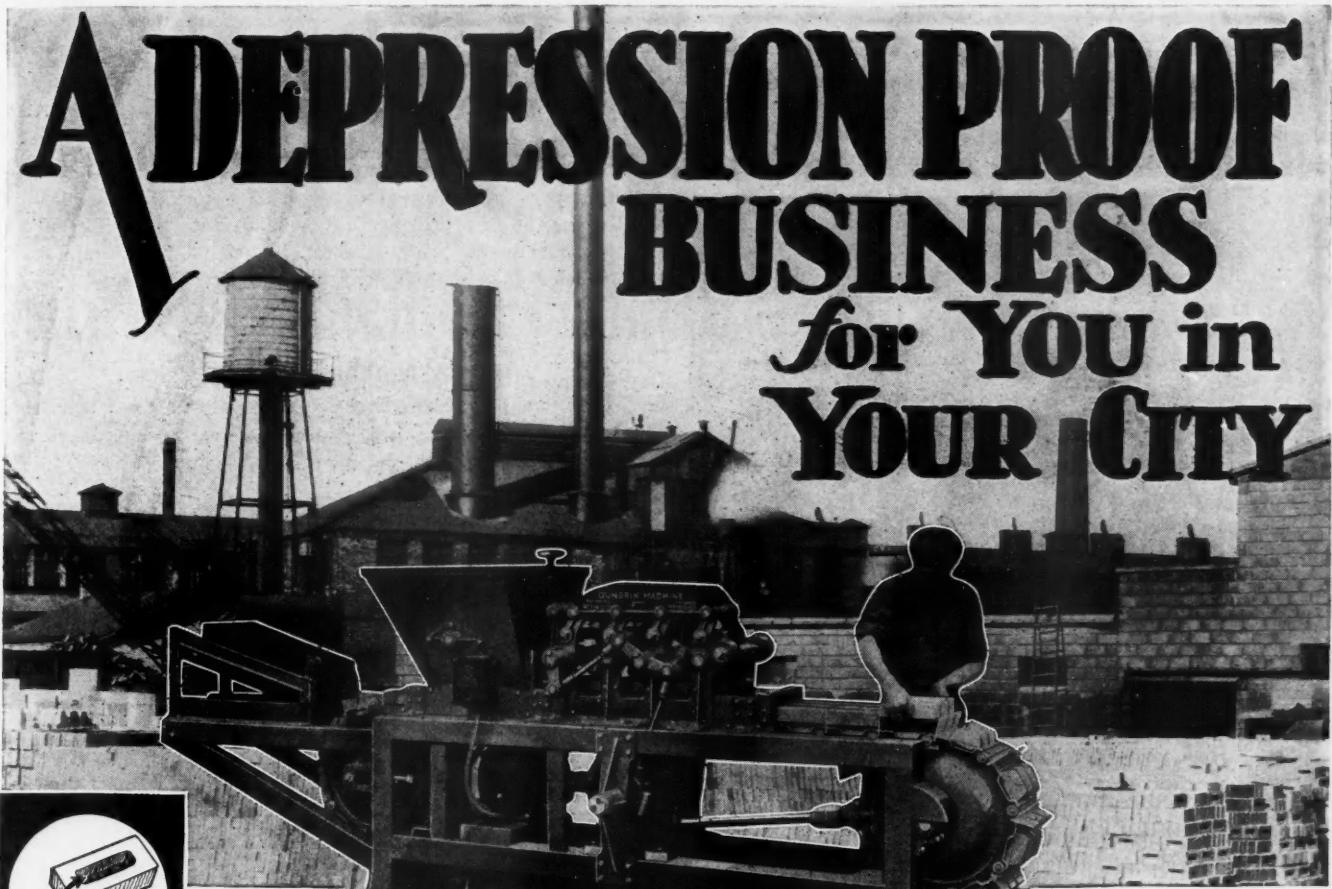
The 1-h.p., bench type is shown in the illustration. This is a heavy duty grinder for continuous service. The 1-h.p. pedestal grinder is the same except for the pedestal mounting. The ¾-h.p. grinders are of similar construction but lighter weight for use where such heavy service is not required.

(This Department is Continued on Page 124)



One of Four New Models, a One-h.p. Bench Type Grinder.

A DEPRESSION PROOF BUSINESS for YOU in YOUR CITY



Modest Capital Starts You Capacity 24,000 Per Day

Right in the face of depression the Stonecraft Company just this past spring started a prosperous and growing DUNBRIK business in the City of Grand Rapids. Over a million of their brick have since gone into municipal, industrial and public buildings in their territory. More than 230,000 were sold in October and they have orders for over a half million more. They get this business because of their low manufacturing cost and a superior product. They have now reduced costs to less than \$6.00 per thousand.

Dominate the Market in Your Territory

A national construction program of more than seven billion dollars is now under way,—the biggest governmental and industrial program in all history. Other DUNBRIK plants like Stonecraft are profiting by this program. All have run continuously from the start. They dominate this real quantity market in their territory.

With a capacity of 24,000 brick per day, eliminating 20% in material and weight, producing a better brick at a new unheard of low cost, you can get this business in your territory the same as Stonecraft and others have done.

Small Investment

You can start a DUNBRIK plant on a small initial investment by taking advantage of our pay-as-you-produce plan. You can start with only a fraction of what it would cost to start in the clay industry and only a fraction of the labor of other large capacity plants is required.

Exclusive Franchise

Your business and your future are protected by an exclusive franchise. Only one plant in a territory. You have no competition. Send in the coupon today. Get all the facts. Learn about this exclusive stable business and this marvelous machine sold on a pay-as-you-produce basis.

W. E. DUNN MFG. CO.
450 W. 23rd St.
Holland, Mich.

I want to weigh the possibilities for a DUNBRIK low production cost plant in this territory. Please send me immediately full details covering operation, advantages and cost of establishing this new industry for my city. Also how I may visit DUNBRIK plants in actual operation at your expense.

Name.....

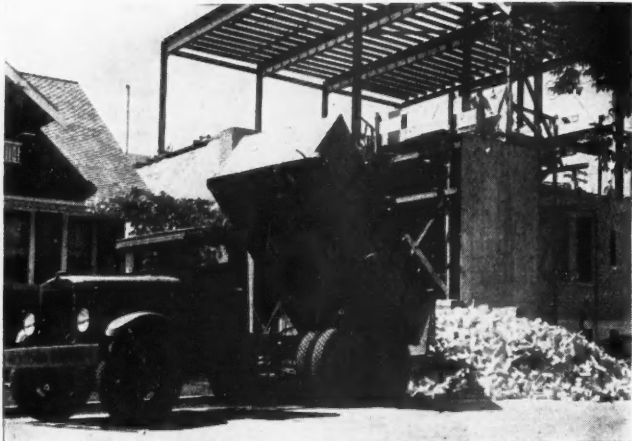
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WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER AND BUILDING AGE

Truck Gives Economical Service

THROUGH four months of service, the truck illustrated, owned by Tasmussen & Hansen, hauling for the Kenosha Brick Company of Kenosha, Wis., has been operating in an absolutely trouble-free manner and has given its operators over 5,000 miles of economical operation.



Dependable Operation Under Heavy Duty Service.

This truck has the advantage of complete flexibility between the two rear axles. Since the vehicle is of the two-wheel drive type with a trailed axle, the principle of horizontal cushioning is carried out in both the rear axles, which not only cushions the horizontal and vertical impacts, but increases traction by nearly 50 per cent.

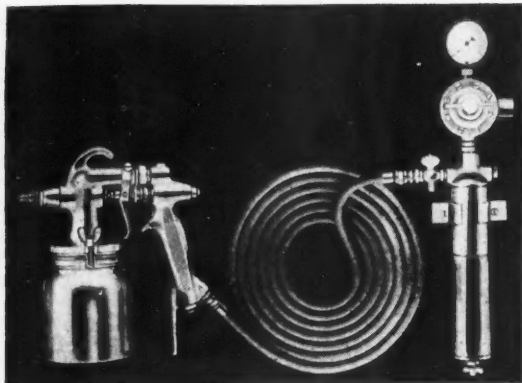
The body is of wood and steel construction, equipped with an underbody hoist. Its load consists of 5,000 bricks, each weighing about 4 pounds, giving a payload of ten tons, which can be carried with ease at speeds up to thirty miles an hour.

After 5,000 miles of service, there is no apparent wear on any of the ten tires with which the truck is equipped, in spite of the fact that much of the truck's work is done among piles of broken brick and the rough conditions surrounding any construction site.

New Spray Paint Outfit

THE new spray painting outfit illustrated is designed to give speedy application when attached to air lines or compressors delivering two cubic feet of air or more per minute at 35 pounds pressure. Any compressor which will give four cubic feet or more will operate two of these sprays.

The outfit consists of a spray gun with a quart clamp-on container, 25 feet of rubber hose, two air conditioning units, pressure regulator and gauge. One of the distinctive pat-



Designed for Speedy Spray Application of Stain, Paint or Lacquer.

ented features of this gun is the air conditioning unit built into the hollow part of the handle of the gun.

The pressure feed gun produces a steady uniform spray the instant the trigger is pressed. It will apply any material from the lightest stain to the heaviest lacquer, primer, lead paint, varnish bronze or enamel. A specially designed needle valve, accurately fitted into the fluid tip, controls the size of the spray and amount of material applied.

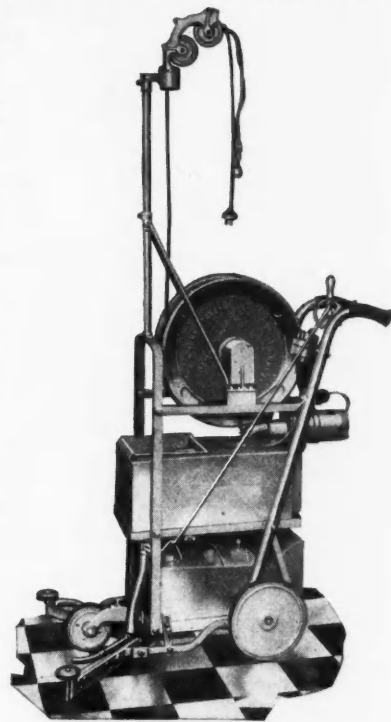
Because of the effective internal atomization of materials within the spray head, less air is needed, and high speed application is obtained without excessive rebound, fog or mist.

Vacuum Machine Cleans Floors

THE problem of cleaning floors is only half finished when the scrubbing machine has been over the floor. There still remains the problem of taking up the dirt, water and cleaning composition. This can be done most effectively by means of an electric vacuum mopper such as illustrated here. This machine will pick up approximately 85 per cent of the water and emulsion, reducing the necessity for mopping to a minimum. Its capacity or floor area per hour will equal the speediest scrubbing equipment for it can be operated just as fast as a man can walk.

The machine has clean water and dirty water tanks of four gallons capacity each. The clean water is used for rinsing the floor after it has been scrubbed and is then vacuumed and deposited in the dirty water tank below. The dirty water tank can be removed and emptied when full.

Mounted at the front of the machine and low enough to ride the surface of the floor, is a V-shaped rubber squeegee, 27 inches wide. As the machine is pushed over the floor the water is forced into the vertex of this squeegee and the vacuum formed by the 1/7 h.p. motor picks it up and off the floor.



Operates Much Like a Vacuum Cleaner.

New Ceiling Pull Switch

THIS ceiling pull switch with outlet box cover is designed for pipe jobs in factories, workshops, garages, warehouses and all modern or modernized industrial buildings. The combined switch mechanism and outlet box cover comes ready-assembled and simplifies the work of installation as it replaces two items with one. The switch cover is held by one screw in the center making it easy to assemble. The unit comes made up with a 3/4-inch or 4-inch cover.



Combined Switch and Outlet Box.

(This Department Continued on Page 126)

GET THE BIG THE EASY THE STEADY THE SURE MONEY!

With the AMERICAN Method of Floor Surfacing!

GET YOURS! Be your own man! Dreams are pleasant but get you nowhere. Act! Assure yourself of steady work and big pay—52 weeks in the year. Bosses lay you off. When you do work they get the big profits off your labor. Work for yourself. There is no thrill like it.

Be a Floor Surfacing Man and Make Big Money

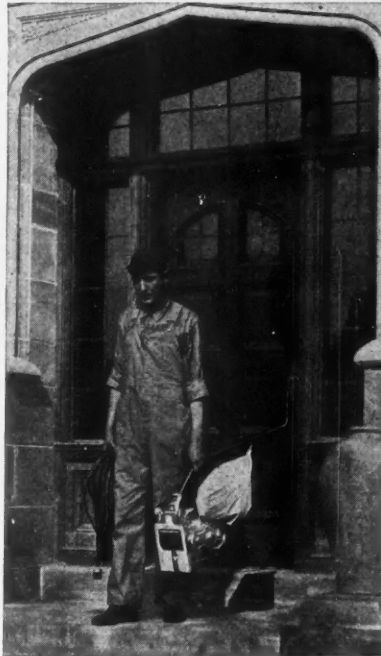
Keep busy all winter—all the time. Floors need surfacing everywhere. Hundreds of happy men are at it—making big money with American machines. Crawford, Colo., made \$134.35 in 74 hours. Ivory, Pa., made \$400.00 on one job. Norwood, Ark., made \$75.00 in 12 hours.

The big demand for floor surfacing is in the cold months. Nice, sweet, easy, warm, inside work. Business is everywhere. Public buildings, schools, churches, colleges, apartment buildings, hotels, auditoriums, stores, office buildings, dance halls, bowling alleys, roller rinks, factory buildings, and tens of thousands of residences. Jobs in new buildings are always bobbing up. Old floors need resurfacing. They are as thick as a pile of shavings. All you need is the

American High Production Sander or American Handy Sander

Nothing else. No office, furniture, rent, help—nothing. Operate from your home. All your starting expense is in the machines. We make that easy with our amazing easy payment plan. The High Production Machine is for large spaces and

At work with the Handy Sander in a small closet. The only machine that allows the operator to work in small spaces without removing the handle and getting down on his knees.



A Money Maker

The job is done and the profits all go in his own pocket. He has no boss. He is on his own. He is just leaving the job and will hop in his machine and go on to the next. And he has plenty of them. He books a number of jobs in advance and then does them in order. That's the way to work it. We're watching this man. He'll go far if he keeps it up, and make a lot of money. There is room for you, too. This is a big country. The demand for floor surfacing cannot be measured. Now is the time to start. Sign the coupon.

the Handy Sander for corners, closets, hallways, stairways, bench work, etc. The fastest, most powerful machines in the world. Nothing like them. Connect the cord and turn the switch. Push the machine like a vacuum cleaner, straight ahead. That's all. Anyone can do the work. No experience needed. Either machine is a one-man machine.

Start With One Machine Easy Payment Plan

You can start with the small machine or the large one, or both. One will do to start if necessary. Just a few dollars starts you. You pay the balance as you earn it. We furnish everything—circulars with your name and address, complete plans and instructions, prices to charge for the work, etc. You can start out the first day and talk like an old hand. Stow the old tool box and kiss the boss goodbye. Begin getting the big money for yourself and be able to give your family what you want to give them.

Contractors

Why wait for contracts? Why twiddle your thumbs waiting for something to break? Keep busy all the time with a great money-making specialty. Keep down the overhead and turn your money faster. You'll make more money concentrating than you will spreading. Cunningham, Detroit, operates a fleet of 12 machines—keeps busy all the time and makes a barrel of money. Sign and mail the coupon now. Look into this big opportunity. Get the big, easy, steady, sure money for yourself.

At work in a narrow hallway. The machine sands the floor with the grain of the wood, easier, faster and better without wave or chatter mark. No other machine can equal it.



The American Floor Surfacing Machine Company

511 South St. Clair Street, Toledo, Ohio

FACTORY BRANCHES IN PRINCIPAL CITIES

COUPON



American High Production Floor Sander

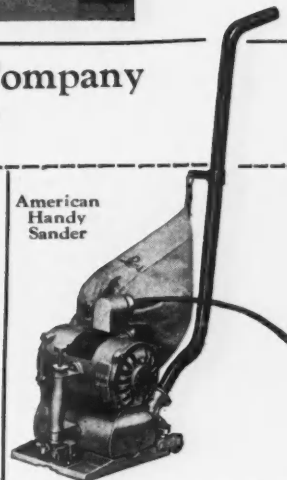
American Floor Surfacing Machine Co.,
511 S. St. Clair St., Toledo, Ohio.

Gentlemen:—Send me without obligation your complete plan for starting in business with your machines.

Name

Street

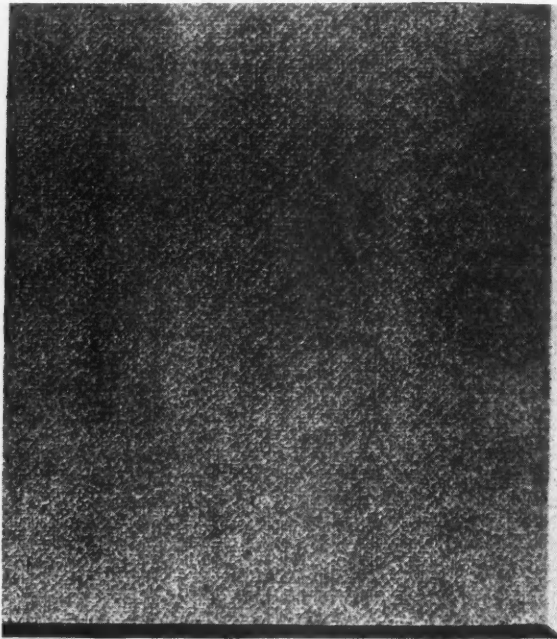
City State



American Handy Sander

Inch Thick Insulating Board

RECOGNIZING the need for roofs, of a full inch thick insulating material, of high insulating efficiency, low moisture absorption, structural strength and low cost, one of the leading manufacturers undertook, some years ago, to develop such a material. The product resulting from this company's research has recently been placed on the market.



Wood Fiber Board One Inch Thick for Roof Insulation.

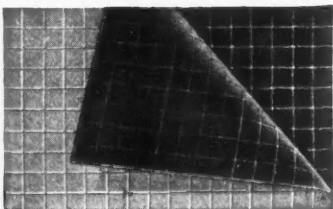
The insulation is a rigid board composed of fibers from the heartwood of Southern yellow pine. Tests have shown that it has a low moisture absorption and therefore maintains its insulating value. Its conductivity is .31 B.t.u., per square foot, per inch thickness, per degree Fahrenheit temperature difference, per hour, at 60 degrees mean temperature. This is a low rating and one which is an assurance against moisture condensation when this material is used in industrial roofs.

The weight of the new board is 1.2 pounds per board foot and it is shipped in pieces 22 by 47 inches, making it easy to handle. The full inch thickness in a single piece, instead of two or more layers, reduces installation cost.

The manufacturer maintains an engineering service of trained men who give expert advice and consultation on the builder's individual insulation problems.

Reinforced Paper Improved

A WELL known manufacturer of building papers, putting out a line of building papers, has recently announced improvements in its reinforced building paper which reduce the cost materially. Reinforcing material, which was formerly imported, is now being made in the company's own plant making possible the reduction in cost.



Improved Reinforced Building Paper.

This reinforced building paper consists of two sheets of 30 pound kraft paper with a heavy layer of waterproof asphalt be-

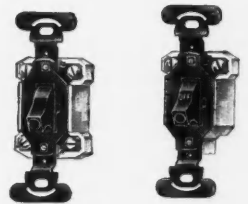
tween. Woven jute fabric is embedded in the asphalt between the sheets of paper. Each edge of the roll is reinforced with extra cords so that it is impossible to start tearing at the edges where the strain is most severe. The cords across the sheet prevent tearing lengthwise.

The paper is pliable and retains its waterproof and air-proof qualities and strength even after severe use. It is furnished in 36-inch and 60-inch widths from stock and in 40-inch, 48-inch and 54-inch widths to special order. It is especially valuable for sheathing under siding, shingles and brick veneer, for covering temporary buildings, for wind-breaks on scaffolding, for covering openings during winter construction, and for covering piles of brick and other building materials.

New Tumbler Switches

THIS new tumbler flush switch, in either single pole or three-way type, is made smaller in order to make the wiring space larger. This makes for faster and easier wiring even in the shallowest switch box. The roller action of the mechanism with wiping contact makes this switch available at a competitive price, it is stated.

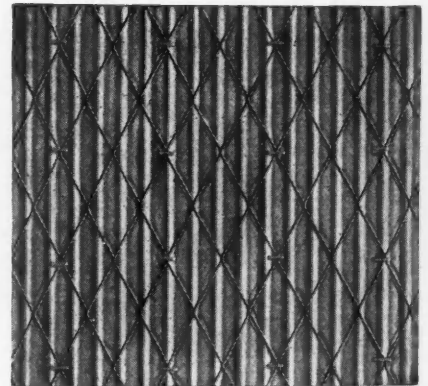
The smooth, silent roller action affords long life, with a heavier operating lever and fewer working parts. This switch easily takes care of the current surge in gas filled lamps, the heavy roller dissipates the heat and the rolling action against the contact clip wipes it clean and prevents pitting.



Single Pole and Three-way Switches.

Lath and Insulation

AN insulating paper-backed plaster base is announced by a well known manufacturer of building materials. The new product is composed of wide mesh expanded metal with a backing of corrugated paper board which has been chemically treated to render it non-inflammable. It combines the rigidity and fire-resistance of metal lath with insulating qualities afforded by dead air cells.



Expanded Mesh and Corrugated Board Plaster Base.

This plaster base is furnished in sheets of 27 inches by 48 inches and is very easily handled and erected. The smooth surface of the expanded metal makes for easy plastering and the mesh becomes completely embedded. Economies in the plaster are made possible because the paper backing prevents any wastage and the corrugations also form ribs which add to the rigidity of the finished wall.

The product provides finished walls and ceilings which are rigid, firesafe and soundproof, at a cost comparable with that of a job plastered over wood lath.

(This Department Continued on Page 128)

A Spray Equipment Training School



Many of the most expert spray-painting and spray-finishing equipment operators were thoroughly trained free in the extensive school maintained by the DeVilbiss factory organization. Any user of DeVilbiss spray equipment may come to this school or send his men to it. There is no charge or fee. The student pays only his own living expenses.

Industrial finishing, interior decorating, house painting, the use of specialized equipment made for a particular task, the proper use of all the many materials which are applied with a spray gun—in fact every phase and detail of spray-painting and spray-finishing operations are completely and thoroughly taught. When he leaves the school, the student is a practical and skilled operator, trained to do the work he will undertake on his own job, or organize, direct and teach others.

Builders everywhere realize that the combination of DeVilbiss Spray-Painting and Spray-Finishing Equipment and DeVilbiss trained operators always results in a better job.



The photographs show parts of the various DeVilbiss schoolrooms in which students are trained free in the use of spray-painting and spray-finishing equipment.



Spray guns of various types and sizes . . . Pressure feed paint tanks and containers . . . Spray booths, exhaust fans and approved lighting fixtures . . . Air compressing equipment . . . Air and fluid hose and connections . . . Complete outfits from the smallest hand-operated units to the largest industrial installations . . . Car washing guns . . . Oil Spray guns.

De Vilbiss

THE DEVILBISS COMPANY · TOLEDO, OHIO

Sales and Service Branches

NEW YORK PHILADELPHIA CLEVELAND DETROIT INDIANAPOLIS CHICAGO
 ST. LOUIS LOS ANGELES SAN FRANCISCO WINDSOR, ONTARIO

Direct factory representatives in all other territories

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER AND BUILDING AGE

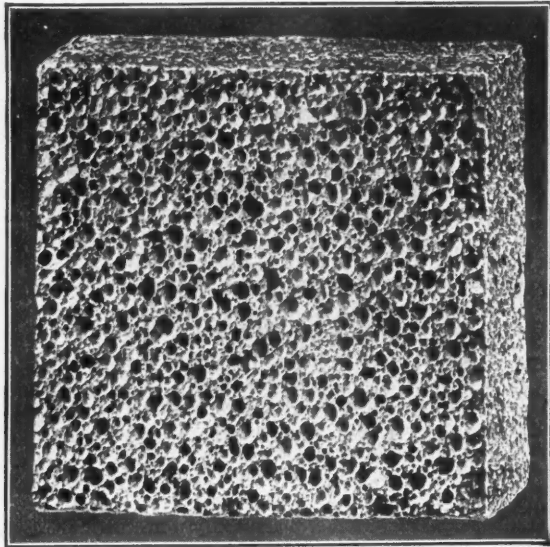
Light Cellular Concrete

THE economies resulting from reduced weight of modern buildings has led to the development of a new light weight building material, a cellular concrete.

This building material which rises like bread to two or three times its original volume, is from 66 to 75 per cent lighter than solid concrete, and so hard that a weight of 370 pounds to the square inch leaves no impression on its surface; it has disclosed unusual fire resistive properties in tests made by Prof. Albin H. Beyer of the Department of Civil Engineering, Columbia University.

The material is composed primarily of portland cement and aggregates, such as sand and cinders, which are mixed in the same manner as ordinary concrete with the addition of a small quantity of a mixture composed principally of aluminum powder and soda.

When the concrete is poured, in a semi-liquid form, the compound generates hydrogen in the liquid mass and this causes the mix to expand through the formation of tiny air cells throughout. When the cement subsequently sets,



Concrete That Looks Like a Honeycomb Is Light, Strong and Good Insulation.

the resulting concrete has the outward appearance of ordinary concrete, but its interior is cellular, somewhat resembling a honeycomb.

A layer of liquid concrete floor filling two inches deep will rise within an hour to a height of five inches or more, drying rapidly as it expands.

The introduction of cells into the concrete does not change its chemical composition, but causes a modification of its physical properties, making it light, highly sound-proof, heat-insulating and fireproof. While ordinary concrete weighs around one hundred forty pounds per cubic foot, the weight of this material can be made to vary from 30 to 80 pounds per cubic foot.

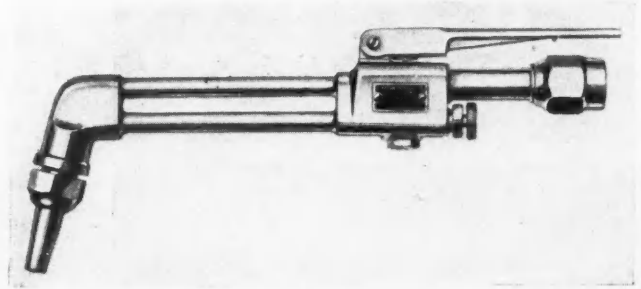
Floors of this material weigh 28 pounds per square foot for an 11-inch slab including structural steel, or approximately one-half of the weight of cinder concrete arches. The resulting saving in steel amounts to approximately 18 per cent and, where the building is erected on piles, a considerable additional saving in the foundation cost can be counted on.

The material cost is approximately the same as that of high class concrete, but the labor cost of placing is lower, owing to the fact that so much less material has to be handled. Besides, the semi-liquid consistency of the mass eliminates the necessity of tamping, and often the

pouring can be done by means of a hose. It has found a considerable use as a floor fill material. It has also been cast in slabs 3 or 4 inches thick and used for partition work. Being light in weight, a slab 2 feet wide and 10 or 12 feet long is easily handled and transported. Owing to its porous surface, it affords an excellent key for a finish coat of plaster.

New Welding Accessories

THERE have recently been introduced new accessories for a welding blowpipe, presented during the past winter, which make this blowpipe capable of doing almost any type of work which may be required of any oxy-acetylene blowpipe.



A Wide Range of Use Is Possible with the New Blowpipe Accessories.

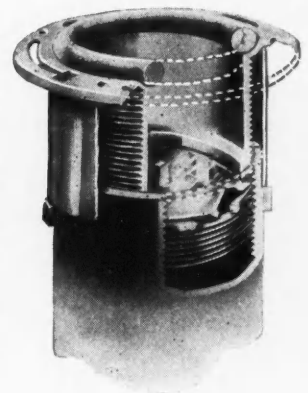
The cutting attachment, differing from any previously manufactured, enables the blowpipe to do a reasonably wide range of cutting work. A long handle is used for operating the cutting oxygen which, when not in use, can be pulled forward parallel to the tubes so that the whole attachment may be carried around in the operator's pocket. It has the same style stem lock nut as the welding head for the blowpipe.

Another accessory which has just been introduced for use with the blowpipe is the adaptor which makes it possible to use any of the welding heads available for the sheet metal welding blowpipe with the welding blowpipe handle. This means that the welding blowpipe may be used on work ranging from the lightest type of welding to the heavy general welding work required of such equipment.

Water and Gas-Tight Outlet

AN important plumbing improvement has recently been brought out in the form of an adjustable water closet outlet connection which, if properly installed, will be water-tight and gas-tight without the use of plastic materials. It is described as a decided improvement over the use of lead bends and brass ferrules such as are required by many building codes.

In installing this connection the labor cost is reduced to a minimum, by eliminating the installation of many parts and various detailed operation. Every connection is water tested at the factory before shipping and can be installed just as received with no further work or attention before the closet bowls are installed.



Gas and Water-tight Without Using Plastics.

ANTI-HYDRO

Saved Money on Two Concrete Jobs

ANTI-HYDRO was used to waterproof the mass concrete foundations in Warner Brothers new Hollywood Theatre constructed during freezing winter weather. Not a day was lost pouring concrete because of freezing weather. ANTI-HYDRO speeded up the work and saved money for the builders and owners.

ANTI-HYDRO was used to harden the concrete floor in the American Packing Company building and prevent it from freezing. When the concrete floor, laid on cork insulation was nearly completed, the temperature suddenly dropped to 18 degrees and a heavy snowstorm caused a two-day lay off. Protected only with ANTI-HYDRO the



Warner Brothers—Hollywood Theatre, New York, N. Y.
 Thomas W. Lamb—Architect
 Godwin Construction Co.—Concrete Contractors



American Packing Company Building, St. Louis, Mo.
 Koerner Engineering Company—Engineers
 Herklotz & Herchert—Contractors

floor did not freeze. ANTI-HYDRO saved many dollars on this job.

ANTI-HYDRO has been continuously used for 25 years on every type of concrete work, with a manufacturer's guarantee of satisfactory results. Let ANTI-HYDRO engineers show you how it can save money on your concrete jobs.

ANTI-HYDRO WATERPROOFING COMPANY
 295 BADGER AVENUE NEWARK, N. J.

Model N Bench Saw

TIME AND MONEY SAVED ON PRACTICAL WORK

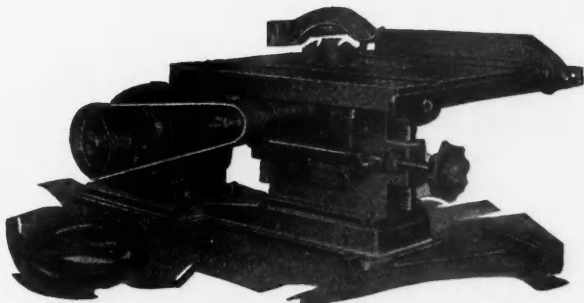
This machine will handle all material from the lightest veneer to 2 3/4" thickness. It is built sturdy and strong and will carry long, heavy work such as rafters, roofers, etc., as well as flooring, siding, trim, etc. The motor runs from any light socket.

RIPS ... MITERS ... CROSS-CUTS ... BEVELS ... DADOES ... PLOUGHS ... GROOVES ... RABBETS ... TENONS ... SANDS ... BORES ... GRINDS ...

"I was surprised at the heavy work the SAFETY-SAW would do. It goes through 2-inch green wood without any strain whatever. I use it mostly for cutting bridging base and jamb blocks, and cut practically all of my inside trim and do all the ripping that has to be done on the job. It takes about one-fifth the time it would take to do it by hand.

I also find it useful in making screens and special millwork which I can make about 25% cheaper than I can buy at the mill. For all around work on the job or in the shop I do not think anyone would make a mistake in buying a SAFETY-SAW."

(Signed) James A. Clark, Virginia.



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 Table Top 18"x24"
 Raises and lowers on a level.
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 Rips 12" Wide
 Cross-cuts any width
 Bevel Rips to 45°

We also manufacture a complete line of Bench Saws, Band Saws, Hand Power Saws, Saw Tables, Jointers, Mortisers, Shapers, Wood Lathes, Combination Woodworkers, Spindle Sanders, Belt Sanders-Grinders, Disc Sanders-Grinders, Take-About Sanders, Floor Edgers, Floor Sanders.

PORTER-CABLE-HUTCHINSON CORP.

Dept. AB12, SYRACUSE, N. Y., U. S. A.

New Powerful Type B44 Floor Edger

There's no doubt that your floor edging can now be done easily and quickly with this new Type B-44 SUPER TAKE-ABOUT EDGER. 35% more power and rubber covered drive pulley insure a faster and more constant belt speed. Because of larger turbine fan motor remains cool even after hours of running.

This is the EDGER for which you've been waiting. It takes the aches out of back-breaking, hand scraping and secures a finish that matches the rest of the floor.

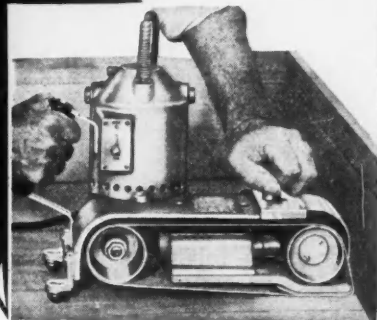
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"I HAVE BEEN USING YOUR EDGER STEADILY FOR THREE MONTHS WITH PERFECT SATISFACTION. IT DOES BORDERS IN ABOUT ONE-THIRD THE TIME REQUIRED BY HAND SCRAPING."
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"IT IS JUST THE MACHINE WE HAVE BEEN LOOKING FOR, FOR EDGING FLOORS INSTEAD OF SCRAPING THEM BY HAND."
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 Syracuse, N. Y.

Please send details:

Bench Saw Edger Other Machines

Name

Address

Occupatio... ..

AB-12

How I Handle Modernizing Work

(Continued from page 86)

in the inside, is the office record of the transaction.

After the work is completed, collection takes place or whatever is necessary in that field. It is a good policy thirty or sixty days after the job is completed to send a man over to inquire if they are satisfied with the work or if there are any complaints. The contractor will find that nine out of ten are satisfied, provided work is done according to contract. Some will have prospects for similar work to give him. If, however, there is something left undone, or defects of any sort, the good will he will create by going back later and repairing is a very inexpensive form of advertising.

The main thing in a contracting business is to get your prospects by honest and fair advertising, give the people something that they are able to pay for; make it easy for the owner to see his way clear to pay for his work; do the work satisfactorily, then come back for more business, for good business always speaks for itself, and a satisfied customer is worth more than all the other advertising put together.

Stucco Facts and Stucco Failures

(Continued from page 79)

where permanence, firesafety and great resistance to weather are required. This fact has led to a tendency upon the part of some manufacturers to erroneously label their products as "portland cement stucco." In some cases, these products have few, if any, of the characteristics of true portland cement mortars. Tests recently made upon a number of brands which were labeled, "portland cement stucco," showed compressive strengths varying from 500 to 5,000 pounds per square inch and absorptions varying from 5 to 25 per cent. The high strengths and low absorptions resulted from those brands which were true portland cement stuccos. It is quite evident, then, that such wide differences in composition and properties of the stucco must be attended by correspondingly wide differences in the quality of the finished job.

Realizing the need for a definite standard whereby the quality of various brands of portland cement stucco could be measured, the American Concrete Institute has prepared a specification governing the physical properties of true finish coat portland cement stucco. So far as is known, this is the first and only step that has been taken toward establishing a definite standard of quality for any stuccoing material. The essential requirements of the specifications are as follows:

"The minimum average compressive strength for finish coat portland cement stucco at 28 days of age shall be 2,000 pounds per square inch . . ."

"Finish coat portland cement stucco shall not absorb more than 10% water . . ."

Reputable manufacturers of true portland cement stucco often submit their products to test in approved testing laboratories to be sure they will meet these requirements. In most cases, these manufacturers are glad to produce testing laboratory reports to establish the quality of their products.

Regardless of how much care is taken to select high quality materials, this does not eliminate the necessity for good workmanship in their use. With portland cement stucco this is particularly true. Recommended practice in the application of portland cement stucco

must be followed otherwise the manufacturer cannot insure the success of his product no matter how good its quality. To assist users of portland cement stucco in this respect, the Portland Cement Association has prepared a recommended specification for the application of portland cement stucco on all common types of bases. Builders who are insisting that these recommended practices be rigidly adhered to and that only factory-prepared finish coat portland cement stucco of known standard quality be used, are having no difficulty in obtaining beautiful and lasting stucco jobs.

Are Your Houses Sick?

A RATING scale of the psychological aspects of a home has been prepared under the direction of Ralph Harrington, of the Colgate Psychological Laboratory at Hamilton, N. Y.

Each question listed below, answered "yes" is favorable, while a "no" answer is unfavorable. Check your houses with this scale, or if you expect to build, it will aid you in getting a psychologically correct home.

1. Does the outside main entrance lead into a vestibule or hall instead of a living room?
2. Is the stairway to the second floor accessible without passing through rooms on the first floor?
3. Are the dining room and living room so situated that an unexpected caller seated in the living room can not watch the progress of a meal in the dining room?
4. Can one enter the bathroom without passing through other rooms or being seen by persons in other rooms?
5. Is the bathroom constructed to prevent the transmission of noises?
6. Are there opaque shades on all windows which prevent silhouettes of persons inside being seen when the room is lighted?
7. Can all doors be opened irrespective of the position of any other door?
8. Are all doors so arranged that when opened they do not cut down light from the windows?
9. Is the water heating system such that hot water can be obtained almost immediately when a faucet is opened?
10. Are all bells non-startling?
11. Are the house numerals in a place where they can be readily seen both day and night?
12. Is there a roomy clothes closet at the front entrance for storing coats and rubbers?
13. Is each bedroom provided with a roomy clothes closet?
14. Are electric switches placed so that it is not necessary to walk into a dark room in search of them?
15. Is the telephone so placed that one's conversation is private?
16. Are the kitchen shelves so arranged that the contents of the highest and the lowest shelf can be reached without stretching?

For Sorting Lumber

FOR sorting mixed lengths of lumber, a small pole, twelve feet long with four feet at one end and two feet at the other end painted red, is handy. The center portion is left white and this gives you two, four, six, eight, ten and twelve foot length measurements, instantly. The red ends also make the pole easy to locate. This is a simple idea but one which saves a lot of valuable time.

A. B. CUNNINGHAM, 331 Reid St., Peterborough, Ont., Canada.



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| 4 Material Buyer—\$5,000 to \$7,500. | 9 CONTRACTOR AND BUILDER IN A BUSINESS OF YOUR OWN—\$5,000 to \$12,000. |
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Learn to read Blue Prints this amazing new way. See how quickly and easily you can train to make \$4,500 to \$12,000 a year! My FREE Blue Prints and big FREE Book, "How to Read Blue Prints," disclose all the so-called "mysteries" of Blue Print Reading—also give some startling facts about the nine best jobs in America—Jobs open only to men who can read Blue Prints. Don't send one penny—just mail the coupon!

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THE SECRET OF BIG MONEY

This is no ordinary "school course." It is practical from start to finish. It is based on many sets of real Blue Prints—plans that would cost thousands of dollars if purchased from the architects. Twenty famous experts in all lines of construction work talk over these Blue Prints with you in plain, simple language. Show you every detail. Explain every short cut. Tell you the "secrets" of quick, accurate estimating. Explain superintending. Give you for the first time many inside facts and money-making methods used by the "giants" of the Building Industry.

IF YOU LIVE NEARBY

Visit our big day or evening school attended by over 1,000 Builders. You can get the same training at home by mail—same plans, lessons and instructions. Your spare time is enough.

NO EDUCATION NEEDED

This is the kind of training that quickly puts men into \$4,500 to \$12,000 a year jobs—or into profitable contracting businesses of their own. Yet now you get it right at home in only 2 or 3 months. It requires no extensive education. If you can read and understand what is written here you can easily master it.

See what this training has done for others: Bartholomew, Calif., became a contractor at an increase of over 300% his first year; Blair, Okla., stepped up to Superintendent at 100% increase; Dickerson, R. I., increased his salary 700% in 12 months; Marchand, La., says: "My income has increased 200% and I now have more contracting work than I can do."

AMAZING OPPORTUNITIES

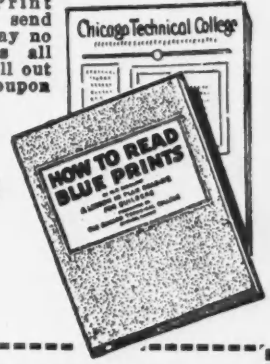
Over seven billion dollars will be spent this year in new construction! No wonder, then, such tremendous opportunities are open to you when you have this "head-work" training in Blue Prints.

If you want more money—real big money—then choose a "Blue Print" job in Building. Here is the one field where there are unlimited opportunities for advancement.

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Questions of Law Clearly Answered

Legal Rulings of Interest to All Builders

By LESLIE CHILDS

THE question of who must bear the loss, as between a contractor and an owner, for the destruction of a building in process of erection is of great importance to building contractors. The subject has been the cause of much litigation, and the general rule enforced by the courts may be summarized as follows:

The terms of the contract will govern. If the contract provides only for payment upon completion, the contractor must assume the risk of damage or destruction of the building up to that time. If the contract provides for payments at named stages of construction, the contractor will be entitled to such payments as they fall due, even though the building is destroyed thereafter, but will not be entitled to payment for intermediate work done on the building.

Obviously, here is a point that should never be overlooked by a contractor, and unless the contract provides that the owner carry the risk of loss during construction, the contractor should protect his interest by insurance of some kind. The possible danger to a contractor in a situation of this kind may be illustrated by a brief review of a recent case that arose under the following facts:

Storm Destroys Building

In this case the plaintiff contracted to remodel an old house which was to be incorporated in a new building according to the plans and specifications furnished by the defendant, for the sum of \$12,800. The contract provided that plaintiff furnish all materials and labor, and contained the following provision in respect to when payments were due:

"It is hereby understood when frame construction is built and roof raised, I (plaintiff) am to receive one-third of the contract price, and when the building is entirely inclosed another one-third, and the final third is to be paid upon final completion and satisfactory inspection by the owner."

Plaintiff entered upon the work and was paid the first and second payments as he completed these portions. When the building was almost completed it was practically destroyed by a storm. At this point the plaintiff claimed a balance due of \$4,805.50, which included the final, third payment under the contract, and some extras. The defendant declined to make this final payment on the ground that it was not due because the building was never completed, by the plaintiff.

The plaintiff filed suit in an attempt to collect, and the trial court held with the defendant. The plaintiff, thereupon, appealed to the higher court, and here in stating the question before it and in reasoning thereon the court, in part, said:

Contractor Denied Recovery

"The question arises: Who must bear the loss caused by a partial destruction of a building in process of erection?"

"This question is not without difficulty and depends

largely upon the obligations assumed by each party to the contract. It is a well settled rule of law that if one contracts absolutely and unqualifiedly to do something possible to be done, he must make his promise good unless his performance be rendered actually impossible by the act of God, the law, or the other party. If unexpected impediments lie in the way of the performance of the contract and a loss must result, it leaves the loss where the agreement of the parties has put it.

"The parties must themselves guard against unexpected contingencies by express exceptions in their contracts. If they have made no provision for a dispensation, the law gives none; it will not insert, for the benefit of one or the other of the parties, by construction, an exception which they failed, either by design or neglect, to insert in their agreement. A contract fairly made will not be annulled by an interpolation of something which the parties themselves have not stipulated."

Then turning to the facts of the instant case, the court said:

"As to the last third of the construction named in the contract, it appears from the bill that it had not been completed. Therefore the law will leave both parties where the storm found them and the bill of plaintiff, * * * fails to allege grounds sufficient to authorize the relief asked for, and the chancellor committed no error in sustaining the demurrer to the complaint * * *. Affirmed." (129 So. 25.)

Summary

So ended the foregoing litigation, with the plaintiff contractor being denied payment for the last third part of the work which of course meant a loss to him of just that amount, namely, \$4,805.50, which he would have been entitled to collect had the storm put off its appearance for a few days and enabled him to complete the building. And, it is quite plain under the facts of this case that, had the contract provided only for payment on completion of the work, plaintiff would have been out the entire contract price. The provision in the contract for payment as each third of the work was completed clearly saved plaintiff from a much greater loss than was suffered.

However, the loss suffered was certainly serious enough, and, as an illustration of the importance from a contractor's standpoint of having risks of this kind protected, this case is hard to beat. For such risks, from the elements, cannot be guarded against, and common business prudence would seem to dictate the taking of adequate precautions against loss of this kind when a contract is entered into. Such measures may take the form of a provision in the contract in which the owner assumes the risk, or by the taking out of sufficient insurance by the contractor to cover the risk. Otherwise, as we have seen, a contractor may be saddled with an unexpected and serious loss, in the event of the destruction of work in process of erection.

Every month this department explains actual legal rulings which every contractor and builder should understand in order to avoid serious losses in his business.



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BUILDING AGE

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AMERICAN BUILDER
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BUILDING AGE

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53rd Year

Vol 50—No. 4

JANUARY, 1931

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**HAPPY NEW YEAR!*****The up-swing has begun . . .***

LAATEST figures on residential building are definitely encouraging. And if history repeats itself you will see that the building industry is going to be the first to feel the upward swing, that it will lead all other industries in resuming normal activities. It's plain logic that it should be so, since it was residential building which felt the tightening-up long before other industries were affected.

In the past year, Cromar Factory Finished Oak Flooring has played no small part in helping to create business—in securing re-modelling

business where otherwise it could not have been secured. In the resumption of new residential building, Cromar offers you new opportunities for appealing to a cautious public by its beauty, its amazing wearing qualities, its ease and speed of installation.

In wishing you a successful New Year, the Cromar Company pledges itself to continue, with greater energy than ever before, to support all those who sell and handle Cromar.

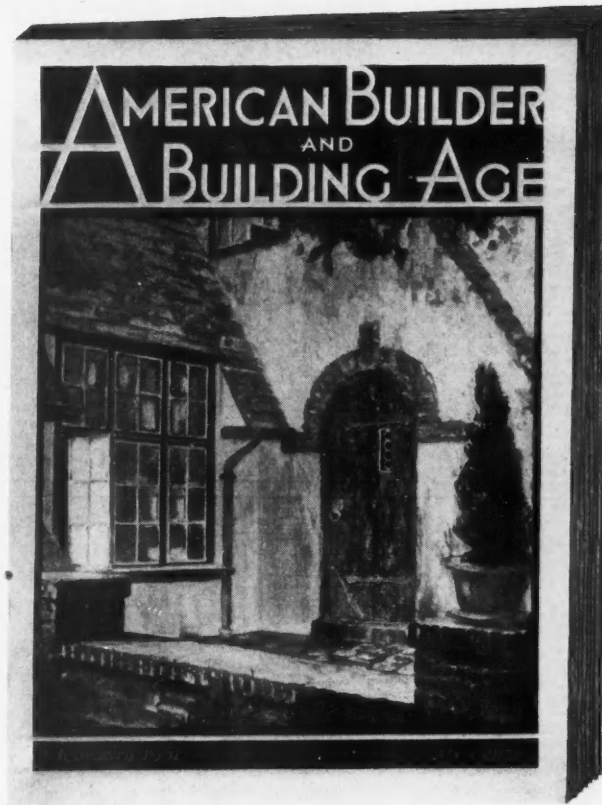
THE CROMAR COMPANY, Williamsport, Pa.



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FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE



LOOKING AHEAD
WITH THE EDITORS

February, 1931

Lower Building Costs

ONE of the most important features of the February AMERICAN BUILDER AND BUILDING AGE will be a thorough study of building costs with special reference to "*Build Now*" campaigns.

Costs are down; home building, modernizing and other construction is right now on the bargain counter; and the general public will be persuaded to buy. Some feel that these cost reductions are only temporary, the result of distress conditions in the labor market, and that building costs will soon be up again. If this is so, the building industry will benefit for only a short time from these more favorable costs and will soon again be waging its unequal battle for the consumer's dollar with other industries more efficiently organized to produce more value per man hour through the help of power machines and mass production.

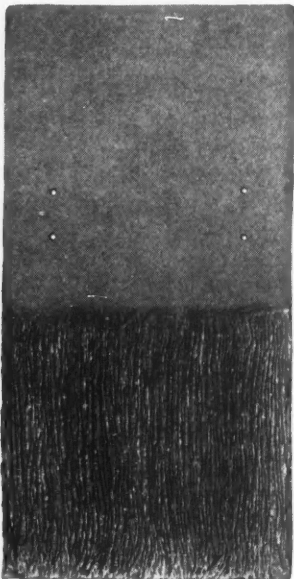
So a very interesting study right now in connection with these "Build Now" campaigns is how to achieve more real savings in construction costs, especially home-building costs, and how to make these savings a permanent part of the technique and practice of the industry. The February issue of this magazine will throw some very interesting light on this subject.

Other important subjects scheduled for February are: Modernizing Store Basements Along Main Street, Best Ideas in Garage Equipment (a complete reference book on garage door hardware), Home Appraisals, Experience of an Architect-Builder, Will Today's Home be "Modern" Tomorrow? and an even dozen of exceptional designs of detached houses and income apartments. The regular departments are well covered, full of timely, better building and better business (profit making) ideas.—

The Editors.



No. 99 Weathered Effect
Ambler Asbestos Shingles



A NEW AMBLER SHINGLE With That Century-old Appearance

Ambler announces as a leader for its 1931 line of fireproof asbestos shingles, a sturdy, weathered, heavy-butt type known as No. 99 "WEATHERED EFFECT."

This is a tapered shingle, 9¼ x 18½ inches in size, with one-half inch butt. Colors include Red, Green, Black and four soft shades of Autumnal Brown known as "Rustic Blend." The exposed surface, as pictured above, has the appearance of a century-old roof, but with all the endurance and safety of the most expensive type of roof covering.

Yet the price is not beyond the means of the builder or owner of the moderate priced home. That is why we believe this new No. 99 will be the leader for the Ambler Asbestos line this year.

Random widths are available. To get the whole story and prices, fill out and send us the coupon at the bottom of this page.



Here is the handy
coupon

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